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**A DESIGN-BASED RESEARCH STUDY TO PROMOTE CROSS-  
DISCIPLINARY COLLABORATION USING A CASE FROM THE  
NEW ZEALAND DISABILITY FIELD**

A thesis presented in partial fulfilment of the requirements for the degree of

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***“We are each of us angels with only one wing,  
we can only fly as we embrace each other”***



## Abstract

This study developed and evaluated an approach to promote cross-disciplinary collaboration when studying complex real-world issues. Complex real-world issues, such as inclusion for those experiencing disability in New Zealand, have been found to be difficult to resolve. This is due to both the nature of complex real-world issues that cross disciplinary boundaries as well as epistemological differences held by members of the cross-disciplinary groups brought together to study them. The eight-phase approach developed in this study was designed to address these issues and promote cross-disciplinary collaboration through the employment of a critical realist framework and activities based on *Appreciative Inquiry* and *Future Search*. The evaluation of cross-disciplinary studies has also been found to be problematic as they are often judged against contradictory disciplinary criteria. This study, therefore, also developed a multidimensional evaluation process that recognises the interactive nature of cross-disciplinary collaboration. Findings from this study show that this newly developed process was useful to evaluate the approach. They also show that the approach did promote cross-disciplinary collaboration as well as furthered the understanding of cross-disciplinary collaboration and the factors that promote and hinder its development. Based on the study's findings recommendations are made as to how the approach can be refined and used in a range of settings and areas for further research are identified. In this way, the study contributes to a better understanding of factors that promote and hinder cross-disciplinary collaboration, and provides an approach and evaluation process that could be useful for other cross-disciplinary studies.



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# **SECTION ONE**

## **Setting the Scene**

*Interdisciplinarity has to begin in one's own head, asking questions no-one has asked before, to learn what the discipline itself does not know.*  
(Mittelstrass, 1987, p157)

This section consists of three chapters. These chapters set the scene for the study. The first chapter gives a brief introduction and justification for the study. This is then followed by the research aim and questions, reasons for the choice of study, background and key concepts, and organisation of the thesis. Chapter two is the literature review and considers the cross-disciplinary process, the factors that hinder and promote cross-disciplinary collaboration and how cross-disciplinary collaboration can be evaluated. Chapter three gives a background to the case from the New Zealand disability field used to implement the approach designed in this study. It introduces the concepts of inclusion and exclusion; discusses the policies and guidelines that have helped to promote inclusion in New Zealand and then considers the disciplines and paradigms of disability that might be present in a cross-disciplinary group drawn together to discuss the case.



## Chapter 1: Introduction



*"Blind"<sup>1</sup> men and elephant* Source: Public Domain.

*Once there were five blind men who came together to learn about an elephant. One studied the elephant's head, another its ears, another its tusk, another its leg and another its tail. Each man was told that the animal that they were investigating was an elephant. The one who examined the head thought that an elephant was like a pot. The man who explored the ears thought that the elephant was like a basket. The person who considered the tusk said it was similar to a ploughshare. The one who studied the leg thought the elephant was like a pillar and the man who inspected the tail thought the elephant was like a brush. As each became more knowledgeable about their part they began to argue with each other insisting their understanding was the correct interpretation of the elephant. (Anon)*

### 1.1 Introduction

This is a study of cross-disciplinary collaboration when considering complex real-world issues. The story of the blind men and the elephant at the beginning of this chapter illustrates the problems that can occur when people have very different perspectives on an object of study. This story represents a good analogy of the issues that can occur when cross-disciplinary groups come together to study and resolve a complex real-

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<sup>1</sup> The use of 'blind men' recognises the preferred terminology used by the Association of Blind Citizens, the consumer group, in New Zealand.

world issue. A retelling of the story, however, can also be used to illustrate how cross-disciplinary collaboration can be promoted as described below.

Consider, that rather than arguing and considering that their understanding of the elephant was the only correct or most important perspective, the men chose another way of conceptualising the elephant. For example, the men could have respected each other and listened to each other's explanations of the elephant. They could have shared and compared their knowledge and discovered that there were similarities, such as a wrinkled, tough surface, as well as differences in their conceptions of the elephant. This may have led them to try and find a common way of describing some of the similarities and differences, and seeing how they might combine or overlap, or bring further understanding to the topic. The men may have suggested that they visit and explore each other's part of the elephant to gain a more in-depth understanding of the other perspectives, or they may have tried to find the connections between the different parts such as where the head joined the ears or the tusk. In this way, the in-depth knowledge of each man could have contributed to a fuller understanding by the group of all the parts and how those parts fit together to form this thing called an elephant.

This study seeks to help cross-disciplinary groups avoid acting in the way described in the first telling of the blind men and the elephant story and move them towards acting like the men in the second version of the story. This chapter presents a justification of the study, outlines the research aim and questions, considers why the researcher chose the topic and case, gives background information and definitions of key concepts on the topic of cross-disciplinary collaboration and outlines the organisation of the thesis.

## **1.2 Justification for the Study**

Complex real-world issues, such as participation and inclusion for people with disabilities within their communities (Rentsch, et al., 2003), are increasingly the focus of research (Conklin, Basadur, & Van Patter, 2007; Palmer, Smith, Willetts, & Mitchell, 2007). Complex real-world issues have multiple, interconnected causes and effects that often overlap (Churchman, 1967; M. Clarke & Stewart, 2002; Conklin, 2005; Rittel & Webber, 1973; Roberts, 2000; Weber & Khademian, 2008). The multidimensional nature of these issues make them difficult to define and resolve, and has led them to be described as wicked problems (Conklin, 2005; Rittel & Webber, 1973).

Since complex real-world issues often span a number of subject areas within the natural sciences, social sciences and/or humanities they require cross-disciplinary approaches that include a range of different perspectives from diverse disciplines to study them (Buchbinder et al., 2005; Conklin, 2005; Pregernig, 2006; Rittel & Webber, 1973). The cross-disciplinary group, drawn from these diverse disciplines, uses the multiple perspectives of group members to generate a multidimensional understanding of, and resolutions to, the complex real-world issue (Conklin, 2005). It is considered that these cross-disciplinary endeavours are key to the study and resolution of these issues (Bammer, 2013; Russell, Wickson, & Carew, 2008). In New Zealand, for example, the government is encouraging interdepartmental collaboration across agency boundaries (Institute of Policy Studies, 2008) to develop an ecological model for working with children who have complex needs and their families/whānau (Mitchell, 2012).

Cross-disciplinary studies, however, are often unsuccessful due primarily to issues that arise from the different perspectives of the cross-disciplinary group (Conklin, 2005). The issues, generated by these multiple perspectives, have been found to be especially problematic when the cross-disciplinary group is drawn from a broad range of disciplines that have different epistemological understandings or theories about the nature of reality (Hinrichs, 2008).

As a result of the importance placed on cross-disciplinary collaboration when studying complex real-world issues, and the need to include a diverse range of disciplines that may hold different epistemological understandings Bammer (2006; 2013) considers that a new discipline, Integration and Implementation Science, needs to be developed to help facilitate these endeavours. This new discipline would need approaches that help to facilitate cross-disciplinary studies when studying complex real-world issues (Bammer, 2013). However, evidence suggests that there has been little research into specific approaches to promote cross-disciplinary collaboration when studying complex real-world issues (Bammer, 2008; 2013; Pennington, 2008). It is, therefore, important to understand and design cross-disciplinary approaches to help individuals from a range of disciplines across the sciences, social sciences and/or humanities to use their multiple perspectives to study and develop resolutions to complex real-world issues.

### **1.3 Research Aim and Questions**

The aim of this study is to develop a cross-disciplinary approach and consider the ways it helps to promote cross-disciplinary collaboration when studying a complex real-world



issue. It explores the factors that facilitate collaboration and enables cross-disciplinary groups to work together when developing solutions to complex issues as well as the factors that hinder this endeavour. In order to achieve this aim, the study uses a design-based research methodology to design, implement and evaluate a cross-disciplinary approach. The following research questions are addressed in this study:

1. What factors in the literature have been found to promote or hinder cross-disciplinary collaboration when studying complex real-world issues?
2. What methods are suggested in the literature to evaluate cross-disciplinary collaboration?
3. What approach to cross-disciplinary collaboration incorporates the factors Identified in the literature that promote cross-disciplinary collaboration?
4. What evaluation process is suitable to use to evaluate the designed approach?
5. In what ways does the approach designed in this study help to promote cross-disciplinary collaboration when studying a complex real-world issue and what hinders it?
6. What changes could be made to the design of the approach to further promote cross-disciplinary collaboration?
7. What contributions to the further understanding of cross-disciplinary collaboration has this study made that could be used to inform other cross-disciplinary studies?

## **1.4 Reasons for Choice of Study**

Having worked for many years in the field of rehabilitation, both as a practitioner and as an academic within a university, it became apparent that the different perspectives held by individuals from different disciplines often thwarted collaborative endeavours. For example, from a practitioner's perspective, I was regularly involved in cross-disciplinary teams working with children who were blind or had low vision<sup>2</sup>. These cross-disciplinary teams would attempt to develop an integrated programme for the child. Rather than an integrated programme being developed, however, the outcome was often a composite report of different programmes developed by the different team members. These composite reports, often left parents and caregivers overwhelmed by the sheer number and variety of different interventions that needed to be implemented, or confused by the different foci of the reports. For instance, the different foci could include the child's

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<sup>2</sup> The use of the term 'children who are blind or have low vision' is the accepted terminology within the blindness and low vision education sector in New Zealand.

impairment<sup>3</sup>, why the student may not want to engage in activities, the physical or learning environment, or the interaction between the environment and the child.

From an academic perspective, I became increasingly aware of the different perspectives relating to the nature and causes of disability. Some academics, for example, considered that disability was caused by an individual's impairment and could be reduced by interventions that focus on reducing the impact of the impairment (Clifton, 2005). On the other hand, other academics considered that disability was not related to an individual's impairment but was due to society's inability to accommodate diversity (Shakespeare, 2006). It seemed to me, that rather than the answer lying in any one perspective, all perspectives had something important to offer. This sparked an interest in considering how these different perspectives could be brought together to enrich and enhance each other and provide a multidimensional understanding of the issue. This interest led to the concept of developing an approach to promote cross-disciplinary collaboration and consider its effectiveness using a case from the New Zealand disability field.

## **1.5 Background and Key Concepts**

This section provides background to the topic of cross-disciplinary collaboration when studying complex-real-world issues and helps to locate the study in the literature.

### **1.5.1. Academic Disciplines and their Influence on Individuals' Perspectives**

Academic disciplines can be defined as branches of knowledge, fields of study, and/or areas of instruction, teaching, activity or learning (Choi & Pak, 2006) that are the structuring units of academia both within universities and academic associations (Weingart, 2010). These structuring units are considered to be major sources of new knowledge production, playing a significant role in understanding and solving problems within their unique areas of study (Weingart, 2010). Disciplines can also be considered to be social systems with their own structures, ways of establishing identities, ways of dealing with conflict, language, forms of communication, reward systems and maintenance of boundaries (Weingart & Stehr, 2000). As social systems, disciplines have developed their own ontologies to explore the nature of reality, epistemologies to explore the theories of knowledge and justification of the knowledge claims (P. Klein, 2005), methodologies to provide theories and principles for the methods used

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<sup>3</sup> Impairment is defined as a deviation or loss of body function or structure (World Health Organization, 2001).

(Weingart, 2000), and paradigms to provide the theoretical frameworks (Burrell & Morgan, 1980) that are passed on through training, textbooks, research and journals (Kuhn, 1996; Lewis & Grimes, 1999).

Education within academic disciplines has been found to be one of the strongest influencers (Weingart & Stehr, 2000) of an individual's worldview, their frame of reference that shapes their beliefs, values and ideas. Worldviews, however, are highly complex and emerge from an interrelational dialogue "between the individual and the personal and material context, and between human culture and the natural world" (Zohar, 1990 p. 220). Therefore, an individual's perspective is also shaped by the multiple groups that the individuals belong to that are defined by their culture, gender, ethnicity, age, religious affiliations and life experiences (Banks & McGee, 2009; Weingart & Stehr, 2000). As a result of these multiple influences, worldviews are often unconscious, not fully articulated and incomplete as theoretical frameworks (Naugle, 2002). Worldviews do, however, provide the frame of reference within which an individual's relationship with other people exists and determines how they integrate the sense of self with the sense of others and the world in general. In this way, worldviews are strong influencers of personal identities and can also determine collective identities with similarities being found between groups (Webster, 2001) such as academic disciplines. These worldviews shape the individual's understanding of the world (Naugle, 2002) and inform the individual's perspective of an object of study (Markova, Graumann, & Foppa, 1995). In this way, although perspectives of individuals trained within the same discipline or paradigm may have many similarities they are always unique since they are mediated by the individual's own worldview or frame of reference. It has also been found that the multifaceted nature and incompleteness of these worldviews mean that individuals can be multi-voiced, holding a number of different perspectives on the same object of study. These different perspectives depend on the context and the different roles the individual may have in any given situation (Akkerman, 2006; Annan, Bowler, Mentis, & Phillipson, 2008; T. Murray, 2008). It is these unique, multiple perspectives that are shared when people come together in cross-disciplinary collaboration (Annan & Mentis, 2013).

### **1.5.2. Cross-disciplinary Collaboration and Associated Terms**

Cross-disciplinary collaboration is considered to be an elusive concept and is often used interchangeably with cross-disciplinarity and cross-disciplinary cooperation (Easen, Atkins, & Dyson, 2000). There is similar confusion in the literature surrounding the terms multidisciplinary, interdisciplinarity and transdisciplinarity (Choi & Pak, 2006;

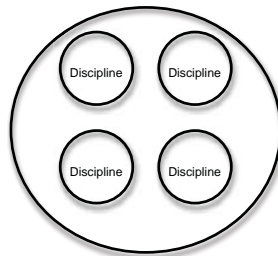
Rosenfield, 1992; Wall & Shankar, 2008). It is also not clearly delineated how cross-disciplinary collaboration, cross-disciplinarity, cross-disciplinary cooperation, multidisciplinary, interdisciplinarity and transdisciplinarity relate to one another. In order to locate cross-disciplinary collaboration in the literature and design, implement and evaluate a cross-disciplinary approach to promote it, it is necessary to bring clarity to these terms and define how they will be used in this study.

#### ***1.5.2.1. Cross-disciplinarity, Cross-disciplinary Cooperation and Cross-disciplinary Collaboration***

It is generally agreed that the term cross-disciplinary means something involving more than one academic discipline (Alroe & Noe, 2010; Wall & Shankar, 2008). Cross-disciplinary cooperation, therefore, is cooperation that involves more than one academic discipline. Cooperation has been described as individuals working alongside side each other on a common task in a mutually beneficial way (George, Gleizes, & Camps, 2011). When discussing cooperation in relation to cross-disciplinary cooperation Dillenbourg, Baker, Blayne, & O'Malley (1996) describe it as a division of labour where each person is responsible for part of a common task. Cross-disciplinary cooperation, therefore, can be considered to be a division of labour where different academic disciplines are responsible for part of a common task where individuals work alongside side each other in mutually beneficial ways. Collaboration, on the other hand, is considered to be a process of communication, based on a common frame of reference, between different perspectives in order to develop a mutual understanding of an object of study (Bromme, 2000) that may lead to the development of a shared mental model of the object of study (Langan-Fox, Code, & Langfield-Smith, 2000) and may involve the development of a collective identity of those involved in the collaboration (Hardy, 2005). Collaboration is also considered to be harmonious where conflict is not necessarily excluded but consensus is sought (Easen et al., 2000). Cross-disciplinary collaboration, therefore, can be defined as a process of communication involving two or more disciplines that is generally harmonious, where conflict is not excluded but consensus is sought that is based on a common frame of reference that develops a mutual understanding of the object of study that may lead to the development of a shared mental model of the object of study and a collective identity of the cross-disciplinary group. Cross-disciplinarity, on the other hand is used to describe any activity that involves more than one academic discipline (Wall & Shankar, 2008) and, therefore, can be considered to be an umbrella term that includes cross-disciplinary cooperation and cross-disciplinary collaboration.

### **1.5.2.2. Multidisciplinarity, Interdisciplinarity and Transdisciplinarity**

The first major classification of cross-disciplinarity was documented in 1972 by the Organization for Economic Co-operation and Development (OECD). OECD identified three types of cross-disciplinarity. These different types of cross-disciplinarity are multidisciplinary, interdisciplinarity and transdisciplinarity (Apostel, Berger, Briggs, & Michaud, 1972). Although other terms, such as unidisciplinarity, pluradisciplinarity and postdisciplinarity have also been used, these original three terms are still those most commonly used in the literature (J. Klein, 2010; Sayer, 1999). Despite the continuity of use, however, the understanding of these terms remains vague (Schmidt, 2010) and ambiguous, and the terms are often used interchangeably (Wall & Shankar, 2008). Some, for example, consider that these terms refer to different types of activity, whereas others consider that they are merely different ways of expressing the same or similar activities (Aagaard-Hansen & Svedin, 2009; Choi & Pak, 2006; Rosenfield, 1992). This section seeks to bring clarity to these terms and considers how they relate to cross-disciplinary cooperation and cross-disciplinary collaboration.

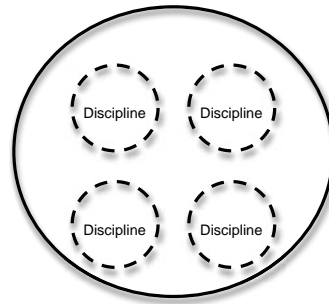


*Figure 1.1. Diagram depicting multidisciplinary.*

As can be seen in Figure 1.1 multidisciplinary is shown as an activity that involves two or more disciplines that work alongside each other on different parts of a project (Carpenter, 1995; J. Klein, 2010; Rawson, 1994). Multidisciplinary is not considered to involve collaboration since little intercommunication is found to occur (J. Klein, 2010) and disciplinary boundaries are not challenged (P. Clarke, 1993). The work is considered to be additive (J. Klein, 1990) where participants have interrelated but separate roles and learn about each other (V. Wilson & Pirrie, 2000). Knowledge production, methodologies and goals are discipline-specific and externally focused on an object of study (V. Wilson & Pirrie, 2000; Young, 1998) but complementary to the other disciplines. The outcomes are the linked summaries of disciplinary findings (Choi & Pak, 2006; Flinterman, Teclemariam-Mesbah, Broerse, & Bunders, 2001; Petts, Owens, & Bulkeley, 2008; V. Wilson & Pirrie, 2000) formed from the sum of the individual disciplinary studies (G. M. Parker, 1994; Wagner et al., 2011; V. Wilson &

Pirrie, 2000). From this description it can be seen that multidisciplinary aligns with cross-disciplinary cooperation, as it is a non-collaborative activity where disciplines work on separate parts of a joint project as described in the previous section.

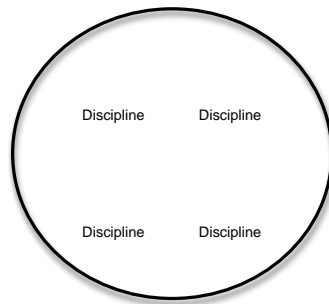
Interdisciplinarity is considered to involve two or more disciplines working jointly on a project across disciplinary boundaries (Mallon & Burnton, 2005; Whitfield & Reid, 2004) where the research questions do not emanate from any one discipline (Lattuca, 2001).



*Figure 1.2. Diagram depicting interdisciplinarity.*

As shown in Figure 1.2 disciplinary boundaries are blurred (Nolan, 1995) but participants maintain their disciplinary bases (Rosenfield, 1992) at the same time as releasing some aspects of their disciplinary roles (Nolan, 1995; V. Wilson & Pirrie, 2000). Interdisciplinary work is considered to be collaborative (Flinterman et al., 2001; Rosenfield, 1992), integrative (Flinterman et al., 2001; J. Klein, 1990; V. Wilson & Pirrie, 2000) and interactive (Choi & Pak, 2006) using shared methodologies (Nolan, 1995) where participants learn from and about each other (V. Wilson & Pirrie, 2000). Goals are shared (Young, 1998) and new knowledge and perspectives are created through a process of integration (Choi & Pak, 2006; Petts et al., 2008). The findings from interdisciplinary studies are considered to equate to more than the sum of the individual perspectives (Wagner et al., 2011; V. Wilson & Pirrie, 2000). Some interdisciplinary projects are considered to be narrow, when a limited number of disciplines that have similar methods, epistemologies and paradigms are involved. Other interdisciplinary projects are considered to be broad, when the cross-disciplinary group includes individuals from a number of different social sectors and disciplines who use different methods or hold diverse paradigms (Newell, 1998). From this description it can be seen that interdisciplinarity aligns with cross-disciplinary collaboration as it is a collaborative activity involving more than one discipline that seeks to develop a mutual understanding and a shared mental model of the object of study.

Transdisciplinarity is also considered to be collaborative (Stokols, Gress, Harvey, Phillips, & Fuqua, 2005) and integrative (Fedor-Freyberg, 1999; Flinterman et al., 2001; Rosenfield, 1992). As shown in Figure 1.3, transdisciplinarity is considered to transcend disciplinary as well as paradigmatic and worldview boundaries (Flinterman et al., 2001; J. Klein, 2010; Rosenfield, 1992; Soskolne, 2000) and involves the development of new collective identities (Hardy, 2005). The conceptual framework of

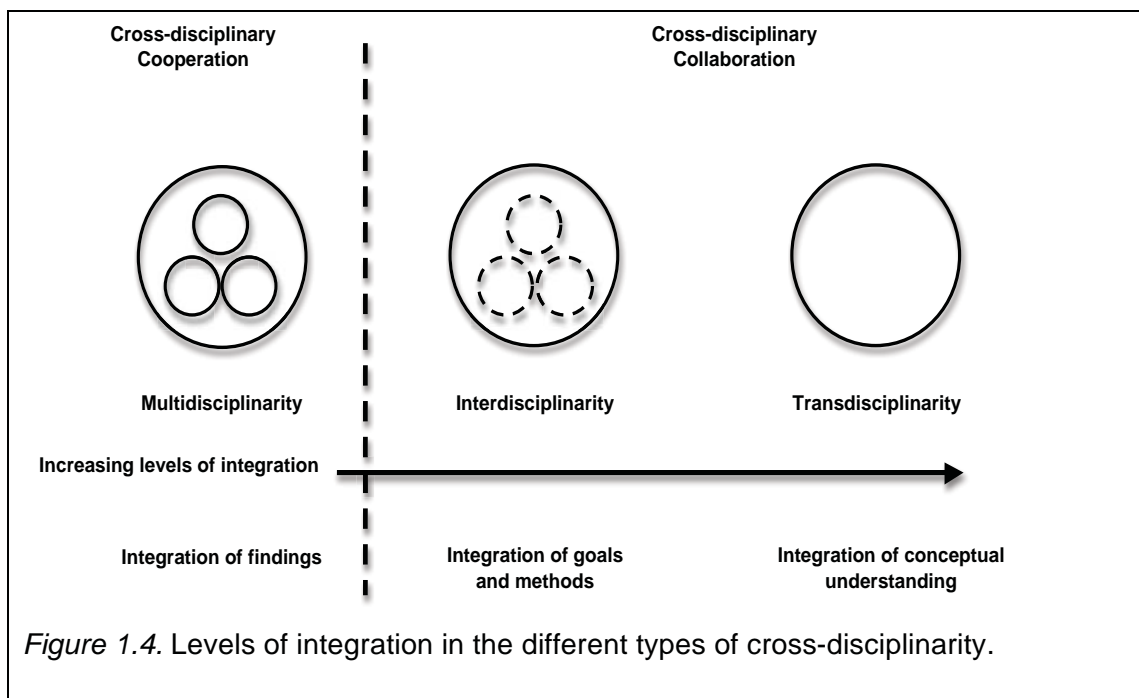


*Figure 1.3. Diagram depicting transdisciplinarity.*

the study as well as the skills of participants are shared (Rosenfield, 1992; Young, 1998). Goals are also shared (Young, 1998) and often focus on societal problems that are external to disciplines. These societal problems are often referred to as wicked problems or complex real-world issues (Churchman, 1967; Conklin, 2005; Rittel & Webber, 1973). From this description it can be seen that transdisciplinarity also aligns with cross-disciplinary collaboration as it is a collaborative activity involving a number of different disciplines and stakeholders that seeks to develop a mutual understanding of an object of study in order to develop resolutions to the complex real-world issue that is the focus of the study that emanate from the collective identity that develops.

From these descriptions of different types of cross-disciplinarity it can be seen that multidisciplinary can be considered to be cross-disciplinary cooperation and interdisciplinarity and transdisciplinarity can be considered to be cross-disciplinary collaboration as shown in Figure 1.4. While both interdisciplinarity and transdisciplinarity can be considered to align with cross-disciplinary collaboration the main difference between them is the level of integration. For example, the boundaries between the disciplines in interdisciplinarity are blurred whereas in transdisciplinarity they are transcended. Also, whereas in interdisciplinarity the research questions, goals and methodologies are shared in transdisciplinarity the conceptual framework is also shared.





Another difference between the types of cross-disciplinarity is that whereas in interdisciplinarity some aspects of the disciplinary roles are maintained in transdisciplinarity the group works as a collective whole. Due to the integrative nature of cross-disciplinary collaboration some have aligned cross-disciplinary collaboration with social systems as described below.

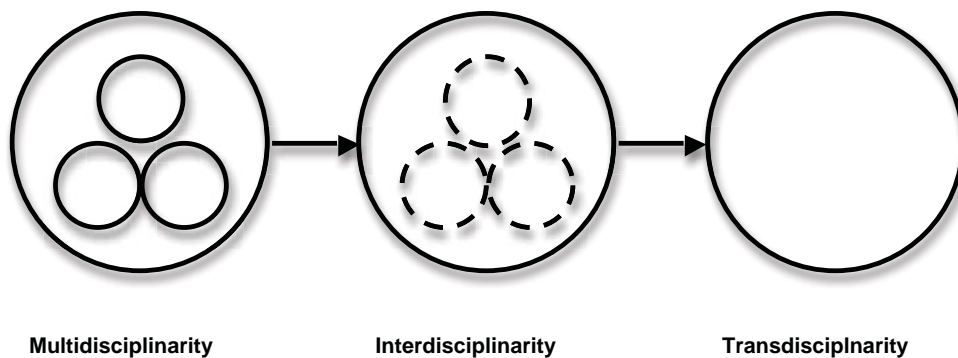
### 1.5.3. Cross-disciplinary Collaboration and Social Systems

Some consider that cross-disciplinary collaboration is a social activity of collective learning and knowledge building (Conklin, 2005; Fiore et al., 2010; Inkpen, 1996; Russell et al., 2008) that operates like a social system (Bammer, 2006; Pennington, 2008). In line with this understanding, the different types of cross-disciplinarity can be considered to be phases in the development of this cross-disciplinary system. For example, social systems theory considers that new social systems, such as a cross-disciplinary system, develop in a three-phase process. This three-phase process involves smaller entities, such as disciplines or individuals, working together (Moeller, 2011) as shown in Figure 1.5.

In the first phase the social systems or individuals remain separate entities that work on their own aspects of the issue but are shaped by each other as they share the environment created by the joint project. Then as the social systems or individuals interact the boundaries between them become semi-permeable and blurred. Finally the



boundaries are transcended and a new social system with its own collective identity develops (Moeller, 2011). As shown in Figure 1.5, the first phase of this process aligns with the description of multidisciplinary or cross-disciplinary cooperation where the disciplines or individuals from different disciplines remain separate entities but are influenced by the joint environment or project that they are working on. The second phase aligns with interdisciplinarity where the disciplines or individuals from the



*Figure 1.5. The development of the cross-disciplinary system.*

different disciplines interact and the boundaries between them become blurred, and the third phase aligns with transdisciplinarity where the boundaries are transcended and a new collective identity is formed. The cross-disciplinary system can, therefore, be said to include all three types of cross-disciplinarity in its stages of development with the second and third phases aligning with cross-disciplinary collaboration as defined earlier. Cross-disciplinary projects may purposefully work at the multidisciplinary or interdisciplinary stage or aim to work at the transdisciplinary level. The speed of movement from one phase of development may differ and indeed some projects may stall at either the multidisciplinary or interdisciplinary phase despite planning to move to the transdisciplinary phase.

The cross-disciplinary system that develops, like all social systems, consists of a matrix of different layers (Bammer, 2006; Holden, 2005; Hudson, 2000). The layers in the cross-disciplinary system are the individuals in the cross-disciplinary group, the disciplinary collectives and the cross-disciplinary collective. These different layers are continually co-constructing each other as they interact within the system (Mingers, 2004a). Co-construction in this sense means that systems, such as cross-disciplinary systems, are not completely constructed by individuals and individuals are not

completely constructed by the system but have a degree of objectivity at any given time (Bhaskar, 1979). This understanding of the collaborative process means that the individuals and disciplines retain their agency and ability to act as separate entities while still being part of the collective (Kahn, Qualter, & Young, 2012; Lockett & Lockett, 2009). In other words, individuals and/or disciplinary collectives still develop their own understanding based on their disciplinary/paradigmatic perspective of the complex real-world issue at the same time as contributing their specialised knowledge to the collective thus providing resources for the collective understanding. It is also considered that this co-construction process is highly context dependent (Bromme, 2000; Hollingsworth & Hollingsworth, 2000; Loi & Dillon, 2006) and influenced by collaborative processes and activities and the collaborative environment (physical, social, cultural and intellectual) (Loi & Dillon, 2006; Pennington, 2008; Russell et al., 2008; Stokols, Mizra, Hall, Taylor, & Moser, 2008).

In summary, academic disciplines are social systems with their own identities and ways of working. Individuals within those disciplines have unique often multiple perspectives that have been shaped by their education in those disciplines as well as by their culture, gender, ethnicity, age, religious affiliations and life experiences. It is these multiple perspectives that they bring to cross-disciplinary studies. Cross-disciplinary refers to anything that involves more than one discipline and cross-disciplinarity is an umbrella term that includes cross-disciplinary cooperation and cross-disciplinary collaboration. Cross-disciplinary cooperation aligns with multidisciplinary and is a non-integrative form of cross-disciplinary study where disciplines work on separate parts of a common project. Cross-disciplinary collaboration is an integrative form of cross-disciplinary study where individuals from different disciplines work together to develop a mutual understanding of a complex real-world issue. Cross-disciplinary collaboration aligns with both interdisciplinarity and transdisciplinarity with transdisciplinarity involving higher levels of integration and the development of a separate collective identity. Multidisciplinary, interdisciplinarity and transdisciplinarity are also phases in the development of a cross-disciplinary system. This cross-disciplinary system involves an interactive matrix of layers and elements. The layers in the cross-disciplinary system are the individuals in the cross-disciplinary group, the disciplinary collectives and the cross-disciplinary collective. The elements in the system are the collaborative processes and activities that occur between the different layers and the collaborative environment (physical, social, cultural and intellectual) in which the cross-disciplinary study takes place. Consequently, in order to promote cross-disciplinary collaboration when studying complex real-world issues the approach designed in this study needs to

carefully plan the activities and environment in order to help facilitate the co-construction process. Chapter two will consider the co-construction process and the activities and collaborative environments that hinder and promote it, as well as ways that cross-disciplinary approaches can be evaluated.

## **1.6 Organisation of the Thesis**

The thesis is divided into four sections. Section one, setting the scene, includes three chapters. Chapter one includes an introduction to the study, justification of the study, the research aim and questions, reasons for the choice of topic, background and key concepts that relate to cross-disciplinary collaboration, and the organisation of the thesis. Chapter two is the literature review and considers the co-construction process and the factors that hinder and promote cross-disciplinary collaboration and how it can be evaluated. Chapter three provides a background to the case study from the New Zealand disability field. It includes a consideration of concepts of inclusion and exclusion, the policies and guidelines that help to promote inclusion in New Zealand, and the disciplines and paradigms of disability that may be held by those in a cross-disciplinary group drawn together to discuss it.

Section two, methodology and methods, includes four chapters. Chapter four provides an outline of the methodology of the study including philosophical considerations, and an overview of design-based research including the methodological framework used to guide the study. Chapter five discusses how the design was undertaken and then outlines the cross-disciplinary approach designed in this study. Chapter six details how the approach was implemented in the study including the ethical considerations, information on the participants and the recruitment process, and details of the approach and methods used. Chapter seven outlines the evaluation process used in this study including the data collection and analysis methods.

Section three, the research findings, includes two chapters. Chapter eight considers whether or not cross-disciplinary collaboration was promoted in the study and the factors that hindered or had the potential to hinder it. Chapter nine then considers how the different phases of the approach performed in this study.

Section four, the discussion and conclusion, includes two chapters. Chapter ten discusses how the findings of the study relate to the literature and the research questions. Chapter eleven considers the rigour of the study, draws conclusions from the study, makes recommendations as to how the approach could be refined and used,

considers how the findings may contribute to the field of study, reflects on the implications of the study, identifies areas for further research and considers the limitations of the study.

## **1.7 Summary of Research Questions and Chapters**

This study uses design-based research methodology to develop, implement and evaluate a cross-disciplinary approach to promote cross-disciplinary collaboration when working with complex real-world issues. The study has two main components. The first component involves the development of a cross-disciplinary approach to promote cross-disciplinary collaboration when studying complex real-world issues. This component involves:

- a) considering the literature on cross-disciplinary collaboration and the factors that promote and hinder it in line with the first research question;
- b) designing an approach to promote cross-disciplinary collaboration based on the literature in line with the third research question;
- c) considering what changes need to be made to the approach in light of the study in line with the sixth research question, and;
- d) identifying what further understanding of cross-disciplinary collaboration has been gleaned from the study that could inform further cross-disciplinary approaches in line with the seventh research question.

The second component relates to the evaluation of the approach designed in this study. This component involves:

- a) considering the methods suggested in the literature to evaluate cross-disciplinary studies in line with the second research question;
- b) developing an evaluation process based on the literature in line with the fourth research question, and;
- c) using this evaluation process to consider the effectiveness of the designed approach to promote cross-disciplinary collaboration in line with the fifth research question.



## **Chapter 2: Literature Review**

### **2.1 Introduction**

In order to undertake this study the literature that needed to be reviewed fell into three broad areas. These areas were cross-disciplinarity, background to the complex real-world issue used in this study and design-based research. The literature pertaining to the complex real-world issue used in this study is presented in chapter three. The literature relating to design-based research is presented in chapter four. Some of the literature on cross-disciplinarity was discussed in chapter one. The remainder of the literature on cross-disciplinarity is presented in this chapter particularly that relating to the factors that have been found to promote or hinder cross-disciplinary collaboration and the methods suggested to evaluate it in response to research questions one and two. Before presenting this literature on cross-disciplinarity the following section details how the literature review on cross-disciplinarity was undertaken.

### **2.2 Undertaking the Literature Review**

Bammer (2013) considers that while a great deal of research has been done in the field of cross-disciplinary collaboration it is fragmented and scattered across a wide range of disciplinary bases. Therefore, the literature review in this study needed to be broad in its design and draw on material from a range of disciplines. The generic databases of Academic Search Premier and EBSCO HOST, and the search engine Google Scholar were used for the literature search. Also in line with design-based research the design of the cross-disciplinary approach needs to be informed by theories, prior research (Edelson, 2002; Hevner, 2004; Wang & Hannafin, 2005) and practitioners' experiences (Anderson & Shattuck, 2012). This requirement has meant that a range of different types of literature have been reviewed including philosophical, theoretical, primary research, practitioners' experiences and secondary research as shown in Table 2.1.

When evaluating objects of study, such as cross-disciplinary approaches, it is also necessary to consider how and why the approaches operate as they do (Pawson, Greenhalgh, Harvey, & Walshe, 2004). In order to consider these questions the literature review needs to be dynamic and iterative allowing for changes in focus and direction as new evidence emerges from the review (Pawson et al., 2004). Therefore, the literature review undertaken in this study was multidimensional, dynamic and iterative in nature with five distinctive cycles.

Table 2-1. *Types of Literature.*

Type of Literature	Literature Reviewed		
Philosophical	Real Constructivist Philosophies		Studying Complex Real-World Issues
	Archer, 2003; Bhaskar, 1979; Collier, 2004; Gidley, 2007; Max-Neef, 2005; Nicolescu, 2005; Schmidt, 2008; Schmidt, 2010; Wilber, 2000.		B. Brown, 2005; Conklin, 2005; Gable, 2008; Loisel, 2005; Lundy, 2010.
Theoretical	Cross-disciplinarity	Collaboration, Learning and Systems	Methods
	Bromme, 2000; Dewulf, Francois, Pahl-Wosti, & Taillieu, 2007; Easen, et al., 2000; Fiore, et al., 2010; Frodeman, 2010; Hardy, 2005; Huutoniemi, 2010; J. Klein, 2010; MacMynowski, 2007; Orchard, Curran, & Kabene, 2005; Russell, et al., 2008; Sayer, 1999; Schoenberger, 2001; Stokols, et al., 2008; Stokols, Taylor, Hall, & Moser, 2006; Sulkunen, 2008; Willis, 2007; Zachary, 2012.	Argyris, 1990; Augustine, Payne, Sencindiver, & Woodcock, 2005; C. Clark, 1991; Innes & Booher, 1999; Lichtenstein, Uhl-Bien, Marion, Seers, & Orton, 2006; Pennington, 2008; Schramm, 1954.	Adams, Schiller, & Cooperrider, 2004; Arnone, Small, Chauncey, & McKenna, 2011; Bammer, 2006; Branson, 2002; Deetz, 1996; Dirkx, 2006; Finegold, Holland, & Lingham, 2002; Gergen, Gergen, & Barrett, 2004; Gray, 2007; Hassard, 1993; Holman, Devane, & Cady, 2007; Jackson & Carter, 1991; Larrivee, 2000; D. McDonald, Bammer and Deane, 2009; J. McDonald, 2012; McGonigal, 2005; Nissley, 2004; Novak & Canas, 2008; Palmer, et al., 2007; M. Parker & McHugh, 1991; Perkins, 2000; Riley-Doucet & Wilson, 1997; Rivero, 2004; Spaapen, Dijstelbloem, & Wamelink, 2007; Weisbord & Janoff, 2000; Whitney, 2004.
Primary Research	Research on Cross-Disciplinary Projects		Research on Methods
	Boix-Mansilla, 2006; Frosch, May, Rendle, Tietbohl & Elwyn, 2012; Hannant, Lim, & McAllum, 2010; Hollingsworth & Hollingsworth, 2000; Holmes, Lehman, & Hade, 2008; Hulme & Toye, 2006; Khalsa & Kaczmariski, 2006; Kochan, et al., 2002; Maasen, 2000; M. Miller, Fitzgerald, Murrell, Preston, & Ambekar, 2005; Pregernig, 2006; Reed, Pearson, Douglas, Swinburne, & Wilding, 2002; Rugkasa & Canvin, 2011; Scerri, 2000; Schumann, Craig & Rosu, 2014; Stokols, et al., 2010; Tartas & Muller-Mirza, 2007.		Buchbinder, et al., 2005; P. Clark, 2011; Endberg, 2007; Hinrichs, 2008; Koskinen, 2005; Loi & Dillon, 2006; Marzano, Carss, & Bell, 2006; McCallin, 2004; Pennington, 2011; Ryser, Halseth, & Thien, 2009.
Researchers' Experiences	Graybill, et al., 2006; Bruusgaard, Pinto, Swindle, & Yoshino, 2010; Wall & Shankar, 2008.		
Secondary Research	Meta-Analysis		Other
	Choi & Pak, 2007; Lowe & Phillipson, 2009; Petts, et al., 2008; Rhoten, 2003.		Giacomini, 2004; Grigg, 1999; Vyt, 2008; Weaver, 2008.

The first literature review cycle considered the nature of cross-disciplinary collaboration and related terms and used key words such as cross-disciplin\*, multidisciplin\*, interdisciplin\*, transdisciplin\*, disciplin\*, paradigm, worldview and perspective. This search while drawing on a large literature base was refined to literature that examined the different types of cross-disciplinarity and/or helped to define cross-disciplinary collaboration, the nature of disciplines, paradigms, worldviews and perspectives. Much of this literature is presented in the background and key concepts section of chapter one. This literature, however, is also important to the literature review presented in this chapter as it formed the basis of the second literature review cycle.

The second literature review cycle looked at how cross-disciplinarity functions, using words drawn from the findings of the first search including collaboration, communication, learning, complex adaptive systems and cross-disciplinary approaches. This search identified a number of theoretical understandings of the cross-disciplinary process, which were again presented in the background and key concepts section of chapter one. This search also highlighted three different theoretical approaches to cross-disciplinary collaboration, discursive (Hardy, 2005), macrocognitive (Fiore et al., 2010) and framing (Dewulf et al., 2007). These three approaches plus other literature on communication (Schramm, 1954), collaborative learning (Pennington, 2008), and complex adaptive systems (Augustine et al., 2005; Innes & Booher, 1999; Lichtenstein et al., 2006), as shown in the theoretical literature in Table 2.1, were used to structure the literature review around the co-construction process of cross-disciplinary collaboration in this chapter.

The third literature review cycle then looked at the factors that hinder and promote cross-disciplinary collaboration using the key words from the first literature review and adding hinder\*, promot\*, barrier\* and enable\*. This search identified a number of primary research articles and book chapters (Frosch et al., 2012; Hannant et al., 2010; Hollingsworth & Hollingsworth, 2000; Hulme & Toye, 2006; Khalsa & Kaczmariski, 2006; Kochan et al., 2002; Maasen, 2000; M. Miller et al., 2005; Pregernig, 2006; Reed et al., 2002; Rugkasa, & Canvin, 2011; Scerri, 2000; Schumann et al., 2014), secondary research reports (Choi & Pak, 2007; Lowe & Phillipson, 2009; Petts et al., 2008; Rhoten, 2003), secondary research papers (Giacomini, 2004; Vyt, 2008; Weaver, 2008), researchers' experiences (Bruusgaard et al., 2010; Graybill et al., 2006; Wall & Shankar, 2008) and theoretical articles (Argyris, 1990; Bromme, 2000; C. Clark, 1991; Easen et al., 2000; Frodeman, 2010; J. Klein, 2010; MacMynowski, 2007; Sayer, 1999; Schoenberger, 2001; Stokols et al., 2006) as shown in Table 2.1. The criteria for inclusion in this literature review cycle was that the literature helped to explain factors that either hindered or promoted cross-disciplinary collaboration.

The fourth literature review cycle explored the methods that were identified in the previous literature review. This literature included methods to study complex real-world issues (B. Brown, 2005; Conklin, 2005; Gable, 2008; Loisel, 2005; Lundy, 2010), which led to a further exploration of real-constructivist approaches and their associated meta-perspectives used to help frame these studies (Archer, 2003; Bhaskar, 1979; Collier, 2004; Gidley, 2007; Max-Neef, 2005; Nicolescu, 2005; Schmidt, 2008; Schmidt, 2010; Wilber, 2000) as shown in Table 2.1. The literature also included theoretical literature



on *Whole Systems Change* (Branson, 2002; Holman et al., 2007), *Appreciative Inquiry* (Adams et al., 2004; Finegold et al., 2002; Gergen et al., 2004; Nissley, 2004; Whitney, 2004), *Future Search* (Weisbord & Janoff, 2000), self-reflection (Gray, 2007; Larrivee, 2000; Riley-Doucet & Wilson, 1997), concept maps (Novak & Canas, 2008), curiosity (Arnone et al., 2011), bringing paradigms together (Deetz, 1996; Hassard, 1993; Jackson & Carter, 1991; M. Parker & McHugh, 1991), learning strategies (Dirkx, 2006; McGonigal, 2005), breakthrough thinking (Perkins, 2000), hospitality (Rivero, 2004), methods to facilitate integration (Bammer, 2006; D. McDonald et al. (2009); J. McDonald, 2012), creativity (Palmer et al., 2007), and contextual factors (Orchard et al., 2005; Russell et al., 2008; Stokols et al., 2008; Zachary, 2012). This literature review also included a number of primary research studies on boundary work (Hinrichs, 2008), interpersonal relationships (Marzano et al., 2006), developing a pluralistic orientation (Endberg, 2007), co-creating knowledge (Pennington, 2011), facilitating interaction (Ryser et al., 2009), developing creative spaces (Loi & Dillon, 2006), use of case studies (Buchbinder et al., 2005), pluralistic dialogue (McCallin, 2004), and the use of metaphors (Koskinen, 2005).

The fifth literature review cycle used some of the literature already gathered plus literature from a new search that explored the ways of evaluating cross-disciplinary collaboration. Keywords for the new search included *evaluat\**, *measur\**, *outcome\**, *output\** and *cross-disciplin\**, *multi-disciplin\**, *interdisciplin\**, and *transdisciplin\**. This search identified a number of theoretical articles (Defila & DiGiulio, 1999; Huutoniemi, 2010; Spaapen et al., 2007; Sulkunen, 2008; Willis, 2007), primary research studies (Boix-Mansilla, 2006; Holmes et al., 2008; Stokols et al., 2010; Tartas & Muller-Mirza, 2007) and a discussion paper (Grigg, 1999) on how to evaluate cross-disciplinary collaboration as shown in Table 2.1. A further analysis of the literature from the previous reviews was also undertaken to identify the different outcomes of cross-disciplinary studies. This literature included large longitudinal studies (Hinrichs, 2008; Holmes et al., 2008; Stokols et al., 2010), small short-term projects (Buchbinder et al., 2005; Vyt, 2008; Weaver, 2008), cross-disciplinary training programmes (P. Clark, 2011; Endberg, 2007; Ryser et al., 2009), and personal experiences of cross-disciplinary collaboration (Bruusgaard et al., 2010; Graybill et al., 2006; Tartas & Muller-Mirza, 2007).

The literature searches undertaken in this area revealed that there is a growing body of literature on cross-disciplinarity in general as well as specifically within different disciplinary areas that covers a broad range of aspects concerning the topic. The

literature review on cross-disciplinarity presented in this chapter is not considered to provide a full census of that literature, which, as Bammer (2013) states is unrealistic to achieve. Rather this literature review on cross-disciplinarity aims to provide a theoretical and practical base that integrates much of the fragmented information that is available and use this to design and evaluate a cross-disciplinary approach to promote cross-disciplinary collaboration when studying complex real-world issues.

Instead of presenting the five different cycles separately the literature has been synthesised and presented in this chapter. The synthesised literature review has been structured in terms of research questions one to four. The first sections relate to the two different processes (intra-individual and inter-individual) of the co-construction process involved in cross-disciplinary collaboration. These two sections answer the first research question and will be used to inform the design of the approach in line with the third research question. The final section relates to the evaluation process and outcomes of cross-disciplinary collaboration. This final section, as well as providing answers to the second research question, will also be used to develop a process for evaluating the cross-disciplinary approach in line with the fourth research question and is then used to evaluate the approach in line with the fifth research question.

## **2.3 Intra-Individual Process**

As outlined in chapter one, Archer (2003) considers that the first phase of co-construction involves an intra-individual process that occurs between the individual's determinant self, shaped by its unique frame of reference and subjective concerns, and its social self that develops at the interface between the larger collective and the individual as they interact with others. Hardy (2005), in his discursive approach to cross-disciplinary collaboration, agrees and considers that the intra-individual process helps to continually build the individual's personal construction from conversations that occur during cross-disciplinary collaboration as well as provide the resources for the inter-individual process and the development of the collective construction by the cross-disciplinary group. This understanding recognises that in order to promote cross-disciplinary collaboration it is also necessary to facilitate the intra-individual process.

### **2.3.1. Disciplinary/Paradigmatic Parochialism and Imperialism**

Some researchers found that when individuals have a strong affiliation to their discipline they tend to prioritise their own disciplinary perspective and consider that it is the only right one (Hinrichs, 2008; Wall & Shankar, 2008). These attitudes have been found to lead to territorialism, rivalry and the use of defensive and fundamentalist

language that can hinder interaction, close down conversations (Maasen, 2000) and generate interpersonal conflict (Hulme & Toye, 2006). This bias and territorialism have been described as disciplinary parochialism and imperialism (Sayer, 1999). Some researchers also consider that these attitudes do not just occur when there is a strong affiliation to a discipline but can also arise when there is a strong affiliation to a paradigmatic perspective (Lowe & Phillipson, 2009), which could be described as paradigmatic parochialism and imperialism.

It is considered that biased attitudes occur as individuals choose to ignore aspects of the information about the world and focus on the aspects that fit with their present understandings or frame of reference (Argyris, 1990). This selective focus has been found to set up a reflective loop that reinforces the same worldviews, which inhibits an individual's ability to consider new ideas or ways of thinking (Larrivee, 2000). Larrivee (2000) considers that often individuals are unaware of this selective process or their own biases and that in order to be open and willing to consider new ideas and ways of thinking, such as those presented in cross-disciplinary studies, their own worldviews and assumptions need to be made visible to them.

### **2.3.2. Critical Self-Reflection**

Loisel (2005) found that an individual's worldview becomes more visible to them as they critically self-reflect. For example, many consider that the process of critical self-reflection encourages participants in the cross-disciplinary group to analyse their perspectives and underlying assumptions and how their assumptions shape their worldviews and paradigms (Bromme, 2000; Bruusgaard et al., 2010; Graybill et al., 2006; Hinrichs, 2008). Critical self-reflection has also been found to help individuals consider the strengths and weaknesses of their own perspectives (Loisel, 2005; Marzano et al., 2006), which allows them to consider the limits of their own knowledge (Bromme, 2000; Wall & Shankar, 2008), develop an understanding of the enormity of knowledge available (Wall & Shankar, 2008) and understand the complexity of the issue that is the focus of the cross-disciplinary study (Bromme, 2000). Research has shown that as individuals realise the limits of their own knowledge and the enormity of knowledge available they are more likely to subordinate their own ideas, and recognise that no one discipline has the answer (Wall & Shankar, 2008). This process of self-reflection has also been found to help prepare individuals to interact and explore other perspectives, and work with others who hold, what they perceive to be, 'wrong' perspectives (Maasen, 2000).

As well as helping to make individuals more willing to interact, analyse their assumptions and explore other perspectives, critical self-reflection has also been shown to help initiate individual learning (Endberg, 2007). For example, C. Clark (1991) found that as participants explore other perspectives and are challenged by them so changes in understanding of self, beliefs, and behaviour can occur. This research further reinforces the idea of the co-constructed nature of collective learning that occurs as a result of being involved in the cross-disciplinary system.

Research has also demonstrated that individuals develop a sense of disconnect with their own discipline as they are challenged in cross-disciplinary discussions and as changes occur in their own perspectives (Wall & Shankar, 2008). It is considered that this disconnection with their own discipline allows individuals to hold more lightly to their disciplinary perspectives, helps them be more flexible, open to criticism and willing to interact and explore other perspectives (Russell et al., 2008). It can, therefore, be argued that the openness and flexibility that develops during cross-disciplinary collaboration further reduces disciplinary parochialism and imperialism and promotes the move towards cross-disciplinary collaboration. Consequently, in order to overcome disciplinary/paradigmatic parochialism and imperialism, facilitate the on-going development of individuals' personal constructions and encourage them to engage and interact in the cross-disciplinary system, the approach designed in this study will need to consider how it can encourage individuals to critically self-reflect.

Studies have shown that critical self-reflection can be encouraged through the use of reflective questions and journaling (B. Brown, 2005; Gray, 2007). For example, Riley-Doucet and Wilson (1997) found that reflective journals provide a safe private space that helps individuals analyse and critically think about their thoughts and experiences. This literature would suggest that the approach designed in this study would need to help facilitate critical self-reflection using such methods as reflective questioning and journaling in order to reduce disciplinary/paradigmatic parochialism and imperialism and enhance the willingness of individuals to interact and engage in cross-disciplinary collaboration.

### **2.3.3. Consolidating Knowledge**

Fiore et al. (2010) considers that the intra-individual process also involves an on-going process of gathering and analysing the information about the complex real-world issue that is the object of the cross-disciplinary study. These researchers consider that the more time spent on gathering disciplinary/paradigmatic understanding the more robust

the cross-disciplinary collaboration and resultant resolutions will be (Fiore et al., 2010). Some researchers have found that concept maps are a useful way to help participants reflect and consolidate their understanding of the complex real-world issue (Gray, 2007; Pennington, 2008). Novak and Canas (2008) also consider that concept maps can act as a powerful framework for the development of new knowledge and help individuals explore the complexity of objects of study and how other concepts are related. Research indicates that as participants gain clarity about their own understanding of the issue, through such tools as concept maps, they feel more confident and competent with themselves and their disciplinary knowledge, which allows them to express their deep disciplinary knowledge and prepares them to engage in cross-disciplinary collaboration (P. Clark, 2011; Petts et al., 2008; Wall & Shankar, 2008).

Some literature considers that consolidation of knowledge is also important to help develop self-confidence and encourage interaction. For example, Bromme (2000) considers that individuals sometimes purposefully use language to obscure meaning to avoid being challenged, especially if they feel insecure in their own understanding. When individuals are confident in their understanding, however, communication is improved. It is considered that this self-confidence is particularly important when the legitimacy of an individual's perspective is challenged, such as could occur when there are multiple perspectives in the cross-disciplinary group (Bromme, 2000). Hardy (2005) considers that this confidence in their own understanding also enables individuals to use assertive language, which allows for the differences between perspectives to be explored and stimulates synergistic integration rather than integration based on compromise. This literature indicates that if tools such as concept maps are used in the approach designed in this study they could help the individuals in the cross-disciplinary group consolidate their deep disciplinary/paradigmatic knowledge, build their confidence in their understanding, prepare them to deal with challenges that may arise during the cross-disciplinary endeavour, encourage them to use assertive language, and explore and integrate perspectives.

In summary, research indicates that the intra-individual process is important to the promotion of cross-disciplinary collaboration for a number of reasons. It helps the individual develop their own understanding of the complex real-world issue, which is used as a resource for the inter-individual process and the development of the collective construction, and it helps prepare individuals to engage in the inter-individual process. This review of the literature suggests that in order to facilitate the intra-

individual process the approach designed in this study will need to include activities such as reflective questions and journaling to help stimulate critical self-reflection. This critical self-reflection helps to make the individual's worldviews become more visible to them, helps overcome disciplinary/paradigmatic parochialism and imperialism, facilitates the on-going individual learning process and the development of the individual's personal constructions, and helps them engage in cross-disciplinary collaboration. From this review it can be seen that if activities such as concept maps are used in the approach designed in this study they could help individuals consolidate and share their deep disciplinary/paradigmatic understanding of the complex real-world issue, help them feel more competent and confident, and deal with any challenges to their thinking that may come as they engage in cross-disciplinary collaboration.

## **2.4 Inter-Individual Process**

J. Klein (2010), in her extensive taxonomy of interdisciplinarity, considers that in order to move from multidisciplinary to cross-disciplinary collaboration individuals need to actively engage in the inter-individual process. Hardy (2005) considers that this inter-individual process occurs when the individuals in the cross-disciplinary group share and consider each other's personal constructions or understandings of the complex real-world issue. This process involves cross-disciplinary collaboration and leads to the development of a collective understanding of the complex real-world issue and may result in the development of a cross-disciplinary collective (Hardy, 2005).

### **2.4.1. Environments to Initiate Interaction**

As was stated in chapter one, cross-disciplinary collaboration can be very context dependent and careful facilitation of the collaborative environment is needed to help promote it. This section looks at some of the environmental conditions that have been found to help initiate interaction.

#### **2.4.1.1. Physical Environment**

There is a consensus in the literature that the physical environment is important to stimulate interaction. For example, many researchers found that despite the increase in technologically-mediated communication, face-to-face meetings were better for promoting interaction and developing a shared understanding of an object of study (Giacomini, 2004; Hinrichs, 2008; Rhoten, 2003; Ryser et al., 2009). In particular, formal face-to-face meetings such as seminars, workshops and/or brainstorming sessions, conferences, peer reviews and project meetings have been found to help to promote interaction and cross-disciplinary collaboration (Marzano et al., 2006; Rhoten,

2003; Stokols, 2006). This literature indicates that the approach to be developed in this study may need to include face-to-face meetings to stimulate interaction.

Stokols et al. (2008) also found that close proximity is important to facilitate the interaction needed to promote cross-disciplinary collaboration. Their research suggests that interaction is improved when participants are located in comfortable meeting rooms where there are few distractions. Other studies have found that physical environments also need to be congenial, comfortable, and conducive to learning and interaction if they are to promote cross-disciplinary collaboration (Hollingsworth & Hollingsworth, 2000; Loi & Dillon, 2006; Pennington, 2008; Wall & Shankar, 2008). Pennington (2008), for example, considers that providing comfortable environments that meet the physical needs of participants, such as making sure that they are well fed, comfortable and have opportunities for rest and relaxation, helps them operate at the higher levels of thinking necessary to engage in collaboration. Therefore, research seems to indicate that the approach to be developed in this study will need to provide comfortable congenial meeting rooms where there are few distractions, good food, and space and opportunities for rest and relaxation.

#### ***2.4.1.2. Environments that Stimulate Curiosity***

Wall and Shankar (2008) found that when participants are curious, have a desire to broaden their perspective and are prepared to work at the disciplinary/paradigmatic boundaries they are more open to learn and engage in new thinking and the fear and barrier to participate is reduced. Being curious was also found to encourage participants to be open to exploring other perspectives and cross disciplinary/paradigmatic boundaries (Scerri, 2000). It would seem important, therefore, that the approach to promote cross-disciplinary collaboration designed in this study should develop a sense of curiosity that encourages participants to interact and so engage in cross-disciplinary collaboration.

Curiosity, it is considered, is sparked by interest in a particular topic that is accompanied by a perceived information gap (Arnone et al., 2011). It is the desire and perceived ability to fulfil this information gap that triggers engagement with resources and other individuals in the cross-disciplinary group (Arnone et al., 2011). This understanding suggests that the approach to promote cross-disciplinary collaboration in this study should seek to spark the curiosity of the individuals in the cross-disciplinary group by providing resources of interest in the form of knowledge products and activities that might be perceived as filling an information gap.



#### **2.4.2. Miscommunication and a Common Frame of Reference**

Hinrichs (2008) found that miscommunication can occur when the frames of reference held by individuals in a cross-disciplinary group were based on different epistemological understandings. For example, some researchers found that miscommunication occurs because individuals in the different disciplines and paradigms have different understandings and languages that they use to express and interpret the information shared about the object of the study (Choi & Pak, 2007; Marzano et al., 2006). For example, Marzano et al. (2006) found that these language differences meant that participants in cross-disciplinary groups struggle to either express their own views or understand the perspectives of others, which can lead to frustration and conflict. Choi and Pak (2007), in their extensive review of the factors that hinder and promote cross-disciplinary collaboration in health services, found that miscommunication is further exacerbated when the same word is used to describe different concepts. An example of this would be the term disability, which is used by some to describe an individual's impairment and by others to describe disadvantages caused by society's inability to accommodate those with impairments. Schramm (1954), a seminal writer on communication, considers that in order to facilitate communication across these different frames of reference the group needs to develop a common frame of reference and language on which to base communication.

Dewulf et al. (2007) consider that this common frame of reference occurs as individuals explore each other's frames of reference and acknowledge that there are differences between them. The individuals then attempt to reframe the other perspectives and incorporate them into their own frame of reference, which in the first instance will be only partial understandings akin to learning a new language (Dewulf et al., 2007). Individuals then seek to deepen this understanding by collectively exploring the similarities and differences between the perspectives (Dewulf et al., 2007). As individuals continue to share their personal constructions and combine their different understandings a common frame of reference and language on which to base further collaborative activities is developed (Dewulf et al., 2007; Hardy, 2005).

#### **2.4.3. Tension, Power Differentials and the Move to a Collective Construction and Identity**

The literature suggests that as individuals continue to share their personal constructions so tension arises between the different perspectives (Hardy, 2005; Lichtenstein et al., 2006). When this tension reaches a certain threshold it has the potential to lead to a breakdown in the system (Lichtenstein et al., 2006).



#### **2.4.3.1. Power Differentials**

Research has found that power differentials in the cross-disciplinary group can cause a breakdown in the system and seriously hinder cross-disciplinary collaboration (Choi & Pak, 2007; MacMynowski, 2007). Power differentials between individuals engaged in social interactions can occur for a number of reasons including age, socio-economic status, social connectedness, gender (Schumann et al., 2014), role and status, and culture (Frosch et al., 2012; Rugkasa, & Canvin, 2011). For example, Schumann et al. (2014) found that having a low social-economic status, being young and female led to a higher risk of being bullied. Whereas, Rugkasa and Canvin (2011) found that those from minority cultures and those from community sectors rather than academia tended to have their voices silenced and Frosch et al. (2012) found that those in professional or traditionally authoritarian roles, such as physicians could also silence the voices of their patients.

Additional power differentials between different types of knowledge or perspectives have been found to impact cross-disciplinary collaboration. For example, Schoenberger (2001) considers that the perspective that holds the most power within a group is dependent on which perspective is considered the most socially valued resource at the time. For example, at one time the value of knowledge was measured by ones standing in society then by its level of objectivity proved through the use of the scientific method then by its ability to consider the subjective nature of reality (Schoenberger, 2001). Some researchers have also found that the knowledge that is valued at any given time is also heavily dependent on the wider influences on the field of study including the political and economic climate, and national and international legislation (Easen et al., 2000). Although not within the control of this study those facilitating the approach designed in this study will need to be aware of the power differentials between the different frames of reference held by those from the disciplines and paradigms present in the cross-disciplinary group. These differences are explored in chapter three. They will also need to consider the potential the power differentials have to disrupt cross-disciplinary collaboration, and provide mechanisms to help address them.

Pregernig (2006) found that power differentials do not just occur between different disciplines but also between academics (those undertaking research and/or teaching within a discipline) and practitioners (those practicing in a disciplinary profession) that have different frames of reference based on their experiences. It was found that

despite some shift in the value placed on practical knowledge and personal experience, academic knowledge still holds the greatest power (Pregernig, 2006).

In the same way as for other power differentials discussed earlier, Kochan et al. (2002) found that these power differentials between different types of knowledge can lead to the silencing of the voices that hold least power within the cross-disciplinary group. Russell et al. (2008) consider that if cross-disciplinary collaboration is to be promoted then approaches, such as the one developed in this study, need to address all these power differentials and encourage all voices to be heard.

#### ***2.4.3.2. Move to a Collective Construction and Identity***

Not all tension generated by a cross-disciplinary group necessarily leads to a breakdown of the system. Research has shown that tension can lead to innovation and adaptive change as individuals resonate, accommodate and align their own perspectives to the information shared (Lichtenstein et al., 2006). Lichtenstein et al. (2006) suggest that as the perspectives in the cross-disciplinary group are aligned so the integration of ideas occurs that leads to the development of new innovative ideas and information. Other findings support this assertion. For example, Hardy (2005) considers that new ideas and information lead to the development of a collective construction that consists of a mutual understanding of the causes of, assumptions about, and solutions to the issue. These collective constructions are continually being developed and revised through conversation as the personal constructions are shared and considered by the group. The collective constructions also provide the resources for the on-going development of the individuals' personal constructions in the intra-individual process (Hardy, 2005).

Lichtenstein et al. (2006) consider that at the same time as the group wrestles with the tensions and develops the collective construction they may also develop rules, roles and responsibilities in order to determine who they are and what they are doing as a group that can result in the development of a collective identity leading to collective action. The development of the collective construction and the collective identity helps to form the final phase of the cross-disciplinary system. Some authors consider that the collective self that develops is greater than the sum of the parts (Augustine et al., 2005), and demonstrates greater intelligence, capacity to learn and ability to innovate and adapt than its individual parts (Innes & Booher, 1999). These characteristics of the collective may be important when seeking to understand and develop resolutions to complex real-world issues, such as in this study. A number of factors have been found

to help promote this inter-individual process, overcome the problems of miscommunication and power differentials and help the group use the tension that is created by the multiple perspectives to form a collective construction and collective identity. These are discussed in the next sections.

#### **2.4.4. Relational Environment**

Some researchers consider that in order to promote cross-disciplinary collaboration, participants in the cross-disciplinary group need to interact in safe relational spaces (Loi & Dillon, 2006; Russel et al., 2008; Stokols et al., 2008). For example, some studies found that these relational environments help participants share, develop relationships and work together (Bruusgaard, et al., 2010; Wall & Shankar, 2008). McCallin (2004) considers that these relational environments help to dispel stereotypes and allow individuals to be more open to explore different perspectives. Other research has found that as participants get to know one another empathy for others increases and communication across the perspectives improves (Endberg, 2007). Hardy (2005) also considers that as individuals get to know one another they use cooperative language that encourages listening to, and engaging with, each other's perspectives, which in turn encourages all voices to be heard and integrated. These studies have shown that in order to facilitate interaction the approach designed in this study may need to develop a safe, non-judgemental relational space where participants can get to know one another, develop relationships, explore the different perspectives, improve communication and thus promote cross-disciplinary collaboration.

Safe trusting non-judgemental environments have also been found to help encourage people to undertake the risk-taking necessary to explore new ways of thinking, consider new approaches, cross paradigmatic and disciplinary boundaries, and interpret disciplinary languages (Bruusgaard et al., 2010; Scerri, 2000). It was found that this risk-taking enables individuals to learn and gain clarity about other perspectives (Wall & Shankar, 2008) and adapt to the different demands and contexts of the complex real-world issue that they are studying (Frodeman, 2010; Russell et al., 2008). This literature indicates that if a safe, trusting environment is provided in this study it may help to encourage the risk-taking needed to help build the common frame of reference and promote cross-disciplinary collaboration.

In order to build safe relational spaces, it is considered that respect, tolerance, and non-judgmental attitudes for other people and other people's perspectives are needed (Bromme, 2000; Bruusgaard et al., 2010; P. Clark, 2011; Graybill et al., 2006). Studies

have found that these safe, trusting, non-judgmental environments grow as participants interact informally, share stories and pool ideas (Giacomini, 2004; Marzano et al., 2006; Norman, 2009; Petts et al., 2008; Ryser, et al., 2009). This informal sharing occurs as people socialise and enjoy hospitality, such as over a meal of good food or at the coffee machine (Hollingsworth & Hollingsworth, 2000; Scerri, 2000; Stokols et al., 2008).

Establishing group ground rules was also found to help develop a safe relational space (Choi & Pak, 2007; P. Clark, 2011; Weaver, 2008). This opportunity for the group to develop their own parameters for the interactions helps to highlight any conflict and power differentials that may arise and allows them to be discussed in a safe way (Choi & Pak, 2007; P. Clark, 2011; Weaver, 2008). This literature suggests that the approach designed in this study may need to provide opportunities to formally discuss the parameters on which interactions are built as well as provide opportunities for informal social interactions.

Orchard et al. (2005) considers that the attitudes of those facilitating cross-disciplinary collaboration can also help to promote a safe relational space. For instance, it has been found that facilitators need to have a sense of humour (McGonigal, 2005; Rivero, 2004), as well as embody openness, patience and tolerance, and encourage these traits in others (Orchard et al., 2005). Zachary (2012) also recommends that facilitators should have a good understanding of their own and others' cultures and have cultural competence. Some researchers consider that these facilitators need to be good team players who help to build strong group cohesion and a sense of community (Bruusgaard et al., 2010; Choi & Pak, 2007; Marzano et al., 2006; Weaver, 2008). A number of studies found that facilitators also need to empower the individuals in the group (Branson, 2002; Choi & Pak, 2007; Hollingsworth & Hollingsworth, 2000; Marzano et al., 2006; Stokols et al., 2008) by fostering each individual's diverse strengths, helping individuals feel valued and secure, encouraging them to listen and respect each other's views and learn from each other (Loisel, 2005). This literature suggests that facilitators of the approach designed in this study may need to embody openness, tolerance and patience; have a good sense of humour; be culturally competent; be good team players and build group cohesion and a sense of community; foster each individual's strengths; make them feel valued and secure; and encourage them to respectfully listen and learn from others in order to develop a safe relational space that promotes cross-disciplinary collaboration.

Getting to know one another and developing relationships in this safe environment has been found to help develop a sense of belonging and ownership of the task and group identity (Graybill et al., 2006; Marzano et al., 2006; Stokols et al., 2008). Wall and Shankar (2008) discovered that the development of group identity helps to build commitment to the group and the task. This suggests that the approach designed in this study should provide a safe environment in order to help the group develop the collective identity that has the potential for deeper levels of thinking and problem solving.

#### **2.4.5. Focus on Complex Real-World Issues**

A number of studies found that when the focus of the study is on a complex real-world issue, it helps to facilitate the inter-individual process and promote cross-disciplinary collaboration. For example, some studies reported that when a complex real-world issue is the focus of the cross-disciplinary group's work they begin to realise that the issue needs to be studied from multiple perspectives (Buchbinder et al., 2005; Hulme & Toye, 2006; Vyt, 2008; Weaver, 2008). Weaver (2008) also found that a focus on the issue develops the synergy, integrative and breakthrough thinking necessary to study and develop integrated resolutions to a complex real-world issue. Other studies have found that integration of knowledge is facilitated when there is a clear articulation of the complex issue and there are non-ambiguous common goals and vision (Loi & Dillon, 2006; Stokols, 2006).

Adams et al. (2004) found that when this focus on a complex real-world issue is framed in a positive way it also helps the cross-disciplinary group consider the issue from new perspectives and opens up the possibilities for transformation and change. When studies are framed in a positive solution focused way participants are more able to hold paradoxical perspectives in tension (Holman et al., 2007). Holding the paradoxical perspectives in tension then assists with the co-construction of developing a shared understanding of the object of study and helps to build commitment to the task and group, the development of positive resolutions, and a new preferred vision for the future (Holman et al., 2007). Whitney (2004), who used *Appreciative Inquiry*<sup>4</sup> to facilitate the development of group consciousness, found that envisaging a new desired life-giving future, heightened group consciousness and understanding, which

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<sup>4</sup> *Appreciative Inquiry* is a one of over 60 Whole Systems Change methods. It was developed by Cooperrider in 1986 as an alternative method of problem solving that focused on the positive instead of the problem. It is used to help dream a desired future based on the positive events that are already occurring. It traditionally involves four phases, Discover, Dream, Design and Destiny (Holman et al., 2007).

led to higher levels of innovation. Consequently, if a positive, solution focus on the complex real-world issue is provided in the approach designed in this study it may help the cross-disciplinary group to hold paradoxical perspectives in tension, consider that the issue can be studied from a number of perspectives, and develop a positive common vision and goal. This positive, solution focus may also help to promote the synergy, creativity, integration and breakthrough thinking needed to study and develop a co-constructed understanding of, and resolutions to, the complex real-world issue.

Some researchers, however, have found that a positive solution focus may keep tension to a minimum and can sometimes be rather superficial and not really able to deal with the deeper issues (M. Miller et al., 2005; Reed et al., 2002). Khalsa & Kaczmariski (2006) in their research on a United Religions Summit conference found that a combined approach helps to overcome this superficiality. For example, they found that if the approach combined activities that explore the different perspectives with activities that have a positive solution focus on the issue then tension increases, superficiality is reduced, and a deep collective understanding of the issue develops (Khalsa & Kaczmariski, 2006). This discussion seems to suggest that a combined approach that includes methods that have a positive, solution focus on the complex real-world issue and ones that help to explore the different perspectives may be helpful to promote cross-disciplinary collaboration in this study.

#### **2.4.6. Pedagogy of Connection and the Use of Meta-perspectives**

Loi and Dillon (2006) found that facilitators of cross-disciplinary collaboration need to adopt a 'pedagogy of connection' (p.370), which recognises the need to bring the epistemological and methodological elements from contributing disciplines and paradigms together. Russell et al. (2008) agree and consider that this 'pedagogy of connection' needs to understand that issues exist in a complex interconnected natural and social world (Russell et al., 2008).

Studies have found that using a meta-perspective<sup>5</sup> to explore complex real-world issues based on a 'pedagogy of connection' helps to promote cross-disciplinary collaboration. For example, Russell et al. (2008) consider that when facilitators use a meta-perspective based on this 'pedagogy of connection' that it helps participants appreciate other worldviews and explore both the disciplinary and the cross-disciplinary nature of the object of study. J. Klein (2010) considers that the use of a meta-

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<sup>5</sup> A meta-perspective is a perspective that overarches and includes a number of perspectives (Russell et al., 2008)

perspective also helps to address the epistemological differences and blind spots created through disciplinary specialism and provides an integrated understanding of the issue. Other studies affirm this understanding and found that the use of a meta-perspective helps individuals analyse the underlying causes and the interrelated nature of the complex real-world issue, develop more integrated outcomes and explore a myriad of different resolutions to the issue (Buchbinder et al., 2005; Pregernig, 2006).

Schmidt (2010), writing about a philosophy of interdisciplinarity, considers that this 'pedagogy of connection' needs to be based on a real-constructivist understanding<sup>6</sup>. Some studies have used different real-constructivist philosophies as a meta-perspective to explore different complex real-world issues. For example, Gable (2008) used the philosophy of critical realism as a meta-perspective to frame her own studies of the complex issue of accommodating students with disabilities, who are perceived as having challenging behaviours, within a school setting in Australia. She found that the use of this meta-perspective helped her to explore the issue from multiple, often contradictory and competing perspectives and consider how those perspectives interconnect and impact the complex real-world issue. Lundy (2010), who used the real-constructivist philosophy of integral thinking as a meta-perspective, found that it helped to encourage methodological pluralism by providing a framework to navigate the complexity; acknowledge the multiple determinants and interconnected influences and outcomes; and combine many theories from the natural sciences, philosophy, psychology and sociology to develop a multidimensional understanding of the complex real-world issue of health promotion. Loisel (2005), on the other hand, used the philosophy of transdisciplinarity to explore the topic of work disability prevention with a cross-disciplinary group of surgeons, psychologists, statisticians, occupational therapists and anthropologists. Loisel (2005) found that the use of a meta-perspective helped to illuminate how the different disciplines were using different logics and answering different questions, which in turn helped the disciplines to come together and develop more integrated and successful resolutions to the issue. This would seem to support the notion that the provision of a meta-perspective, based on a 'pedagogy of connection' that is grounded in a real-constructivist understanding of reality, helps cross-disciplinary groups explore how the different epistemological understandings and perspectives from different disciplines and paradigms can give a multi-dimensional understanding of the complex real-world issue. Maasen (2000) also found that the use

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<sup>6</sup> A real-constructivist philosophy considers that reality is made up of a number of interconnected layers and that complex real-world issues reside at the intersection of these multiple layers of reality (Schmidt, 2010).



of these meta-perspectives not only provides a 'pedagogy of connection' through which to understand complex real-world issues but also provides a discursive framework for the study, which Graybill et al. (2006) considers helps initiate dialogue. Conklin (2005) considers that as cross-disciplinary groups engage in this dialogue to study complex real-world issues, they move from high to low levels of abstraction and continually frame and reframe the issue as more is learnt about the interactive nature of the parts and the issue as a whole (Conklin, 2005).

#### **2.4.7. Dialogical Methods**

A number of different dialogical methods have been found to help promote cross-disciplinary dialogue including the use of facilitated dialogues, storytelling and attentive listening, teaching and an in-depth study of paradigms, metaphors, and creativity.

##### **2.4.7.1. Facilitated Dialogue**

D. McDonald et al., (2009) and Bammer (2006) consider that facilitated dialogue helps to promote interaction and integration. Studies affirm this assertion. For example, it was found that structuring dialogue around an interdisciplinary case study or real-life experience is particularly effective in helping to contextualise knowledge and stimulate cross-disciplinary collaboration (Buchbinder et al., 2005; Loi & Dillon, 2006). Nissley (2004) also considers that the use of international, national and local timeline activities helps to contextualise knowledge by placing events in temporal space. This literature suggests that if case studies, real life experiences and/or timelines are used to structure the dialogue in the approach designed in this study they may help to contextualise knowledge and encourage exploration of the different perspectives thus promoting cross-disciplinary collaboration.

##### **2.4.7.2. Storytelling and Attentive Listening**

Some consider that the use of storytelling and attentive listening as part of *Appreciative Inquiry* draws out the 'big picture' and helps individuals find common ground (Holman et al., 2007). Literature seems to suggest that the relating of positive experiences and the abstraction of values from the stories helps to create new joint understandings and opens up the potential for new perspectives and resolutions to be dreamed and designed (Nissley, 2004). This storytelling and attentive listening also helps to ground the dialogue in past reality, which builds strength and resilience to the consequent visions and collective action that develops (Gergen et al., 2004) and encourages all the voices to be heard thus bringing academic theory, practice and experience together (Finegold et al., 2002). According to this literature, it would appear that the use of appreciative storytelling and attentive listening may also be a good method to use to



facilitate dialogue in the approach designed in this study as it helps to break down the power differentials between theory and practice and encourages all voices to be heard. Appreciative storytelling and attentive listening also help the group develop common ground and a new collective understanding of the complex issue, which can lead to more robust and resilient resolutions.

#### **2.4.7.3. Teaching and In-Depth Study of Paradigms**

Marzano et al. (2006) found that the teaching of paradigms is more effective in promoting cross-disciplinary understanding than just the sharing of perspectives. On the other hand, McCallin (2004) considers that rather than just relying on the sharing of stories or perspectives or teaching of paradigms an in-depth study of the different points of view and their underlying assumptions opens the way for deep understandings and insights to be developed. *Future Search*<sup>7</sup> uses this idea of an in-depth study of different paradigms and involves individuals from the different paradigms explaining their perspectives and what they are proud of and what they regret to each other and then considering how they respond to each other's perspectives (Weisbord & Janoff, 2000). This in-depth study of the paradigms seeks to find agreement and consensus by building common ground between groups with divergent views and paradigms (Holman et al., 2007). Weisbord and Janoff (2000) consider that it helps bridge differences in perspectives and encourages people to accept polarities and paradoxes that may arise as different paradigms interact. Other literature, however, argues that even when individuals immerse themselves in other paradigms they are not able to understand them fully due to the fact that the individual's perspectives are too ingrained (Deetz, 1996; Jackson & Carter, 1991; M. Parker & McHugh, 1991). Hassard (1993), however, disagrees and considers that an understanding of other paradigms and their languages is possible, so long as individuals are prepared to be critical and self-reflect on their own assumptions and paradigms. This need to reflect on their own assumptions again reinforces the importance of critical self-reflection throughout the process of cross-disciplinary collaboration and supports the understanding that critical self-reflection can lead to changes in belief as discussed previously in the intra-individual section. From this discussion it would seem that the use of an in-depth study of the different paradigms,

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<sup>7</sup> *Future Search* is another of the Whole Systems Change methods developed by Weisbord and Janoff based on the earlier work of Lippett and Schindler-Rainman. *Future Search* seeks to help individuals with diverse views find common ground that can direct them to positive future action. It stresses the importance of working in safe environments across three days with two sleeps (Holman et al., 2007).

such as can be undertaken using *Future Search*, may provide a good method to facilitate interaction and integration in the approach designed in this study.

#### **2.4.7.4. The Use of Metaphors**

Koskinen (2005), writing on the use of metaphors as boundary objects in innovative processes, considers that boundary objects (concepts that reside at the intersection of the paradigms) should be used to explore the transaction spaces between the paradigms/disciplines as they make the different perspectives more visible and accessible and help to facilitate cross-disciplinary understanding. These boundary objects need to be flexible enough to adapt to the differing and changing needs of individuals, and yet robust enough to maintain the common understanding and identity of the group (Koskinen, 2005).

Metaphors as boundary objects, in particular, have been found to help foster understanding (Koskinen, 2005), structure the dialogical process and aid the exploration of perspectives and the development of mutual understanding (Bromme, 2000). As well as providing a structure for the dialogue, metaphors can also be created by groups to express a shared understanding, and in this way become part of the integration of cross-disciplinary knowledge, representing a shared knowledge product (Koskinen, 2005). This review of literature suggests that if metaphors are used and encouraged in the approach designed in this study they may help with the development of understanding about the issue and the interconnections between the different paradigms as well as provide a mechanism for groups to express their collective understanding of the issue.

#### **2.4.7.5. Use of Creativity**

Some consider that cross-disciplinary environments need to be flexible and creative. Loi and Dillon (2006), for example, highlight the importance of creative environments that enhance the interaction between people, processes and the environment. It was found that these intellectually creative environments generate transformation and change in the individual and the environment as well as facilitate the analysis, sharing and creation of shared knowledge (Loi & Dillon, 2006). Creativity is also considered to stimulate the breakthrough thinking needed to develop new innovative outcomes, adapt to transformation and change in the environment and others in the group (Trungpa, 1984; Hollingsworth & Hollingsworth, 2000; Buchbinder et al., 2005). Therefore, while curiosity is needed to help individuals interact and explore, creativity is needed to help spark the innovation and integration needed to promote cross-disciplinary collaboration. This literature indicates that the approach to promote cross-

disciplinary collaboration in this study may need to provide activities that stimulate creativity that in turn help to initiate new ways of thinking and help to facilitate integration of perspectives and the group.

Dirkx (2006) considers that creativity is enhanced when individuals apply their emotions and other modes of knowing such as the use of imagination. Loi and Dillon (2006) on the other hand, found that the best way to stimulate creativity was through the use of structured interventions that challenge standard ways of seeing, doing or articulating things. Other literature, however, considers that creativity, innovation and breakthrough ideas or insights often come to people in their dreams especially if sleep occurs between the problem being presented and the problem resolution activity (Palmer et al., 2007; Perkins, 2000). This discussion suggests that the approach designed in this study should include structured activities that challenge traditional ways of seeing things, help individuals engage their emotions, and use their imagination. It also suggests that if the approach occurs over more than one day that it may also benefit from the breakthrough thinking that can occur during sleep.

#### ***2.4.7.6. Summary of Dialogical Methods***

In summary, this review of the literature indicates that the approach designed in this study needs to provide face-to-face meetings in a comfortable, congenial environment where there are few distractions, good food, space and opportunity for rest and relaxation, and activities and artefacts that stimulate curiosity in order to initiate interaction. The approach also needs to help individuals communicate through the development of a common frame of reference. It needs to help overcome the power differentials and encourage the cross-disciplinary group to use the tension between the perspectives productively, develop a collective understanding of the issue and a collective identity. It has been found that this inter-individual process can be promoted through the development of a safe, trusting non-judgmental relational environment that fosters respect, tolerance and the development of community. This type of relational environment can be promoted through opportunities to interact informally; the setting of ground rules; and good facilitation that fosters the individual's diverse strengths, helps them to feel valued and secure and encourages them to develop a sense of belonging and build community. This review also suggests that the approach needs to have a positive solution focus on the complex real-world issue to help hold paradoxical perspectives in tension; consider that the issue needs to be studied from multiple perspectives; develop a positive common vision and goal; and generate the synergy, creativity and breakthrough thinking necessary to study and develop a collective

understanding of the complex real-world issue. At the same time however, the literature suggests that the approach also needs to provide a 'pedagogy of connection' and meta-perspective, based on a real-constructivist understanding that acts as a dialogical framework for exploring the different perspectives and building a multidimensional understanding of the complex real-world issue. The use of the positive, solution focus on the complex real-world issue, and the use of the 'pedagogy of connection' and meta-perspective have been found to provide a balance between disciplinary and cross-disciplinary knowledge. In order to undertake this exploration the approach could use methods such as case studies and/or real experiences, storytelling and attentive listening, teaching and in-depth exploration of the different perspectives, metaphors, creativity and occur over more than one day.

## **2.5 Evaluating Cross-disciplinary Collaboration**

Research indicates that many researchers favour evaluating cross-disciplinary studies using disciplinary standards (Boix-Mansilla, 2006). Disciplines have their own clear guidelines for determining the effectiveness and quality of research (Huutoniemi, 2010) dependent, to a large degree, on the philosophical basis of the fields of study and the types of research methodologies used (Sulkunen, 2008). For example, researchers from the positivist or post-positivist philosophies generally use quantitative methodologies in cross-disciplinary studies, such as surveys, social network analysis and bibliometric analysis in a search for generalisable 'truths' (Stokols et al., 2010; Willis, 2007). Those from the interpretivist philosophies, on the other hand, seeking to understand a particular context, tend towards more qualitative methodologies, such as investigator interviews, self-directed discussions, narrative analysis and peer reviews (Stokols et al., 2010; Willis, 2007). In particular, funding agencies like to evaluate cross-disciplinary studies using panels that have representatives from the different constituent disciplines, as it is easier to fit with their funding criteria (Grigg, 1999). Huutoniemi (2010), however, argues that the use of these disciplinary standards leaves the projects and researchers vulnerable, as they have to meet the criteria of both types of study, which are often contradictory.

To overcome the problems of meeting competing criteria, some authors consider that cross-disciplinary studies should be evaluated in different ways that recognise their unique interactive nature (Spaapen et al., 2007). It is suggested that the effectiveness and rigour of the endeavour would then be related to the outcomes and the degree of integration achieved (Spaapen et al., 2007).

### **2.5.1. Outcomes and Indicators of Cross-disciplinary Collaboration**

An analysis of the literature identified a number of outcomes of cross-disciplinary collaboration. Some of the outcomes related to the overall process and directly showed that cross-disciplinary collaboration had been promoted while others related to different aspects of the intra-individual and inter-individual processes and while present when cross-disciplinary collaboration had been promoted could not be seen as proving that it had been promoted. These outcomes have, therefore, been divided into primary and secondary indicators. Primary indicators demonstrate directly that cross-disciplinary collaboration has been promoted and secondary indicators either relate to different aspects of the cross-disciplinary process or are often present when cross-disciplinary collaboration has been promoted but cannot be used as a direct indicators that it has been promoted.

#### **2.5.1.1. Primary Indicators**

There are two types of primary indicators that are considered to demonstrate that cross-disciplinary collaboration has been promoted. One of the primary indicators relates to the collective construction and the integration of knowledge or cross-fertilisation of ideas (Defila & DiGiulio, 1999; Fiore et al., 2010) in the form of new ideas and knowledge (Stokols et al., 2010). The other primary indicator relates to the levels of cooperation (Defila & DiGiulio, 1999), integration (Spaapen et al., 2007) and/or the development of the collective identity (Hardy, 2005).

In terms of the integration of knowledge, the wide range of studies reviewed indicated that collective constructions can take the form of integrated care plans for patients (P. Clark, 2011), integrative models (Stokols et al., 2010), publications such as co-authored journal articles (Holmes et al., 2008), new innovative policies (Holmes et al., 2008; Stokols, 2006; Stokols et al., 2010), new training programmes (Endberg, 2007; Holmes et al., 2008; Stokols et al., 2010), scientific innovations (Holmes et al., 2008), and an integrated understanding of, or resolutions to, complex real-world issues (Lowe & Phillipson, 2009; Marzano et al., 2006). Fiore et al. (2010) considers that a sign that integration of knowledge has occurred is when the knowledge product developed by the group does not come from any one individual but emanates from the group dialogue.

In terms of collective identity, it is considered that the integration of the group can be assessed by considering how the group or individuals use language to describe the group or how the group work together (Hardy, 2005). For example, research has found

that when cross-disciplinary collaboration has been promoted groups express high levels of trust, mutual understanding (Bruusgaard et al., 2010) and teamwork (P. Clark, 2011). Groups also sense that they are working more effectively and efficiently as a team (Vyt, 2008), are more empowered as a group (Holmes et al., 2008) and share responsibility in decision-making (P. Clark, 2011) when cross-disciplinary collaboration has been promoted.

#### **2.5.1.2. Secondary Indicators**

There are two types of secondary indicators that either relate to aspects of the cross-disciplinary process or are present when cross-disciplinary collaboration has been promoted that can be broadly divided between group and individual outcomes. Some of the group outcomes that act as secondary indicators relate to the development of a common frame of reference and include the emergence of new conceptual languages, frameworks (Weaver, 2008) and practices (Holmes et al., 2008). Studies have also found that intergroup learning increases (Endberg, 2007) and groups broaden their conceptual approach to the object of study (Bruusgaard et al., 2010) as they engage in cross-disciplinary dialogue. Research also found that groups develop skills for working in teams (Graybill et al., 2006), adopt methodological pluralism (Bruusgaard et al., 2010) and have more fun (P. Clark, 2011).

A number of individual outcomes have been found to occur as a result of being involved in cross-disciplinary collaboration. Research indicates that these can be assessed in terms of the learning, change, and developing attitudes and skills of the individuals in the cross-disciplinary group (Spaapen et al., 2007). These individual outcomes occur throughout the cross-disciplinary endeavour and include individuals being more able and open to reflect on their own and others' assumptions and perspectives (Tartas & Muller-Mirza, 2007), being surprised and challenged as they explore outside of their own spheres and learn about other professionals' roles and knowledge (Buchbinder et al., 2005), and experiencing higher levels of work satisfaction (Vyt, 2008) as they engage in the inter-individual process. Individuals also have more openness to learn from others (Bruusgaard et al., 2010), take risks, negotiate (Bruusgaard et al., 2010) and problem solve (Buchbinder et al., 2005), when cross-disciplinary collaboration has been promoted. Studies have also found that individuals develop a greater tolerance of others' perspectives, better interpersonal and professional interactions (Bruusgaard et al., 2010), and enjoy the opportunity to network (Buchbinder et al., 2005) and build relationships (Bruusgaard et al., 2010) as they engage in the inter-individual process and start exploring different perspectives.

Finally, research indicates that individuals broaden their understanding of other perspectives, approaches and methodologies (Ryser et al., 2009) and adopt a more integrated perspective of the object of study (Endberg, 2007).

### **2.5.2. Methods of Evaluating Cross-disciplinary Collaboration**

New research tools and methods are now being sought to help further the evaluation of cross-disciplinary collaboration in terms of these different types of outcome (Huutoniemi, 2010; Stokols et al., 2010) and indicators. Due to the nature of the individual and group outcomes these new methods need to evaluate the on-going process, rather than just measure before and after the event (Huutoniemi, 2010; Stokols et al., 2010). Huutoniemi (2010) also considers that these methods of evaluation need to be interactive and participatory involving the participants and stakeholders in the process. As well as being on-going and participative these new methods also need to consider how to evaluate the different types of outcome.

In summary, research indicates that new methods for evaluating cross-disciplinary collaboration are needed that reflect the unique nature of these endeavours. These methods need to be on-going throughout the cross-disciplinary process, be participatory and relate to the different types of outcomes and the primary and secondary indicators of cross-disciplinary collaboration. These methods need to consider the integrative nature of the knowledge products, the learning, change and development of new attitudes and skills of the individuals and the collectivity and team skills expressed by the group. The information from this section will be used to inform the evaluation process in this study that addresses the fourth research question. The next chapter will consider the background to the case used to implement the approach in this study.



## **Chapter 3: Background to the Case**

### **3.1 Introduction**

This chapter presents the background to the case within the New Zealand disability field that was used to implement the approach in this study. This chapter considers the concepts of inclusion and exclusion and the development of policies that promote inclusion for people with impairments in New Zealand including international influences. It also considers the disciplines that study in the area and the perspectives on disability that might be held by those coming together in a cross-disciplinary group to study the topic of inclusion.

### **3.2 The Concepts of Inclusion and Exclusion**

Social inclusion for people with impairments, often called inclusion, is considered to be a human rights issue that recognises that individuals with impairments should enjoy the same rights as everyone else (Cole, 2006). It is an ethical issue (Slee, 2011) based on the principles of social justice, equity and the common good (Goodlad, 2005; Morton & Gordon, 2006) where the values of joy, honesty, non-violence, love, courage, trust, beauty and hope are evident (Booth, 2011).

Inclusion has become synonymous with terms such as access and participation (E. Wilson, 2006). For example, Booth (2011) states inclusion is “a never-ending process of increasing participation for everyone” (p. 304). Inclusion for those with impairments, however, does not just involve participation but a deep sense of connectedness to one’s community (Milner & Kelly, 2009) where there is no discrimination and where individuals with impairments enjoy autonomy and self-determination (Cole, 2006). A. Kearney (2013) sums this up stating, “inclusive societies are harmonious societies built upon tolerance, understanding and respect” (p.40).

Exclusion, on the other hand, is closely related to marginalisation that describes how individuals, such as those with disabilities, often reside at the margins of society due to a lack of resources to help them participate in economic, political or social activity (A. Kearney, 2009). It is also not just about physical presence since exclusion can occur when individuals with impairments are present but not able to participate (A. Kearney, 2009). Exclusion occurs due to exclusionary attitudes and practices that work against the principles and values of inclusion (Annan & Mentis, 2013; A. Kearney, 2013).



Therefore, in order to promote inclusive societies it is necessary to not only promote the principles and values of inclusion but also to challenge and reduce exclusionary attitudes and practices through political and social means (Annan & Mentis, 2013; Booth, 2011).

### **3.3 New Zealand and the Complex Real-world Issue of Inclusion**

The fight for inclusion in New Zealand has its roots in the 1980s and 1990s when disabled people and their advocates were battling for political and social change (Matheson & Dew, 2008). At the same time as this growth in the voice of people experiencing disability and their advocates, and the call for greater inclusion and community care, there was great economic and social upheaval with the development of a free competitive market in all sectors of society (Matheson & Dew, 2008; Tennant, 1996). The tensions and stresses between the rise in importance of inclusion and the economic constraints were clearly evidenced in the legislation of the time. For example, in 1992 the “Support for Independence for People with Disabilities” legislation was passed to support the independence of people with impairments at the same time as lump sum Accident Compensation Corporation<sup>8</sup> payments, which were designed to provide compensation for those impaired through accidents, were cut (Tennant, 1996). Despite these tensions, however, the voice of people experiencing disability and their advocates remained strong and in 2001 the New Zealand Disability Strategy was developed that had the complex real-world issue of inclusion at its heart (New Zealand Ministry of Health, 2002).

The New Zealand Disability Strategy, unlike similar policies in other countries, such as the Americans with Disabilities Act (1990), was firmly rooted in the concept of inclusion. The primary long-term aim of the strategy was to make New Zealand an inclusive society rather than a disabling one. The New Zealand Disability Strategy states that inclusion will be seen to be occurring when a) people experiencing disability are in partnership with government and service providers, b) exclusion and accommodation have been eliminated, c) people experiencing disability are fully integrated into the community, d) people experiencing disability’s abilities are valued, e) interdependence is accepted and valued, f) human rights are seen as fundamental, g) cultural diversity of people experiencing disability is recognised, h) all people experiencing disability are treated in equitable ways, i) community-based services are provided, j) the disabling

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<sup>8</sup> The Accident Compensation Corporation provides personal injury cover for all residents in New Zealand.

barriers in society are understood and all legislation reflects the need for inclusion, and k) the principles of the Treaty of Waitangi<sup>9</sup> are upheld (Minister for Disability Issues, 2001).

In many ways, the New Zealand Disability Strategy has led the way internationally in terms of recognition, acknowledgement and adoption of the philosophy of inclusion. Representatives from New Zealand were invited to assist in drafting international legislation for the United Nations such as the Standard Rules on the Equalisation of Opportunities for People with Disabilities and the Convention on the Rights of Persons with Disabilities (United Nations, 2003/4, 2006). The Convention on the Rights of Persons with Disabilities reflects the same ethos as the New Zealand Disability Strategy. The aim of the Convention is to protect and promote the fundamental rights of all persons with disabilities to ensure their inherent dignity and full participation in society. The Convention covers all areas of life, including equality, accessibility, right to life, legal rights, freedom from cruelty and exploitation, integrity of the person, nationality, independent living and participation in society, freedom of expression, access to information, privacy, education, health, habilitation and rehabilitation, work and employment, political life, cultural life, and recreation (United Nations, 2006). Thus the Convention recognises that the issue of inclusion is a multidimensional and interrelated phenomenon that involves many areas of life and society.

New Zealand itself signed the United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2003/4, 2006) in 2008 and established a Ministerial Committee on Disability Issues in line with recommendations from the United Nations. This Committee included the Human Rights Commission, Office of the Ombudsmen and the Convention Coalition (made up of six stakeholder groups using Disability Rights Promotion International Methodology<sup>10</sup>) (Office for Disability Issues, 2010). The Ministerial Committee also put their first report to the United Nations in 2011 (Office for Disability Issues, 2011). This report stated that issues relating to the Convention were included in all legislation and policies and people experiencing disability were to be full participants in policy making on disability related issues. The report also stated that

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<sup>9</sup> The Treaty of Waitangi was signed by 540 Māori rangatira (chiefs) and the British Crown in 1840. It recognises two groups of people Māori (the people of the land) and Pākehā (non-Māori) (Belich, 1996). It is a broad statement of intent on which the nation state of New Zealand was founded (Kingi, 2007).

<sup>10</sup> Disability Rights Promotion International Methodology uses tools and methods to undertake a multi-level (individual and systems) analysis of life situations of people experiencing disability using human right standards.

there were still many challenges facing New Zealand in terms of implementing the Convention especially in the areas of education, work, and health where despite progress there were still barriers to full participation particularly for women and Māori people experiencing disabilities. New Zealand's small, rural population and wide geographic spread were also noted as challenges (Office for Disability Issues, 2011). Some also consider that this lack of progress towards an inclusive society is because the focus is on removing economic and physical barriers rather than the social barriers (Milner & Kelly, 2009).

### **3.4 Disciplines and Perspectives on Disability**

Annan and Mentis (2013) consider that attitudes, beliefs and understandings about inclusion are more important in shaping inclusive practices than legislation or policies. Since inclusion relates specifically to those with impairments who experience disability, these attitudes, beliefs and understandings about inclusion are also intimately connected with an individual's underlying perspectives on disability. As considered in chapter one, an individual's attitudes, beliefs and understanding about a topic are impacted by a number of factors including their education in academic disciplines. When drawing together a cross-disciplinary group to consider the topic of building an inclusive society in New Zealand, therefore, it will be important to consider the different disciplinary perspectives and the paradigms of disability that influence individuals' attitudes to inclusion.

There are a number of different disciplines that consider the topic of disability as either a major or minor part of their studies. These disciplines come from both the sciences and social sciences. As was stated earlier, the academic disciplines within which an individual has been trained have a major impact on their perspectives about objects of study such as disability. The perspectives on disability held by the individuals in turn influence the ways in which individuals consider the definition and causes of disability as well as the policies, services and resources that need to be provided (P. Kearney, 2003). As such, these perspectives influence how individuals in a cross-disciplinary group consider the complex real-world issue of building an inclusive society focusing on those with impairments and, as was stated in chapter two, have the potential to both promote and hinder cross-disciplinary collaboration.

A number of different perspectives on disability have been described in the literature and can be found in a range of different disciplines across the sciences, social sciences and humanities. These perspectives include, amongst others, considering

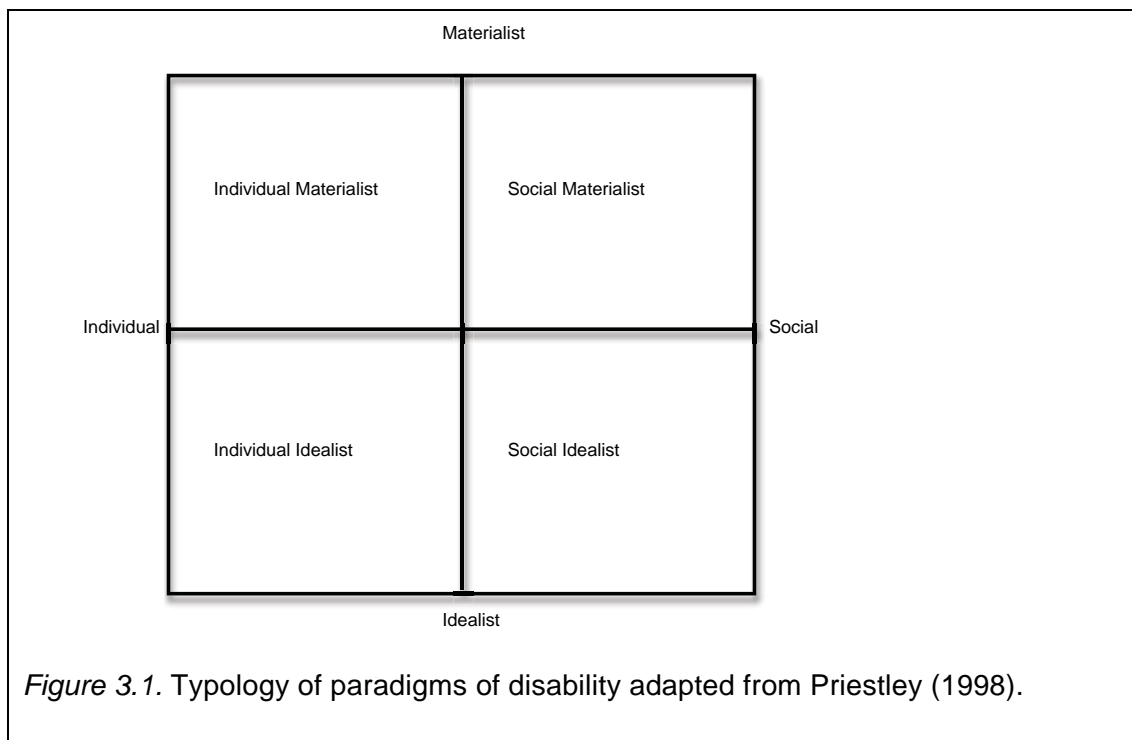
disability as a social construction, an economic problem, a civil rights issue, a medical problem and a socio-political issue (P. Kearney, 2003). Priestley (1998) sought to map these different perspectives of disability on a four-fold typology around the two axes of individual/social and materialist/idealist.

The individual/social axis relates to the causes of disability with one end of the axis having the focus on the individual with impairment and the other having the focus on society. The materialist/idealist axis relates to two ontologies or ways of understanding the nature of reality (P. Klein, 2005) that form a continuum from materialist to idealist. The materialist ontology focuses on the material aspects of reality and is closely associated with the epistemology or theory of knowledge called positivism. The positivist epistemology states that knowledge is gained through experience and perception through the senses. Positivists seek to understand objects of study through observation and experimentation. They categorise material objects and develop scientific laws to explain the conjunction of events. They use deductive methods of reasoning and practice to form empirical regularities using what has become known as the scientific method. Theories developed are considered to be 'true' until proven false. In order for falsification and verification to be viable strict standards have been developed to determine rigour, repeatability and validity of research. Positivists generally make no distinction between natural or social objects and consider that the same methods of inquiry are suited to both spheres of study (Holland, 2005).

The idealist ontology, at the other end of the axis, challenges the truth claims of the materialist ontology and considers that the nature of reality, or at least its perception, can only ever be subjective (Gelwick, 1987; Rauscher, 2002). The idealist ontology is closely linked to the epistemology of interpretivism. Interpretivists consider that all knowledge is subjective and mediated through each individual. Interpretivists argue that no social objects (structures, events or agents) are capable of being examined using a scientific method but should be interpreted through the medium of language (Holland, 2005; Potter & Lopez, 2001). Social objects are considered by interpretivists to be social constructions. Some interpretivists consider that the construction of society occurs through the action of human agents while others consider that human agents are constructed by society and societal structures (Holland, 2005; Potter & Lopez, 2001). Interpretivists consider that there are no enduring causal mechanisms. Knowledge gained from a study of these social objects, rather than being empirical regularities is subjective, highly contextualised and non-generalisable (Holland, 2005;

Potter & Lopez, 2001). Interpretivists tend to reject meta-theories, considering all knowledge to be socially constructed and context dependent (Alexander, 2003).

The typology, generated by the intersection of these two axes includes four paradigms the individual materialist, the individual idealist, the social materialist and the social idealist. The paradigms of disability represented by the four-fold typology are not meant to be definitive or exist in reality since, as described earlier, individuals hold composite or more highly focused perspectives (Priestley, 1998). This typology is, however, a useful heuristic device and will be used in this study to explain the main differences in perspectives held by those who study disability. The different paradigms are shown in Figure 3.1.



The individual materialist, as described by Priestley (1998), is based on biological determinism, which considers that social phenomena have no real existence outside of the individual and that disability is shaped by biology. It aims to describe a general statement of objective fact, through a process of observation and classification, with the unit of analysis being the impaired body (Priestley, 1998).

Priestley (1998) describes the individual idealist as based on the interpretive Weberian paradigm of symbolic interactionism that considers that social phenomena have no real existence outside of voluntary agency and that an individual's disability is

determined by their attitudes and beliefs. The individual idealist has foci on cognitive interactions, affective experience and topics such as adjustment to disability with the unit of analysis being the individual's identity and experiences (Priestley, 1998).

The social materialist paradigm, Priestley (1998) considers, aligns with the thinking of Hegel and Marx and is most closely associated with the social model and social creationism. This paradigm considers that society does exist beyond the individual and that disability is shaped by political, economic and societal structures. It focuses on the relations of power and socio-economic determinants, with its main unit of analysis being physical, structural and institutional barriers (Priestley, 1998).

Priestley (1998) considers that the social idealist or cultural model also recognises that society exists beyond the individual but is more aligned with the thinking of Durkheim and social constructionism. The social idealist considers that disability is shaped by culture and that the main units of analysis are the attitudes and values in society (Priestley, 1998).

The next two sections will use the heuristic device of Priestley's (1998) typology to map the disciplines and perspectives from the disability field. This is not designed to be an exhaustive consideration of the disciplines or the perspectives, which is beyond the scope of this study. Also, while this study recognises that there is much diversity of perspectives within disciplines certain authors have suggested particular positions for the different disciplines and these have been used to map the disciplinary perspectives. This is not designed to pigeon-hole disciplinary perspectives but rather a way of considering, in broad terms, the foci, models, perspectives and current trends in understanding within the disability field that may impact the cross-disciplinary collaboration undertaken in this study. The two sections are broadly divided along the individual/social axis of Priestley's (1998) typology.

### **3.4.1. Individual Paradigms of Disability**

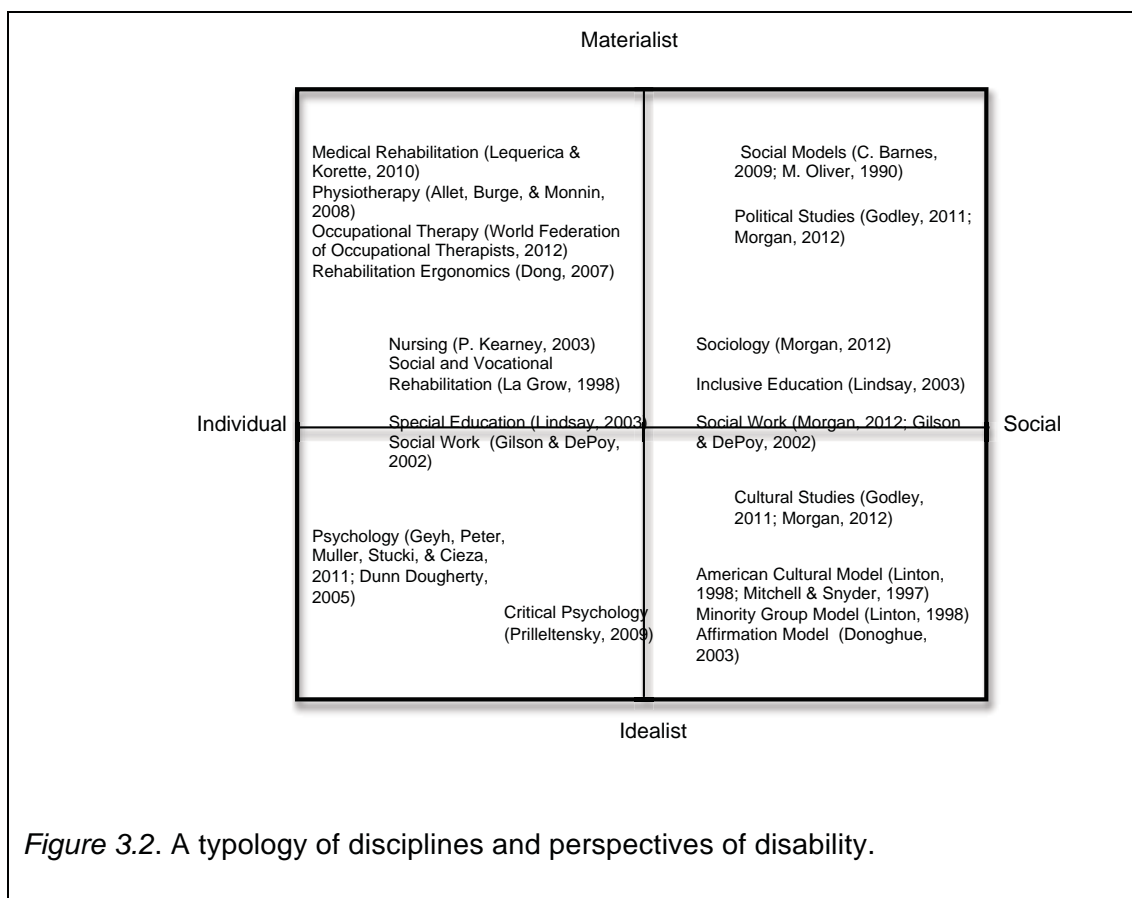
Disciplines that focus on the individual are often included under the multi-disciplinary practice of rehabilitation (M. Barnes & Ward, 2000) and are included in both the individual materialist and individual idealist quadrants of Priestley's (1998) typology.

#### **3.4.1.1. Individual Materialist**

The individual materialist paradigm, often called the medical model, is considered by many to be an extreme view with no actual adherents and is nothing more than a counterfoil developed by disability activists to explain all that they consider wrong with

the medical view of disability (Shakespeare, 2006). While it can be debated that there are no actual adherents to this paradigm it can be said that there are disciplines that do have the individual and impairment as their foci.

As can be seen in Figure 3.2 the disciplines that have the individual and the impairment as their foci include physicians in medical rehabilitation, physiotherapists, occupational therapists, rehabilitation ergonomists, nurses, and social and vocational rehabilitation instructors.



Medical rehabilitation physicians focus on the individual and seek to reduce the impairment in order to help the individual regain function after an injury or illness (Lequerica & Korette, 2010). Physiotherapists focus on the individual and seek to reduce the impairment and improve function through the application of physical interventions (Allet, Burge, & Monnin, 2008). Occupational therapists focus on the individual and seek to help them reduce the impact of their impairments and participate in activities of daily living by modifying the activity or the environment (World Federation of Occupational Therapists, 2012). Rehabilitation ergonomists focus on the interaction between individuals and their physical environments and design assistive

technology to suit individual's needs (Dong, 2007) while nurses also have a focus on the individual and mediating the affects of their impairment (P. Kearney, 2003). Social and vocational rehabilitation instructors, on the other hand, focus on quality of life and seek to provide opportunities to facilitate participation in society for individuals with impairments (La Grow, 1998). Despite the different foci of these disciplines they have all found that the International Classification of Functioning, Disability and Health (ICF) (World Health Organization, 2001) has been useful to guide practice, research and education as discussed below.

The ICF, a biopsychosocial model of human functioning, considers how biological, social, behavioural, environmental and cultural factors dynamically interact to produce risk and disabling and/or enabling factors that create an enablement/disablement continuum. It also seeks to describe how environmental modifications and intervention strategies help mitigate disability (Pledger, 2003). Medical rehabilitation physicians are increasingly finding that the ICF helps to provide a framework (Stucki, 2005) for considering the multiple factors that help to restore function (Lequerica & Korette, 2010). Physiotherapists have found that the ICF is not only useful for classifying impairments but also for structuring assessments and interventions, guiding decision-making and facilitating communication (Allet et al., 2008). Occupational therapists have found the ICF to be a useful conceptual framework for research, clinical practice and education (Pettersson, Pettersson, & Frisk, 2012) while some rehabilitation ergonomists consider that the use of the ICF may provide a framework for the discipline merging the understanding of basic ergonomics and rehabilitation principles (Leyshon & Shaw, 2008). Social and vocational rehabilitation instructors have also found the ICF model useful for developing a framework and common language for assessment and intervention (Escorpizo et al., 2010) and for comparing quality of life instruments (Cieza & Stucki, 2005).

The ICF has had a significant impact on the international disability field and it has been used to frame disciplinary understandings and to train teachers, medical professionals and others involved with individuals with impairments (P. Kearney, 2003; Monti & Tingen, 1999). Some consider, for example, that the ICF has the potential to provide an overarching paradigm that encompasses the many perspectives that exist within nursing including the social aspects of disability and should be used as a framework within nurse education (P. Kearney, 2003; Monti & Tingen, 1999).



Gaps in the ICF's understanding of disability, however, have also been identified by a number of these disciplines. For example, some physiotherapists consider that while it is a useful tool to guide assessments and interventions it is insufficient to describe how to undertake assessments (Allet et al., 2008). Some occupational therapists, on the other hand, have found that it does not encompass the subjective experiences of those with impairments (Pettersson et al., 2012). Vocational instructors agree and consider that the lack of recognition of the subjective dimension of disability is a significant shortcoming of the ICF. Despite these weaknesses, however, it is hoped that by using the ICF to guide practice and research and to train professionals that practitioners will be able to communicate using a common language and that its adaptability and applicability across cultural, social and disciplinary differences (Threats, 2010; Zakirova-Engstrand & Granlund, 2009) means that it will lead to better cross-disciplinary understanding and collaboration (Francescutti et al., 2009). This building of a common understanding of disability based on the ICF model could help promote cross-disciplinary collaboration between disciplines that reside under the broad umbrella of the individual materialist quadrant as they engage in cross-disciplinary collaboration in this study.

The literature discussed in this section would suggest that rather than adhering to the medical model described by Priestley (1998), many of the disciplines that have the focus on the individual and consider aspects of the impairment and its impact on functioning, are moving towards using the ICF as a biopsychosocial model to help define and explain their understanding of disability and inform their practice. Although still rooted in the individual materialist quadrant, the disciplines adhering to this understanding would seem to sit near the boundaries of both the social materialist quadrant as it considers the impact of the social, natural and built environment on an individual's functioning and the individual idealist boundary as it considers some of subjective experiences of the individual and their quality of life. As well as the potential of the ICF to provide a common language and understanding between the disciplines within this quadrant the fact that some of the disciplines also lie close to the boundaries with other quadrants means that there is the potential for some shared understanding across these boundaries as individuals from the different quadrants come together in cross-disciplinary collaboration.

#### **3.4.1.2. Individual Idealist**

The focus in the individual idealist quadrant of Priestley's (1998) typology is the individual experience of disability that is often considered the realm of psychology as

shown in Figure 3.2. Psychology, in relation to disability, has traditionally focused on the individual's adaptation to impairment and seeks to reduce psychological distress that may arise as a result of the impairment through counselling and therapy (Geyh, Peter, Muller, Stucki, & Cieza, 2011). Some practitioners from positive psychology undertake this therapy by focusing on an individual's strengths (Dunn & Dougherty, 2005). As identified by the occupational therapists and the vocational instructors earlier, there is a lack of focus on the subjective dimension or individual experience in the ICF. Despite this lack of focus on the subjective dimension, some consider that there are a large number of concepts in the ICF that are relevant to psychology that could be used to not only structure the disciplines own understanding but could provide a basis for a common language that could enhance communication and promote cross-disciplinary collaboration when psychologists work with other professionals who use the ICF framework (Geyh et al., 2011). However, it is considered that the discipline of psychology as a whole, and practitioners in general, have not adopted the ICF model (Geyh et al., 2011). This understanding of disability, whilst sharing many characteristics of the individual idealist, would also seem to lie towards the boundary of the individual materialist with its foci on the individual's impairment and its impact on the individual's experience of disability.

There is also a counter trend within psychology called critical psychology that aligns with the perspectives of disability activists and focuses on social justice and the factors that hinder wellbeing (Olkin & Pledger, 2003). Critical psychologists focus research and interventions on subjective wellbeing and life satisfaction and how these are impacted by environmental factors. These psychologists recommend a more composite model of disability that is politically motivated and incorporates some of the individual and social aspects of disability (Prilleltensky, 2009). This understanding while having characteristics that sit within the individual idealist paradigm could also be placed close to the social materialist quadrant with its political and social justice focus.

Again, within this quadrant it can be seen that the ICF has the potential to develop a common understanding between some in the individual idealist paradigm and those in the individual materialist paradigm. Trends within critical psychology, however, have the potential to build a common understanding with those in the social materialist quadrant. It would, therefore, seem that there are perspectives within this understanding that could potentially build cross-disciplinary understanding and promote cross-disciplinary collaboration between the individual idealist, the individual materialist

and the social materialist.

From a consideration of these individual paradigms it can be seen that there have been moves towards building common ground between the disciplines and perspectives in these two quadrants through the use of the ICF and across the individual and social paradigms through such things as critical psychology. This assertion is supported through the work to develop more integrative frameworks for explaining and researching disability including using a systems approach to expand the ICF to consider quality of life and human development (McDougall, Wright, & Rosenbaum, 2010); a consideration of the concepts of dignity, rights and capabilities of individuals with impairments (Siegert & Ward, 2010); the use of holistic frameworks to evaluate interventions that include the service user voice (Dean, Siegert, & Taylor, 2012); and a focus on working with families using narrative and solution focused theories to develop interventions (Stejskal, 2012).

#### **3.4.2. Social Paradigms of Disability**

Both the social materialist and the social idealist perspectives evolved out of the work of disability activists and their critique of what they described as the medical model. These activists considered the foci on the individual and the impairment was inappropriate and emerged from the medical profession's interest in functional limitations, classifications and interventions to reduce the impairment and, therefore, the disability (Gilson & DePoy, 2002; Imrie, 2004). Some activists considered that this also led to the person with the impairment being placed in a passive position with the locus of control over their lives being held by medical experts who set goals and strategies for them (M. Barnes & Ward, 2000; Imrie, 2004; Shakespeare, 2006). It was also considered that this focus on the individual led to blame for the disability being placed on the person with the impairment or the person being left feeling somehow inadequate (Abberley, 1987). This significant shift in thinking was considered important in a number of ways as it opened the way for political activism to remove societal barriers and allowed people with impairments to reject a deficit way of thinking about themselves which empowered them to activism (Shakespeare, 2006).

Some researchers within the social paradigms consider that the ICF, which has been such a unifying model in the individual paradigms, may also be useful in monitoring the implementation of non-discriminatory social and political policies (Cerniauskaite et al., 2011). Others within these social paradigms, however, reject the ICF as an overarching

framework to explain the experiences of disability considering that the foci on classification and the way it uses disability-adjusted mortality rates<sup>11</sup> means that it is still heavily biased in favour of the individualised biomedical aspects (Hurst, 2003), ignores definitions developed by those experiencing disability, and fails to capture the complexity of impairment (Godley, 2011). These social paradigms focus on the issues of exclusion due to political, economic, cultural, social and relational barriers (Godley, 2011). These paradigms also consist of a number of perspectives that can be found in a range of different disciplines across the social sciences and humanities, including sociology, cultural studies, social work (Morgan, 2012) and education (Godley, 2011), and are often described under the generic heading of Disability Studies.

#### **3.4.2.1. Social Materialist**

Figure 3.2 shows that the social materialist quadrant in Priestley's (1998) typology can be most closely aligned with the British disability activists and the social model of disability that was first described by the Union of Physically Impaired Against Segregation (UPIAS) in England in 1976 (M. Oliver, 1990, 1996; Shakespeare, 2006). UPIAS's main premise was that disability was not due to an individual's impairment but by socially created barriers that prevented participation, isolating and excluding those with impairments (C. Barnes, 2009; M. Oliver, 1990). Activists with this understanding seek to eliminate disability through political action. The British model is considered to provide the most extreme understanding of the social nature of disability that rejects the impact of impairment (Shakespeare, 2006). Some researchers, however, challenge these extreme views and the distinction between impairment and disability (Shakespeare, 2006; Sullivan, 1996). These researchers consider that the extreme view represented by this paradigm makes it difficult for groups who experience disability to form activist groups around the common experience of impairment, hinders research on particular impairments that could potentially benefit those who experience disability, and is hard to uphold in practice in the lives of those with impairments (Shakespeare, 2006; Sullivan, 1996).

The literature would seem to indicate that there are some perspectives that do adhere to this paradigm but that some consider that this understanding needs to be modified and aligned more closely with the individual idealist paradigm with its consideration of the individual experience, the individual materialist with its consideration of research on impairments, and the social idealist with its consideration of a common experience of

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<sup>11</sup> Disability-adjusted mortality rates are used by the World Health Organization to give a summary of the burden of disease by adjusting life expectancy rates to allow for costs of disability.

disability. While these diverse understandings have the potential to cause stress between perspectives and hinder cross-disciplinary collaboration, they can also provide valuable insights in the multifaceted phenomenon of disability and provide a basis for cross-disciplinary understanding between these different paradigms.

#### **3.4.2.2. *Social Idealist***

Scholars in the social idealist quadrant of Priestley's (1998) typology, rather than focusing on the socio-structural barriers, focus on the socio-cultural factors of disability (Linton, 1998). These scholars reject the distinction between impairment and disability and consider that biology and culture interact. They undertake cultural and literary analyses of the cultural descriptions of disability in films, novels, art and drama and consider that disability is often used as a metaphor to represent the negative or evil aspects of society, which stigmatises and disables those with impairments (Mitchell & Snyder, 1997). These scholars focus on changing attitudes rather than policies (Mitchell & Snyder, 1997). There are two closely aligned models, the minority group and affirmation models that could be considered to fit within this quadrant of Priestley's (1998) typology.

The minority group model grew out of the American civil rights movement (Meekosha, 1998; Zola, 1982). These American activists adopt a social interpretative stance and focus on the need to raise the social status of those experiencing disability through such things as emphasising the need for non-discriminatory language and encouraging the use of 'people first' descriptions (Linton, 1998). This minority group model is also closely aligned with the affirmation model (Swain & French, 2000) that celebrates disability and its positive impact on society as evidenced in the Disabled Peoples' Movement, the Deaf culture and the disability arts movement (Corker, 1998a; Swain & French, 2000).

Some argue that despite the minority group or affirmation models addressing the oppression of those with impairments, the lack of focus on structural issues and political action has meant that these models have not resulted in change. This lack of focus on structural issues and political action is also considered by some authors to be the reason why legislation, such as the Americans With Disabilities Act, still reflects a medical interpretation of disability (Donoghue, 2003). Some researchers also consider that the reason why the focus on the individual remains the dominant discourse and why those with impairments remain segregated is because of the 'otherness' created by the minority group model (Corker, 1998b).

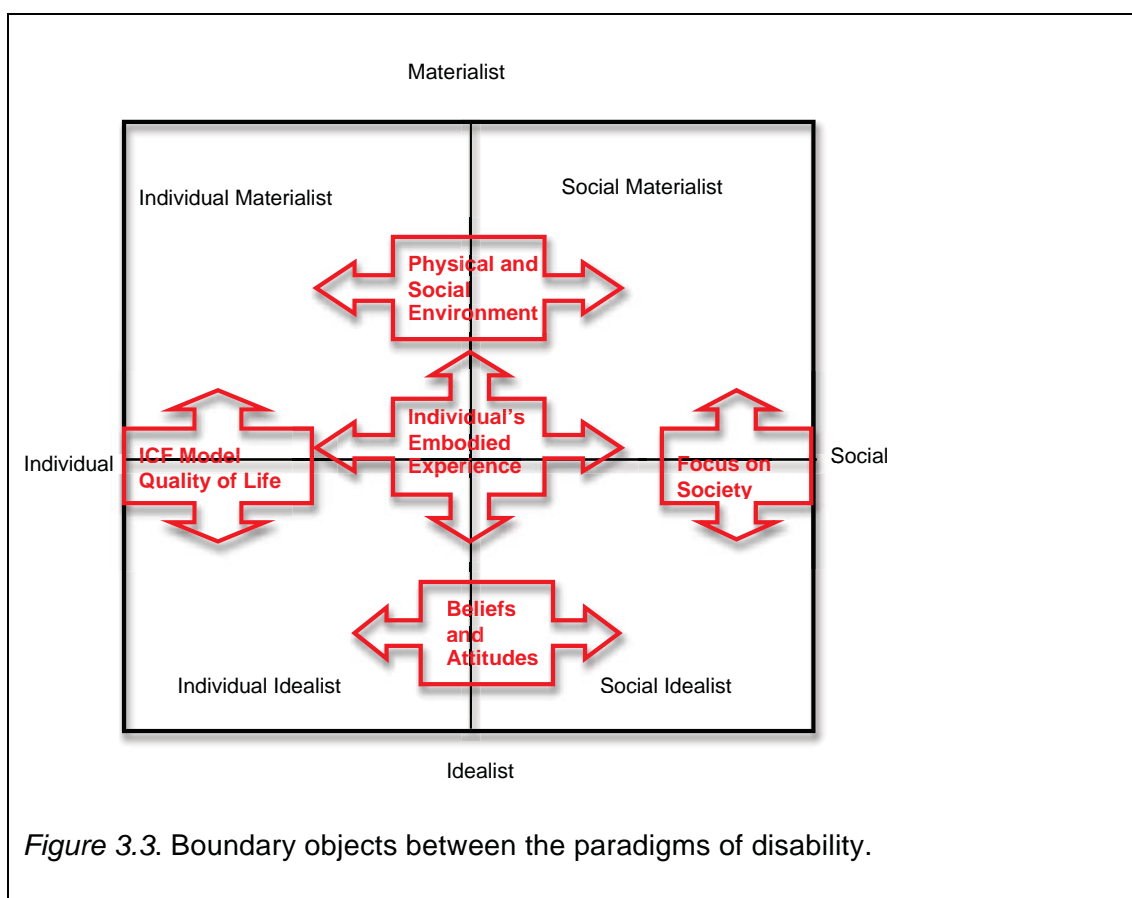
In a similar way to the social materialist paradigm, it would seem that there are close adherents to this social idealist paradigm but that there are different foci. For example, one perspective focuses on the common experience of disability and advocating for non-discriminatory language and one focuses on the positive aspects of impairment. It would seem that the main challenges to this paradigm, that have the potential to cause stress in cross-disciplinary collaboration, come from adherents of the social materialist paradigm who advocate for political action.

While the two social paradigms both consider that disability is caused by society, each has a different view on how it can be eliminated, which has the potential to hinder cross-disciplinary collaboration. The social materialist considers that disability can be eliminated by political action and the social idealist by cultural change. There are no clearly aligned disciplines in either of the quadrants and individuals from those holding to the social nature of disability can be found in a range of disciplines. It could be broadly stated, however, that those from disciplines such as cultural studies would adhere more to the social idealist paradigm while those from disciplines such as political studies would be more likely to align with the social materialist paradigm (Godley, 2011; Morgan, 2012). It can also be seen, however, that there is a growing awareness within these social paradigms of the need to consider the embodied experience of disability (C. Barnes & Mercer, 2004; Scott-Hill, 2004; Watson, 2004). This growing concern means that researchers in these paradigms increasingly stress the need to undertake theory building using participatory methods, particularly group based discussions, so that the voices of experience and knowledge can interact (Bailey, 2004; Scott-Hill, 2004). These trends mean that there is not only common ground built around the understanding of society as the cause of disability between the two social paradigms but that there is also a growing awareness of the individual's embodied experience. This awareness of the individual's embodied experience within these two social paradigms means that there is also potential to find common ground with the individual idealist paradigm and the individual materialist paradigm.

### **3.4.3. Summary of Individual and Social Paradigms**

As was discussed earlier the paradigms of disability described by Priestley's (1998) typology represent extreme views but, as has been shown, this typology provides a heuristic device for understanding perspectives on disability. As has been shown there are a number of different disciplines that study disability and these can be broadly placed within these paradigms. Some of the paradigms have a number of disciplines

that align with the paradigm's orientation, such as the individual materialist, while others such as the individual idealist have fewer disciplines that align with its orientation. In particular the social paradigms have a number of disciplines that can be placed across the two paradigms. Some disciplines would align most closely with either the social idealist such as cultural studies or the social materialist such as political studies, while some disciplines such as sociology could be found in either. As well as disciplines aligning with either the individual or social paradigms there are also disciplines such as education that cross the individual and social paradigm boundaries with special education sitting within the individual paradigms and inclusive education sitting within the social paradigms (Lindsay, 2003). Social work is another discipline that would have adherents from all of the paradigms (Gilson & DePoy, 2002).



These different perspectives on disability have the potential to hinder cross-disciplinary collaboration on building an inclusive society in New Zealand because of their different foci and/or understanding of the nature of reality. The perspectives that reside at the boundaries of the paradigms, or cross disciplinary and paradigmatic boundaries, however, have commonalities of foci or understanding or what can be considered boundary objects (things that reside at the intersection between paradigms) as shown in Figure 3.3. These boundary objects have the potential to provide a basis for building



a common understanding of disability. For example, the ICF has the potential to not only provide a common framework for the individual materialist disciplines but also between disciplines in the individual materialist and individual idealist paradigms. Physical, natural and/or social environments are the focus of both the individual materialist and the social materialist, with the individual materialist concerned with the interaction between the individual's impairment and the environment and the social materialist on how the environment, in particular the socio-political and socio-structural factors, disable those with impairments. The boundary object between the social idealist and the social materialist is their joint focus on the social aspects of disability with the idealist focusing on culture and attitudes to disability and the materialist focusing on the structures and political aspects of society. The commonality between the individual and social idealist paradigms, on the other hand, is beliefs and attitudes, the individual focusing on the individual's beliefs and attitudes and the social concentrating on cultural attitudes and beliefs concerning disability. From these discussions it can also be seen that there is a growing trend across some in the paradigms to consider the embodied experience of disability. For example, some individual materialists can be said to consider the subjective dimension and its impact on functioning, some individual idealists are concerned with the social justice and political impacts on subjective wellbeing, some social idealists are concerned with the impact of cultural influences on an individual's experience of disability and some social materialists are concerned that the strictly social focus does not allow for the embodied experience of disability. These boundary objects may have the potential to promote a basis for developing common ground and a common language, which could help to promote cross-disciplinary collaboration and lead to a multidimensional understanding of disability, which in turn could help to promote inclusion.

#### **3.4.4. Multidimensional Paradigms**

There are a number of perspectives that consider the multidimensional nature of disability including disjunction theory (DePoy & Gilson, 2011), the Nordic relational model (Godley, 2011), and real-constructivist understandings of disability (Danermark, 2002; Shakespeare, 2006). DePoy and Gilson's (2011) disjunction theory, for example, considers that disability exists at the intersection of the individual and social aspects and is caused by an ill fit between the individual with impairment and the environment that can be eliminated when the individual and the environment are aligned. The Nordic relational model is similar and considers that disability is contextual, relative and based on the interaction between the individual with impairment and the environment (Vehmas, 2008). This relational model uses the principles of normalisation theory to



assess services, practice and social policy to ensure the empowerment of the individual through the provision of services and self-advocacy (Godley, 2011). In contrast, real constructivists consider that disability is multifaceted and based on the understanding of a multi-layered nature of reality as discussed below.

A real-constructivist understanding of disability considers that disability is a multidimensional phenomenon that relates to different aspects or levels of reality (Danermark, 2002). Real-constructivists consider that disciplines exist at different levels (Collier, 2004; Holland, 2005; Max-Neef, 2005; Nicolescu, 2005) or strata of reality (Hochachka, 2005; Wilber, 2000) and study different aspects of an issue that are separate but interconnected (Benton & Craib, 2001). For example, in the case of hearing impairment some disciplines will operate at the individual biological level focusing on the hearing impairment itself with medical interventions or the provision of hearing aids. Other disciplines may focus on the individual's communication skills and provide interventions such as sign language, while others may operate at the psychological level helping the individual come to terms with their hearing impairment. Some disciplines may work at the level of culture seeking to change attitudes to the Deaf while other disciplines may operate at the social level addressing more political or policy issues such as making sign language a recognised language (Danermark, 2002). Overall, these real-constructivist perspectives on disability have the potential to provide a framework for building common ground between the perspectives where each of the disciplines provides a unique contribution to the understanding of the complex interrelated nature of disability. In turn this multi-dimensional understanding of disability may help to provide a platform on which to build an inclusive society for all New Zealanders.

### **3.5 Summary of the Complex Real-World Issue of Inclusion In New Zealand**

In summary, it can be seen that inclusion is a complex multifaceted issue that is impacted by policies, attitudes, beliefs and understandings. While much has been accomplished in New Zealand in terms of guidelines in the form of the New Zealand Disability Strategy and acknowledgement and adoption of the United Nations Convention on the Rights of People with Disabilities, full inclusion is still elusive. Some researchers consider that this may be due to the differing attitudes and beliefs concerning disability. An examination of these attitudes and beliefs reveals that there are a number of different perspectives on disability that could be held by those drawn

together to study the complex real-world issue of inclusion. While these different perspectives are necessary to develop a broad understanding of disability and the issue of inclusion, they also have the potential to hinder cross-disciplinary collaboration because of their different foci and understanding of the nature of reality. Commonalities between the perspectives both within and across disciplines and paradigms have the potential to build a basis of common ground that could help to promote cross-disciplinary collaboration while real-constructivist understandings have the potential to provide a meta-perspective for the different disciplines to operate within to develop a multidimensional understanding of disability that may in turn help to promote inclusion. The lack of achievement of full inclusion and the diversity of understanding about the topic of disability would seem to indicate that the multifaceted complex real-world issue of building an inclusive society for all New Zealanders, in line with the New Zealand Disability Strategy (Minister for Disability Issues, 2001), is a suitable topic for the cross-disciplinary activity in this study.

### **3.6 Section Summary**

This section has set the scene for the study by providing an outline of the research aim, research questions and background to the key concepts relating to cross-disciplinary collaboration when studying complex real-world issues in chapter one. This section also presented the literature on the co-construction process that occurs in cross-disciplinary systems and the factors that hinder and promote cross-disciplinary collaboration and how to evaluate it in chapter two which addresses research questions one and two. Chapter three set the scene for the case used to implement the cross-disciplinary approach designed in this study with a focus on building an inclusive society for all New Zealanders in line with the New Zealand Disability Strategy (Minister for Disability Issues, 2001). The next section considers the methodology and methods used in this study.



## **SECTION TWO**

### **Methodology and Methods**

*Coming together is a beginning. Keeping together is progress.  
Working together is success.*  
Henry Ford.

This section covers the methodology and methods used in this study. It is divided into four chapters. Chapter four considers the research philosophy, gives an overview of design-based research through an exploration of the theoretical literature and examples of research in the field. Chapter four then outlines the methodological framework used to guide the study. Chapter five outlines the design process and considers the factors that need to inform the design of the cross-disciplinary approach based on the literature reviewed in chapter two. Chapter five then provides a description of the approach in line with research question three. Chapter six considers the ethical considerations; the numbers, diversity and demographics of the participants; the recruitment process; and how the approach was implemented in this study. Chapter seven outlines the evaluation process used including the data collection and analysis methods and addresses research question four.



## **Chapter 4: The Research Methodology**

### **4.1 Introduction**

This chapter considers the research methodology used in this study including how the aim and philosophy, which underpin the study, influence its selection. It gives an overview of design-based research drawn from the theoretical literature and illustrated by examples of research studies. The chapter then outlines the methodological framework used to guide this study.

### **4.2 Philosophy of the Research**

Creswell (2013) considers that whether researchers intend to or not, their philosophy (beliefs and abstract ideas) influences the research that is undertaken. It is important to make the philosophy underpinning research explicit and to consider the implication of the philosophy's ontology, epistemology and axiology<sup>12</sup> on the methodology. The philosophy underpinning this research is the real-constructivist philosophy of critical realism. This philosophy not only fits with the researcher's understanding of reality it also fits with the purpose and practice of the study, and the phenomenon that is being explored as considered below.

Firstly, the purpose of critical realist research matches the purpose of this study. Critical realist research seeks to consider why things occur and to investigate the mechanisms and structures that lead to observable events (Mingers, 2004b). This purpose fits well with this study that seeks to consider how the approach designed in this study helps to promote cross-disciplinary collaboration.

Secondly, the ontology of critical realism fits with the 'pedagogy of connection' identified in chapter two as important to promote cross-disciplinary collaboration when studying a complex real-world issue. Critical realism considers that reality is a differentiated, stratified and structured whole (Bhaskar, 1979). This philosophy also considers that a range of different objects, psychological, social, conceptual and natural, exist within this interrelated matrix of reality (Mingers, 2004b). Critical realists consider that causal mechanisms occur in and between the multiple levels and scales (Collier, 2004) that result in events that can be empirical (events that are experienced, observable and measurable), actual (events that happen regardless of whether they

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<sup>12</sup> Axiology considers the role of values in research.

are experienced or observed) or real (which includes empirical, actual and potential events) (Bhaskar, 1975; Lopez, 2003; Sayer, 2000). These causal mechanisms generate a myriad of potential outcomes (Collier, 2004).

Critical realists consider that in the social world, such as occurs in cross-disciplinary collaboration, the matrix includes relationships: people with people, people with nature, and people with social structures (Holland, 2005). People hold certain positions within these relationships that come with certain practices (Holland, 2005). These 'positioned-practices' in turn have internal and external causal relationships (Holland, 2005). In this way society can never be completely constructed by individuals since it already pre-exists them and creates the conditions within which they act. In other words, society and individuals co-construct each other. It can be seen, therefore, that this understanding of the layered nature of reality not only fits with the 'pedagogy of connection' needed to help the exploration and integration of ideas about the complex real-world issue, but also fits with the co-constructed nature of the cross-disciplinary process described in chapter two, the focus of this study.

The critical realist's epistemology sits between the positivist and interpretivist understandings. Like the positivists it considers that there is an objective reality but, like the interpretivists, critical realism considers that knowledge about this objective reality can only ever be subjective (Cruickshank, 2003). This understanding means that critical realists interpret scientific laws as explanations of causal mechanisms and structures rather than empirical regularities, considering all systems to be open (Collier, 2004). Theories that are generated about reality are, therefore, considered to be socially generated knowledge formations about an objective reality (Modell, 2009). In this way, critical realism considers that there is a difference between perceptions of reality and reality (Krauss, 2005). This understanding means that, unlike positivism, which considers research to be value-free, and constructivism that is value-laden, critical realism is value-conscious. Being value-conscious means that researchers need to be aware of, and consider the values present in, their own biases and assumptions and those of the human systems that they are researching (Krauss, 2005; Modell, 2009).

Since critical realism sits between positivism and interpretivism it is also considered that traditional methods for evaluating the quality of research in these other two philosophies are not applicable and new criteria are needed (Healy & Perry, 2000). Healy and Perry (2000) consider that the quality of critical realist research can be

assessed using six criteria. One criterion relates to the ontological appropriateness of the research, in other words, does the research deal with a complex phenomenon and reflective people. Another criterion relates to contingent validity and considers if the research recognises the openness of all systems where boundaries are blurred and broad generative mechanisms are identified. A third criterion considers whether or not the study is value-conscious and takes account of the multiple perceptions of those involved. Another criterion relates to the trustworthiness of the research, for example, have the participants verified the findings and/or have the participants received a summary of the findings. Yet another criterion considers whether or not analytical generalisation or theory building rather than statistical generalisation or theory testing has been undertaken. The sixth criterion relates to the construct validity of the research (Healy & Perry, 2000). This construct validity involves a number of factors. For example, are the theories generated considered to be fallible and not representations of an objective reality (Mingers, 2004b; Modell, 2009), have questions and new theoretical perspectives been used to confront the data (Modell, 2009), and have the contextual conditions that give rise to the causal mechanisms that lead to specific events been considered (Healy & Perry, 2000; Mingers, 2004b).

The research methodology used in this study needs to fit with a real-constructivist philosophy. It needs to be a methodology that is suited to complex real-world issues that exist within a layered reality that can be viewed through multiple lenses. These multiple subjective views help to shed light on the objective reality of the object of study. The methodology needs to explore the how and why questions by considering the multiple causal mechanisms that may, or may not be observed. The methodology also needs to recognise that all theories are transitory since they are socially constructed and all systems are open.

Mingers (2004b) considers that there is no one single type of critical realist methodology. Some, for example, consider that because critical realism recognises a range of different objects, psychological, social, conceptual and natural, that the use of mixed methods is needed to study the different objects (Mingers, 2004b). Others, however, consider that because critical realism recognises that all systems are open and that all knowledge is subjective that qualitative methodologies, such as case studies and semi-structured interviews are more appropriate (Healy & Perry, 2000; Krauss, 2005). Some, such as Breese (2008), Danermark (2002) and Gable (2008), have developed and used a critical realist six-stage explanatory methodology to explore the multi-dimensional nature of the object of study. Therefore, since there are



no clear guidelines as to the selection of methodologies to use with critical realism, a number of methodologies including case study, action research, six-stage explanatory methodology and design-based research were all considered. The six-stage methodology while suitable for use with complex real-world issues and critical realism did not fit well with the aim of the study, as it did not accommodate the development of an approach. While action research and case study methodology would have been suitable for use with critical realism and evaluation of the approach it was decided that design-based research would be used as the methodology in this study. Design-based research was selected since as well as fitting with critical realism and the purpose of this study it also provided a framework to help structure the design and evaluation process of the cross-disciplinary approach. This will be discussed below.

### **4.3 Design-based Research Methodology**

Design-based research has its foundations in the field of engineering and information systems (Edelson, 2002; Hevner, 2004). Since the early 1990's it has also been used within education research (Anderson & Shattuck, 2012). A. Brown (1992) stated in her seminal article that design-based research had the potential to address the shortcomings of much education research by allowing theory to inform practice and practice to inform theory. Anderson and Shattuck (2012) concur and state that design-based research has the potential to provide an evidence-base to educational interventions.

Since the 1990s there has been a steady interest in the use of design-based research within the education sector. At first, as would be expected with a new research methodology, journal articles were predominantly expository or philosophical (Anderson & Shattuck, 2012). Since 2006, however, there have been an increasing number of research studies appearing in the education literature. Three recent studies have been selected to highlight some of the aspects of design-based research and these are described in Table 4.1. The first thing to note is that they are all undertaken in science settings involving technology, two within primary schools (Looi, Chen, & Ng, 2010; So, Seah, & Toh-Heng, 2010) and one at the National Science Foundation in the United States (Pennington, 2011), which aligns with Anderson and Shattuck's (2012) findings that state that many design-based research studies are undertaken in science settings or using technology interventions. This is perhaps not surprising when considering the roots of design-based research in engineering and information science. Although these settings are different from this study, these articles all use design-based research to develop and test collaborative approaches and so are similar in

nature to this study. Pennington (2011) is especially relevant to this study since it relates to the development of an approach to promote cross-disciplinary collaboration.

Table 4-1. *Design-based Research Studies.*

Study	Looi at al., (2010)	So et al., (2010).	Pennington (2011)
Description	A study to test the effectiveness of collaborative studies using GroupScribble software in Singapore primary schools.	A study to promote individual and collective knowledge building using the Knowledge Building Model with three classes of primary school students in Singapore	A study to develop an approach to promote collective learning in eScience teams involving nineteen participants from the National Science Foundation.
Purpose	<ul style="list-style-type: none"> <li>To test and refine the intervention</li> <li>To refine learning design principles</li> <li>To inform the design of the new version of GroupScribble</li> </ul>	To refine the intervention	To develop a new conceptual model of learning
Reason for choice of Design-based Research	It addressed complex problems in real-life settings	It recognised the importance of systems thinking and interdependence of knowledge building elements	It combined practice and theory
Type of design	Co-designed with teachers	Co-designed with science teachers	Not specified
The design process	Integrated design principles and technological affordances	Used principles of knowledge building based on collaborative-inquiry centred pedagogy and integrated social and technological affordances	Integrated design strategies and technology adoption process to structure design
Cycle of design process	Exploratory cycle involving training phase and implementation phase	One training phase to cultivate knowledge building culture and second to implement the Knowledge Forum	Seminar to initiate interaction and learning workshops to co-create integrated problem conceptualisations
Data collection	<ul style="list-style-type: none"> <li>Video recordings</li> <li>Observations</li> <li>Artefacts</li> <li>Feedback from teachers</li> <li>Student exam results</li> <li>In-depth interviews</li> <li>Student survey</li> <li>Researcher reflections</li> </ul>	<ul style="list-style-type: none"> <li>Artefacts</li> <li>Focus group interviews</li> <li>Classroom observations</li> <li>Videos</li> </ul>	<ul style="list-style-type: none"> <li>Artefacts</li> <li>Observations</li> <li>Researcher reflections</li> <li>Participants logs</li> <li>Surveys</li> </ul> <p>Data collected at the start and after each activity including self-reported outcomes in order to evaluate outcomes and process</p>
Data analysis	<ul style="list-style-type: none"> <li>Statistical analysis</li> <li>Qualitative analysis</li> </ul>	<ul style="list-style-type: none"> <li>Content analysis of forum postings</li> <li>Assessment of knowledge and conceptual understanding</li> </ul>	Not specified
Findings of research	<ul style="list-style-type: none"> <li>Helped all students express ideas.</li> <li>Provided safe environment</li> <li>Increased diversity in discussion</li> <li>Helped students consider other views</li> <li>Students took ownership of their learning</li> <li>Helped improve their understanding</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge Building environment was effective for both high and low achieving students</li> <li>Increased student's conceptual knowledge</li> <li>Students struggled to develop skills needed to develop own understanding</li> <li>More scaffolding needed</li> </ul>	<ul style="list-style-type: none"> <li>The approach did facilitate cross-disciplinary collaboration and lead to the development of co-created innovative research ideas</li> <li>Leader important to facilitate interaction and encourage the development of a shared vision</li> <li>Lack of time was identified as a barrier to collaboration</li> </ul>
Findings in relation to Design-based Research	<ul style="list-style-type: none"> <li>Validated design activities</li> <li>Gave confidence in intervention for further iterations of research</li> </ul>	<ul style="list-style-type: none"> <li>Identified challenges and difficulties as well as insights and impacts of intervention</li> </ul>	<ul style="list-style-type: none"> <li>Limited generalisation of findings</li> <li>Non-objective researcher</li> </ul>

It is considered that design-based research is well suited to studying complex real-world issues (Hevner, 2004) in naturalistic environments (O'Donnell, 2004) that involve

social interactions where there are multiple variables (Anderson & Shattuck, 2012). Design-based research was selected for the studies reviewed because of these characteristics. For example, Looi et al. (2010) selected design-based research because it addresses complex issues in real-life settings, while So et al. (2010) chose this methodology as it allows for systems thinking and recognition of the interdependence of variables. Pennington (2011), on the other hand, selected it as a suitable methodology because it links theory and practice, which aligns with another of the major characteristics of design-based research described by A. Brown (1992) discussed earlier.

Design based research is often participatory in nature and undertaken in collaboration with practitioners (Anderson & Shattuck, 2012). Like many design-based studies, Looi et al. (2010) and So et al. (2010) used a collaborative design process where the design was co-created by researchers and classroom or science teachers. It is unclear, however, whether or not Pennington (2011) used a participative approach. While having a participatory approach is common, when undertaken in doctoral studies, which requires the work to be solely that of doctoral candidates, it is acceptable to incorporate practitioner's views into the design rather than use a co-construction process to develop the design (Herrington, McKenney, Reeves, & Oliver, 2007).

Design-based research involves designing, implementing and testing interventions based on design propositions drawn from the literature (Anderson & Shattuck, 2012). Looi et al. (2010) wanted to test and refine the intervention GroupScribble in order to inform the design of a new version of the software. They used design principles, technological affordances and an extensive literature review to develop a new version of GroupScribble, which they then tested with a group of primary school children. Findings from the study demonstrated that GroupScribble is an effective tool to help students express their ideas by providing a safe environment for interaction, increasing diversity in the discussion and helping them to understand other views. GroupScribble also helped the students take ownership of their learning and improved their understanding of the topic of study. These findings demonstrate that design-based research helped the researchers test the intervention and provided confidence in the new version of GroupScribble that they could take through to further iterations of research.

So et al. (2010) used principles of knowledge building and collaborative-inquiry drawn from the literature and used a design process that integrated social and technological

affordances to refine a Knowledge Building Model. So et al. found that the Knowledge Building Model used was able to provide an effective model for both high and low achievers that helped to increase knowledge. It was also found that more scaffolding was needed to help students develop skills to promote their own learning, which needed further investigation and could lead to further refinement of the model. These findings demonstrate that design based research was not only able to help test the approach but also identified areas that could be refined to improve the intervention.

Pennington (2011) used design strategies and a technological adoption process to develop her conceptual model for collective learning. Pennington found that her model helped to facilitate collaboration and the development of co-created research ideas and highlighted the importance of good facilitation to promote interaction and the development of a shared vision. It can, therefore be seen that design-based research helped Pennington develop a conceptual model for collective learning that could be used in further iterations. What is interesting is that all the studies referred to in Table 4.1 use the literature to not only inform the design of the intervention but also to structure the design process, which is a distinctive feature of design-based research that makes the design process a significant part of the research (Anderson & Shattuck, 2012).

Generally, design-based research involves multiple iterations that are used to further refine and evaluate the intervention as well as add to the literature on the topic of study (McKenney & Reeves, 2012). Anderson and Shattuck (2012) found, however, that generally most reporting of studies related to the first, second or third iterations. They also found that studies reporting on earlier iterations generally resulted in small-scale changes that improved outcomes relating primarily to student learning and developed a new understanding of educational phenomenon rather than large-scale change and/or theory building that occurs in final iterations of research. These findings are also true of the three studies reviewed here, which all reported on initial research cycles that resulted in improved student learning and greater understanding of the processes involved in the implementation of interventions as discussed earlier. Pennington (2011) also noted that being the first cycle of research meant results were context specific and could not be generalised. This aligns with Anderson and Shattuck (2012) who consider that generalisation occurs in the later iterations of research as theoretical insights are transferred across contexts and different instances are compared.

The nature of the multiple iterations of design-based research, which often involve extended periods of time, has meant that it is not often used for doctoral research. Now, however, it has become acceptable for doctoral studies to only include one cycle of research and report on the effectiveness of the interventions, how they might be refined, and identify areas for further investigation that might add to the understanding on the topic of study (Herrington et al., 2007).

What is also interesting in these studies, which does not appear to be documented in the design-based research literature, is the similarity of these initial research cycles. All three studies involved a preparatory phase. For example, Looi et al (2010) and So et al. (2010) used training phases prior to the introduction of the technological intervention while Pennington (2011) used a technologically mediated seminar phase to help initiate interaction and introduce potential participants to some of the research ideas before moving to the collaborative workshops. This would seem to indicate that a preparatory phase is a useful preliminary phase of the implementation process that helps prepare participants for use of the intervention and may be important to include in the design process.

Design-based research is considered a genre of research rather than a specific method with many approaches having been developed to fit different contexts and problems (McKenney & Reeves, 2012). It is considered to be philosophically neutral having been used in a number of projects underpinned by different research paradigms. It involves gleaning knowledge from a range of different perspectives (Bell, 2004), which makes it particularly suitable to be used with critical realism.

Choice of methods within design-based research is dependent on the methodological preference, disciplinary traditions and areas of expertise of the researcher. All the studies reviewed in Table 4.1 used a mixed methods approach to collect and analyse data, which again makes it a suitable methodology to be used with critical realism. What is also interesting to note is the similarity of data collection methods used in these studies. For example, all three studies used artefacts that were generated as part of the implementation of the intervention and observations, while two used researcher reflections, surveys, videos and interviews. This range of data collection methods not only shows the extensive range of methods used but also how design-based research lends itself to the investigation of the complex interaction of a number of variables as discussed earlier. One noticeable difference between the studies is that Pennington (2011) not only collects data to show final outcomes but also to highlight

outcomes from different phases of the process and individual self-reported outcomes. This demonstrates that design-based research provides the opportunity to develop a multi-dimensional understanding of how interventions work as well as whether or not they are effective. This would also seem to fit with the recommendation of Huutoniemi (2010) to undertake on-going evaluation of the cross-disciplinary collaboration process thus further indicating its suitability as a methodology for this study.

One of the main issues identified with design-based research in Pennington's (2011) study and confirmed by McKenney and Reeves (2012), is that the designer is also involved in the implementation and evaluation of the intervention. While this can often lead to deep insights into the underlying assumptions about how and why the interventions work, it can also challenge the validity of the research since the researcher may not be open to criticism of the intervention (McKenney & Reeves, 2012). The presence of the researcher can also affect how the participants behave or give responses and can significantly impact the validity of the research (Anderson & Shattuck, 2012; McKenney & Reeves, 2012). McKenney and Reeves (2012) consider that triangulation from a number of data sources, unobtrusive data collection, and the researcher clearly stating their influence on the data can help to mitigate some of these hindrances.

In summary, therefore, it can be seen from the theoretical literature and the examples from the field that design-based research is a philosophically neutral methodology that can be undertaken using many approaches that integrate theory and practice. It is ideally suited to the study of complex real-world issues in real-life situations involving social interactions that have multiple variables. Design-based research is often participatory involving practitioners in the design, implementation and/or evaluation of interventions where the design becomes a significant part of the research. Often several methods are used to collect and analyse the data that are then triangulated. Triangulation is considered to be important in design-based research to help eliminate the issues generated by the presence of the researcher and to help provide greater validity of the research. These characteristics plus its ability to involve on-going evaluation make design-based research a suitable methodology for use in this study since the aim of the study is to develop, implement and evaluate an approach to promote cross-disciplinary collaboration undertaken in a real-life setting involving complex social interactions. Since this is a doctoral study, only the first iteration of research has been reported on and the design is the sole work of the researcher with practitioners' perspectives being included in the literature review.

## 4.4 Process of Design-based Research

As described in the previous section design-based research provides a framework for studies whose aim is to design an intervention to address a new, previously unresolved issue in order to evaluate its usefulness (Hevner, 2004). Many versions of the process of design-based research have been developed that vary in the degree of detail given. For example, Reeves (2006) gives a simple four-phase framework while Bannan-Ritland and Baek (2008) provide a highly detailed framework of fourteen steps including guiding questions and suitable research methods for each phase. One example of a framework, developed by Peffers, Tuunanen, Rothenberger and Chatterjee (2008) has six phases including a) identification of the problem and the importance of its resolution, b) identification of what is needed to resolve the problem, c) the design of the artefact that meets the requirements to resolve the issue, d) a demonstration of how the artefact performed, e) an evaluation of the artefacts performance in order to make recommendations as to how it could be improved, and f) communication of the research. McKenney and Reeves (2012) have sought to combine all these approaches and have developed what they describe as a generic model. This model has three main phases a) analysis/exploration, b) design/construction, and c) evaluation/reflection. This generic model is the one used to provide a framework in this study as it provides a simple synthesised process that encompasses aspects from many other design-based processes.

The analysis/exploration phase involves a literature review to help identify and describe the problem and to ensure that the topic is suitable for research that can potentially lead to the development of a resolution and a contribution to the literature (McKenney & Reeves, 2012). Bannan-Ritland and Baek (2008) describe this phase as 'informed exploration'. In this phase the problem is defined, causes are identified, contextual factors are explored and practitioners concerns and opinions are sought (McKenney & Reeves, 2012). This phase as well as being analytical also requires an open-minded attitude that seeks to look for opportunities and ideas for solutions. The importance and integration of both theoretical and practical perspectives is stressed and literature reviews, field observations and meetings with professionals are undertaken (McKenney & Reeves, 2012). In this study no field observations or meetings with professionals were undertaken but, as stated previously, literature reporting practitioners' experiences and opinions was gathered. In the analysis/exploration phase the literature review helps to inform the design of the intervention as well as shape the research questions and data collection and analysis methods (McKenney & Reeves, 2012). The



field observations on the other hand, are to provide the context of the issue and to help illuminate why things operate as they do. The outcomes of this phase include the problem statement, long-range goal, initial design requirements and initial design propositions (McKenney & Reeves, 2012). In this thesis, these outcomes are drawn from chapters one, two and three and reported in chapter five.

The design/construction phase is a systematic process of design and construction where ideas move from large more abstract ideas to more clearly defined detailed plans of the intervention (McKenney & Reeves, 2012). McKenney and Reeves consider that it involves a circular process where ideas are generated, feasibility considered, and prototypes developed. Design involves exploring and mapping solutions while construction involves building and revising solutions. Design can also include creatively thinking of alternative ideas that may push the boundaries. Construction can include playing with some of the possibilities guided by inspiration or intuition (McKenney & Reeves, 2012). Further details of the design/construction phase are given in chapter five and six along with the actual design and construction of the approach developed in this study.

The evaluation/reflection phase informs a further review of the intervention as well as contributes to the understanding of the phenomenon of study (McKenney & Reeves, 2012). This phase, like the previous ones involves both analysis and creativity. Evaluation relates to the more formalised and systematic testing of the approach but can also include researchers asking why things are happening as well as being open to the unexpected and using opportunities as they arise. Reflection is more a retrospective consideration of the observations and findings that seeks to investigate what would happen if certain events occurred and attempts to connect different ideas to reveal new insight (McKenney & Reeves, 2012). Further details of the evaluation/reflection phase are given in chapter seven along with the actual evaluation and reflection process used in this study. The next chapter will outline the methods used to design the cross-disciplinary approach to promote cross-disciplinary collaboration in this study and provides details of the design.





## **Chapter 5: Designing the Approach**

### **5.1 Introduction**

This chapter relates to research question three and considers what approach incorporates the factors identified in the literature that promote cross-disciplinary collaboration. It includes a description of the design process followed by the initial design phase, the morphological chart, the skeleton design and the final design specification for the approach to promote cross-disciplinary collaboration when studying complex real-world issues. All stages of the design are based on the literature reviewed in chapter two. The final approach to promote cross-disciplinary collaboration is then presented.

### **5.2 The Design Process**

The design process can be informed by either the initial design propositions or by the findings of previous iterations of research (McKenney & Reeves, 2012). In this study, which is the first cycle in the design process, the design is informed by the initial design propositions. These initial design propositions, based on the literature review, are then used to develop a morphological chart to help structure the design process. This morphological chart breaks down the initial design propositions into broad and mid-level propositions that are then expanded using the information from the literature review about methods that help to promote cross-disciplinary collaboration. The next phase of the design process uses the morphological chart to develop a working model of understanding or skeleton design (McKenney & Reeves, 2012). McKenney and Reeves (2012) consider that this phase is important as it helps the researcher identify the core elements of the design. These skeleton designs are then used to develop the final design specifications.

### **5.3 Initial Design Specifications**

As stated earlier, the main outcomes from the analysis/exploration phase of design-based research are considered to be a) problem definition, b) long-range goal, c) partial design requirements and d) initial design propositions (McKenney & Reeves, 2012).

#### **5.3.1. Problem Definition**

The problem definition gives an explanation of the problem including the factors that contribute to it (McKenney & Reeves, 2012). In terms of this study, the problem

definition is drawn from information presented in chapters one and two and summarised below.

Cross-disciplinary collaboration is increasingly being used to study complex real-world issues (Conklin et al., 2007; Palmer et al., 2007). However, these cross-disciplinary endeavours are often unsuccessful (Conklin, 2005) due, primarily, to the epistemological differences held by the cross-disciplinary group (Hinrichs, 2008).

These epistemological differences generate a number of issues that can hinder cross-disciplinary collaboration including:

- a lack of willingness by the individuals in the cross-disciplinary group to interact due to disciplinary/paradigmatic parochialism and imperialism (Hinrichs, 2008; Hulme & Toye, 2006; Lowe & Phillipson, 2009; Maasen, 2000; Sayer, 1999; Wall & Shankar, 2008);
- miscommunication generated by differences in the individuals' frames of reference and language used (Choi & Pak, 2007; Dewulf et al., 2007; Marzano et al., 2006; Schramm, 1954);
- purposeful miscommunication due to insecurity in the individual's understanding or knowledge about the complex real-world issue (Bromme, 2000); and
- power differentials between different perspectives and types of knowledge held by the different members of the cross-disciplinary group (Choi & Pak, 2007; Kochan et al., 2002; MacMynowski, 2007; Pregernig, 2006; Russell et al., 2008; Schoenberger, 2001).

### **5.3.2. Long-range Goal**

The long-range goal details the purpose of the designed intervention (McKenney & Reeves, 2012). The purpose of the intervention in this study is to promote cross-disciplinary collaboration when studying complex real-world issues. The intervention aims to promote cross-disciplinary collaboration by overcoming the issues generated by the different epistemological understandings of the cross-disciplinary group and facilitating the intra-individual and inter-individual process involved in the co-construction process of cross-disciplinary collaboration as described in chapters one and two.

### **5.3.3. Partial Design Requirements**

Partial design requirements are the criteria that frame the purpose of the design task (McKenney & Reeves, 2012). These criteria often fall into the categories of constraints, opportunities and freedoms. In terms of the actual designed approach these constraints, opportunities and freedoms are highly variable and context dependent.

The constraints, opportunities and freedoms given below relate specifically to the current study.

#### **5.3.3.1. Constraints**

Constraints relate to the limiting factors that affect the implementation of the designed intervention (McKenney & Reeves, 2012). The constraints in terms of the design of the cross-disciplinary approach in this study relate to the fact that this is a short-term doctoral study. The constraints include:

- the intervention is to help promote cross-disciplinary collaboration in a short-term project;
- it should be no longer than a weekend due to the time restraints of the volunteer participants; and
- the intervention should be relatively cost-efficient as funds for implementation are limited to NZ\$5,000.

#### **5.3.3.2. Opportunities**

Opportunities involve a consideration of studying such things as intrinsic and extrinsic motivators and, like the constraints, are highly context dependent (McKenney & Reeves, 2012). In the case of this design the motivators will change depending on how and when the design is used and which cycle of development is being undertaken. In terms of this study the opportunities include the desire by participants to network, learn from each other and help the researcher complete her doctoral studies.

#### **5.3.3.3. Freedoms**

Degrees of freedom relate to the level of flexibility that can be applied when implementing the design (McKenney & Reeves, 2012). In terms of this design the degree of freedom needs to be high and few specific implementation details need to be given. This is because a high degree of freedom is needed so that facilitators can adapt such things as methods used, time spent on activities and length of time needed. This flexibility allows facilitators to adapt the implementation of the design to suit the needs of the topic of the study, the needs of the participants in the cross-disciplinary group and other contextual factors, such as the venue. In terms of this study these high degrees of freedom mean that adaptations can be made as the need arises.

#### **5.3.4. Initial Design Propositions**

Initial design propositions are the factors that need to inform the design of the intervention drawn from the analysis/exploration phase of design-based-research (McKenney & Reeves, 2012). The initial design propositions in this study were drawn

from the literature review, which included practitioners' experiences, presented in chapters one and two and detailed below.

- In order to promote cross-disciplinary collaboration the cross-disciplinary approach in this study acts like a social system (Bammer, 2006; Conklin, 2005; Fiore et al., 2010; Inkpen, 1996; Pennington, 2008; Russell et al., 2008) and as such needs to facilitate the co-construction process that occurs within systems (Mingers, 2004a).
- In order to facilitate the co-construction process the approach needs to help the individuals overcome the hindrances caused by their multiple perspectives and engage in the intra-individual and inter-individual processes (Hinrichs 2008) as outlined in the problem definition above.
- In order to overcome disciplinary/paradigmatic parochialism and imperialism and engage in the intra-individual process the approach needs to help individuals critically self-reflect (Bromme, 2000; Bruusgaard et al., 2010; C. Clark, 1991; Endberg, 2007; Graybill et al., 2006; Hinrichs, 2008; Loisel, 2005; Maasen, 2000; Marzano et al., 2006; Russell et al., 2008; Wall & Shankar, 2008) and consolidate their knowledge of the complex real-world issue (P. Clark, 2011; Fiore et al., 2010; Petts et al., 2008; Wall & Shankar, 2008) using methods such as reflective questioning, journaling (B. Brown, 2005; Gray, 2007; Riley-Doucet & Wilson, 1997) and concept maps (Gray, 2007; Pennington, 2008).
- In order to engage in the inter-individual process the approach needs to provide face-to-face events (Giacomini, 2004; Hinrichs, 2008; Marzano et al., 2006; Rhoten, 2003; Ryser et al., 2009; Stokols, 2006) in a conducive, physical environment (Hollingsworth & Hollingsworth, 2000; Loi & Dillon, 2006; Pennington, 2008; Stokols et al., 2008; Wall & Shankar, 2008) and stimulate curiosity (Scerri, 2000; Wall & Shankar, 2008).
- In order to engage in the inter-individual process the approach also needs to help overcome miscommunication caused by the differences in participants' frames of reference and encourage them to develop a common frame of reference and language on which to build communications (Choi & Pak, 2007; Dewulf et al., 2007; Marzano et al., 2006; Schramm, 1954).
- In order to engage in the inter-individual process the approach needs to help the cross-disciplinary group overcome the power differentials and allow all voices to be heard (Choi & Pak, 2007; Kochan et al., 2002; MacMynowski, 2007; Pregernig, 2006; Russell et al., 2008; Schoenberger, 2001) through the generation of a safe relational environment (Loi & Dillon, 2006; Russell et al.,

2008; Stokols et al., 2008; Wall & Shankar, 2008) that helps to dispel stereotypes (McCallin, 2004), increases communication (Endberg, 2007), encourages risk-taking (Bruusgaard et al., 2010; Scerri, 2000; Wall & Shankar, 2008), and the development of non-judgmental attitudes (Bromme, 2000; Bruusgaard et al., 2010; P. Clark, 2011; Graybill et al., 2006). The safe relational environments can be developed through informal activities, the sharing of stories and the provision of hospitality, the development of relationships, the development of ground rules and good facilitation (Branson, 2002; Bruusgaard et al., 2010; Choi & Pak, 2007; P. Clark, 2011; Giacomini, 2004; Graybill et al., 2006; Hollingsworth & Hollingsworth, 2000; Loisel, 2005; Marzano et al., 2006; McGonigal, 2005; Norman, 2009; Orchard et al., 2005; Petts et al., 2008; Rivero, 2004; Ryser et al., 2009; Scerri, 2000; Stokols et al., 2008; Weaver, 2008).

- In order to engage in the inter-individual process it is stated in the literature that the approach also needs to help the cross-disciplinary group utilise the tension generated by the multiple perspectives to develop a collective understanding of the complex real-world issue and a collective identity (Hardy, 2005; Lichtenstein et al., 2006). It was found in the literature that this can be done through the use of a positive solution focus on the complex real-world issue (Adams et al., 2004; Buchbinder et al., 2005; Holman et al., 2007; Hulme & Toye, 2006; Loi & Dillon, 2006; Stokols, 2006; Vyt, 2008; Weaver, 2008; Whitney, 2004), the adoption of a 'pedagogy of connection' (Loi & Dillon, 2006), the use of a meta-perspective (Buchbinder et al., 2005; J. Klein, 2010; Pregernig, 2006; Russell et al., 2008), and dialogical methods (Bammer, 2006; D. McDonald et al., 2009) such as case studies and/or real-life experiences (Buchbinder et al., 2005; Loi & Dillon, 2006), timelines (Nissley, 2004), storytelling and attentive listening (Finegold et al., 2002; Gergen et al., 2004; Nissley, 2004), teaching and in-depth study of the paradigms (Holman et al., 2007; Marzano et al., 2006; McCallin, 2004), metaphors (Bromme, 2000; Koskinen, 2005), creativity (Loi & Dillon, 2006), and overnight stays (Perkins, 2000).

## 5.4 The Morphological Chart

Morphological charts are designed to table the design components and solutions and help to operationalise the big ideas generated by the previous design phases (McKenney & Reeves, 2012).

The morphological chart for the cross-disciplinary approach to promote cross-disciplinary collaboration shown in Table 5.1 is drawn from the initial design propositions detailed in the previous section. The morphological chart has been colour coded to help establish the different aspects of the cross-disciplinary system.

Table 5-1. *Morphological Chart for the Cross-disciplinary Approach.*

Broad Proposition	Mid-level Proposition	Specific Propositions			
Overcome disciplinary/paradigmatic parochialism and imperialism and be willing to engage in the inter-individual process	Critically self-reflect	Reflective questioning		Journaling	
	Consolidate their knowledge of the complex real-world issue	Concept maps			
Engage in the inter-individual process	Provide conducive, physical environment	Face-to-face meetings	Close proximity, comfortable congenial meeting rooms		Meet physical needs for food, rest and relaxation
	Stimulate curiosity	Knowledge products and activities to fill a perceived information gap			
Overcome miscommunication caused by the differences in individuals' frames of reference	Build a common frame of reference and language	Explore different frames of reference and language used	'Pedagogy of connection' and a meta-perspective	Future Search	Case studies
					Teaching and in-depth study of the paradigms
Overcome the power differentials and allow all voices to be heard	External influences	International, national and local timelines			
	Build safe relational environment	Socialise informally	Good facilitation		Develop own ground rules
Generate collective understanding and identity	Positive solution focus on the complex real-world issue	Appreciative Inquiry	Storytelling and attentive listening		Creativity
	'Pedagogy of connection' and a meta-perspective				Overnight stay

The pink boxes represent the propositions that relate to the intra-individual process and the development, of what Hardy (2005) calls the personal construction. The broad proposition in this section relates to the overall aim of the intra-individual phase, which is to help individuals overcome disciplinary/paradigmatic parochialism and imperialism and be willing to engage in the inter-individual process or cross-disciplinary collaboration. The mid-level propositions in this section relate to the two main activities identified in the literature that make up the intra-individual process, critical self-reflection and consolidation of the individual's understanding of the complex real-world

issue. The specific propositions note the methods identified in the literature such as reflective questioning, journaling and concept maps, which can help achieve the critical self-reflection and consolidation of knowledge.

The green boxes are the mid-level propositions that relate to the physical environment within the broad proposition of helping individuals engage in the inter-individual process. The specific propositions relate to the methods identified in the literature that help to provide a conducive, physical environment and include face-to-face events, close proximity and comfortable meeting rooms, and meeting the physical needs of the individuals.

The mid-level propositions in the brown boxes relate to the intellectual environment within the broad proposition of helping individuals engage in the inter-individual process and relate specifically to stimulating curiosity. The specific proposition that relates to curiosity is the provision of knowledge products and activities to fulfil perceived information gaps for the individuals in the cross-disciplinary group as discussed in chapter two.

The propositions that are in the paler blue boxes relate to the initial inter-individual process designed to promote cross-disciplinary understanding of the complex real-world issue. These boxes span two broad propositions that are drawn from the literature in chapter two. The first broad proposition relates to overcoming miscommunication caused by the different frames of reference of the individuals in the cross-disciplinary group. The mid-level proposition in this section relates to the need identified in the literature to build a common frame of reference and language through which to communicate. The specific propositions that relate to building this common frame of reference include methods used to explore the different frames of reference and languages used including the adoption of a 'pedagogy of connection' and the use of a meta-perspective based on a real-constructivist understanding of the nature of reality, *Future Search*, case studies, and teaching and in-depth studies of paradigms, as identified in chapter two. The second broad proposition that is included in this section is the one that relates to overcoming the power differentials and allowing all voices to be heard. The mid-level proposition in this broad proposition that relates to the cross-disciplinary understanding phase is to consider the wider contextual factors that impact the complex real-world issue. The specific proposition that was identified in the literature that could help to contextualise the issue is the use of international, national and local timelines.



The purple boxes represent the propositions that relate to the social environment and the broad proposition of overcoming the power differentials and allowing all voices to be heard. The mid-level proposition in this section relates to developing a safe relational environment in which the inter-individual process takes place as outlined in the literature review in chapter two. In line with this literature the specific propositions include providing opportunities for individuals to socialise and meet informally to share stories and get to know one another; helping the individuals in the cross-disciplinary group set their own ground rules or parameters for their interaction; and good facilitation to help encourage, support and draw out all the voices in the group.

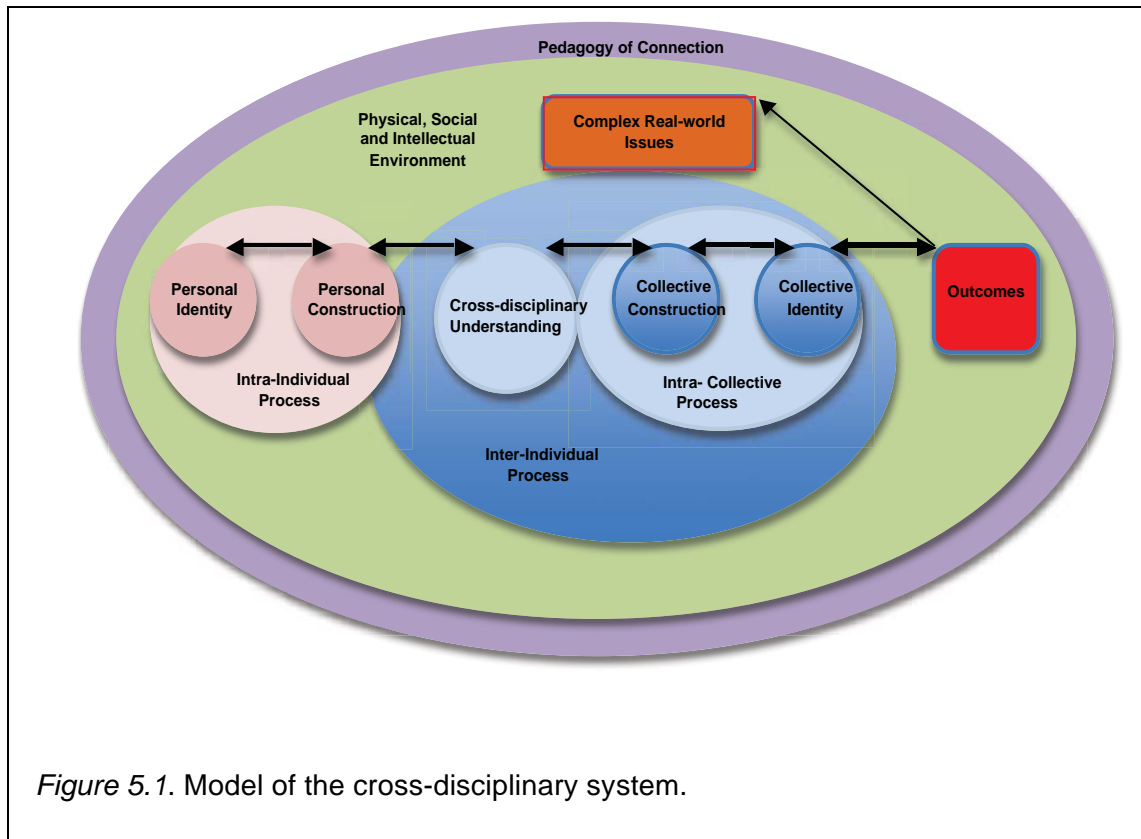
Finally, the dark blue boxes relate to the broad proposition that concerns integration and the development of the collective construction and identity. The mid-level propositions in this section refer to the need to have a positive solution focus on the complex real-world issue, to adopt a 'pedagogy of connection', and use a meta-perspective based on a real-constructivist understanding to help build a common integrated understanding and vision as discussed in chapter two. In line with this literature, the specific propositions include the use of *Appreciative Inquiry*, storytelling and attentive listening, creativity, and overnight stays.

## **5.5 The Skeleton Design of the Cross-disciplinary Approach**

Figure 5.1 details the understanding of the cross-disciplinary system that was developed from the literature and considered in the morphological chart discussed in the previous section.

Surrounding the whole cross-disciplinary system is a 'pedagogy of connection', based on a real-constructivist understanding of the layered nature of reality that provides an overarching philosophy for the endeavour. The next layer of the system relates to the physical, social and intellectual environment within which the cross-disciplinary process occurs.

The pink circles represent the intra-individual process that results in the development of the personal construction that is shaped by the individual's own frame of reference and insights gained from the inter-individual process. These personal constructions are then shared and subsequently modified as the individuals continue to engage in the inter-individual process.



The inter-individual process occurs within the blue circles. This process initially involves interaction between the individuals as they seek to develop a common frame of reference and language on which to base further interactions. As this common frame of reference and language develop, the group starts to develop a cross-disciplinary understanding of the complex real-world issue. As tension increases, the cross-disciplinary understanding develops into what Hardy (2005) calls a collective construction that emerges through an intra-collective process as a collective identity forms. The on-going development of the collective construction also influences the collective identity's frame of reference, which continues to evolve and change as the collaborative process continues. The collective construction is also used by individuals to modify their own personal constructions on the complex real-world issue, which may in turn lead to changes in an individual's frame of reference. Finally, the outcomes of the cross-disciplinary system are the individual and group outcomes, and the knowledge products produced by the cross-disciplinary group that feed back into the system and also impact the complex real-world issue as collective action is undertaken.

## 5.6 Final Design Specifications

The skeleton design or model of the cross-disciplinary system that was developed from the literature reviewed in chapter two was then used to develop the final detailed design specification shown in Table 5.2. The final design specifications are discussed in more detail in this section. No references are given in this section as they relate directly to the literature drawn from the literature review and summarised in the initial design propositions.

Table 5-2. *Phases of the Cross-disciplinary Approach.*

<b>Phases of The Cross-Disciplinary Approach</b>	<b>Purpose</b>
One: Building the Environment	To build a conducive physical, social and intellectual environment that helps individuals engage in cross-disciplinary collaboration.
Two: Initiating the Intra-Individual Process	To help stimulate the critical self-reflection process and reduce disciplinary/paradigmatic parochialism and imperialism.
Three: Preparing to Build a Common Goal and Vision	To introduce and frame the complex real-world issue positively and help individuals consolidate their own knowledge on the issue.
Four: Building a Common Frame of Reference	To help individuals in the cross-disciplinary group overcome miscommunication, share and modify their own personal constructions, and develop a common frame of reference and language on which to build future communication.
Five: Developing Cross-Disciplinary Understanding	To help increase tension across the different perspectives, stimulate cross-disciplinary dialogue about the different perspectives and develop cross-disciplinary understanding of the interactive nature of the complex real-world issue.
Six: Re-directing Tension	To help individuals focus on positive experiences of the issue, start identifying the causal mechanisms, and redirect the tension between perspectives.
Seven: Building Collective Constructions and Identity	To help move towards transformation and change and start integrating knowledge and a shared vision, collective construction and identity.
Eight: Preparing for Collective Action	To develop integrated resolutions to the complex real-world issue that can lead to collective action.

### 5.6.1. Phase One: Building the Environment

Table 5.2 shows that the first phase in the approach involves building an environment to promote cross-disciplinary collaboration. In order to build this environment the first step is to recruit, inform and/or train facilitators. These facilitators need to be comfortable working with multiple perspectives, dualisms and paradoxes, and understand real-constructivist philosophies. These facilitators also need to be able to develop safe relational, conducive, physical, and stimulating intellectual environments as described below.

#### **5.6.1.1. *Safe Relational Environment***

Facilitators need to be comfortable in dealing with group dynamics and be able to build a safe relational environment by embodying trust and respect and cultural competence. They also need to provide environments that are non-threatening, non-confrontational and fun, at the same time as facilitating challenge and change. Facilitators need to help individuals build relationships, be empowered to work at their best, take risks, share stories, address any power differentials, build group cohesion, develop a collective identity, and help the group set their own ground rules or parameters for interaction.

#### **5.6.1.2. *Safe Physical Environment***

As well as providing a safe relational environment, facilitators also need to choose safe physical environments that are comfortable, congenial and convenient for the face-to-face activities and the informal interactions. Facilitators need to be hosts and help meet the physical needs of the individuals by providing such things as good food and opportunities for sleep, rest and relaxation so that they can engage in deeper levels of thinking.

#### **5.6.1.3. *Stimulating Intellectual Environment***

In terms of the intellectual environment, facilitators need to create an atmosphere of curiosity through the provision of knowledge products, and activities that help individuals want to interact and learn from others. Facilitators also need to provide creative activities or resources and plan for overnight stays that may also help participants engage in the higher levels of thinking needed to develop the collective construction and collective identity.

### **5.6.2. Phase Two: Initiating the Intra-Individual Process**

Phase two of the cross-disciplinary approach shown in Table 5.2 involves initiating the intra-individual process of critical self-reflection. This phase is designed to encourage individuals to identify their own underlying assumptions and value judgments in terms of both their worldview in general and their specific paradigm on the complex real-world issue that is the object of study. Preferably, this phase is initiated before any group work has commenced but continues throughout the process.

### **5.6.3. Phase Three: Preparing to Build a Common Goal and Vision**

Phase three of the approach shown in Table 5.2 has a number of different purposes. Firstly, this phase is designed to help consolidate the individual's understanding of the complex real-world issue and continue the intra-individual process. This phase is also designed to help the individuals draw on their deep disciplinary/paradigmatic understanding, and gather data and information in order to construct their own

personal construction of the complex real-world issue, which will be used in a later phase as a resource for the inter-individual process. Secondly, this phase aims to frame the complex real-world issue in a positive way in order to provide a basis for the inter-individual process that leads it towards positive change. Thirdly, this focus on the complex real-world issue helps to build the foundation for a common goal or vision when the individuals start to engage in the inter-individual process. This phase can occur at the same time as the critical self-reflection undertaken in the previous phase or at the start of the inter-individual process.

#### **5.6.4. Phase Four: Building a Common Frame of Reference**

As shown in Table 5.2, phase four of the cross-disciplinary approach is designed to help stimulate critical self-reflection, curiosity, flexibility, and respect for other disciplines and perspectives, as individuals in the cross-disciplinary group seek to develop a common frame of reference and language on which to build future communications. This phase involves an introduction to a meta-perspective based on an understanding of the layered nature of reality that is applicable for the complex real-world issue that is the object of study. This stage involves both intra-individual and inter-individual processes. This phase aims to encourage individuals to start exploring and identifying the different paradigms in an individual process as they reflect on a case study, which acts as a boundary object between the different perspectives. This activity requires drawing deeply on their own disciplinary/paradigmatic understanding as well as critically reflecting and building understanding of other paradigms. This activity is followed by an inter-individual process where individuals share their ideas of the case study and the paradigms. This inter-individual process may also involve separating out the different causal mechanisms, including human agency and social structures, from the different paradigm perspectives in order to help initiate higher levels of thinking and collective sense-making.

#### **5.6.5. Phase Five: Developing Cross-disciplinary Understanding**

Phase five of the cross-disciplinary approach shown in Table 5.2 is designed to help individuals in the cross-disciplinary group explore the multiple overlapping aspects of the issue including the context. It is designed that this phase builds productive tension between the perspectives and creates a continual flow and synthesis between the intra-individual and the inter-individual processes as individuals seek to share and modify their own personal constructions, explore others, and move towards cross-disciplinary understanding. This phase involves three stages.

#### **5.6.5.1. Contextualising the Complex Real-world Issue**

This first stage of phase five involves exploring the complexity and interrelatedness of the complex real-world issue. This stage involves considering the causal mechanisms of the complex real-world issue in terms of a stratification of reality in line with the real-constructivist understanding. This stage involves locating the complex real-world issue in its own context and may involve exploring events from international, national, local and disciplinary/paradigmatic perspectives. Intra-individual and inter-individual processes are both involved in this stage as individuals explore the different aspects and contexts of the issue drawing on their own understanding and knowledge as they seek to communicate and understand the interconnectedness of the issue and the context.

#### **5.6.5.2. Context and Paradigms**

The second stage in phase five of the cross-disciplinary approach is designed to help exploration of the causal mechanisms and contexts in terms of the different paradigms considered in phase four and the contexts examined in the previous stage of phase five. This exploration helps to further consider the complexity of the issue in terms of the different paradigms and how these have influenced, and continue to influence, the complex real-world issue, and helps the cross-disciplinary group start to build multiple explanations of the issue as well as hold any paradoxes in the paradigms in tension.

#### **5.6.5.3. In-depth Exploration of the Paradigms**

The third stage in phase five of the cross-disciplinary approach involves the in-depth exploration of the different paradigms. This phase includes an opportunity for the paradigmatic perspectives to interact and respond to one another and allows the advantages and disadvantages of each paradigm to be explored. Individuals are encouraged to deconstruct perspectives and then resynthesise new perspectives as they encounter and experience the different paradigms. Creative activities are used during this stage to help spark higher levels of breakthrough thinking and help transition the group towards innovation and change, and the development of a collective identity.

#### **5.6.6. Phase Six: Re-directing Tension**

Phase six of the cross-disciplinary approach shown in Table 5.2 is designed to help individuals use the tension generated by the previous phase to move towards transformation and change and group consensus. This phase also returns to the positive focus introduced in phase three in order to raise group consciousness and understanding and help the group build a common goal and vision for the future. This

phase starts with an intra-individual process where individuals reflect on positive resolutions to the complex real-world issue that they have personally experienced. The individuals are then encouraged to share these personal stories in order to develop a comprehensive understanding of the issue. Once the stories have been shared the causal mechanisms of the resolutions are also gathered and become a rich resource for the development of future resolutions to the complex real-world issue. This phase is also designed to come before an overnight break so that the benefits of breakthrough thinking that can occur at night can be harnessed before the next phase where resolutions are developed.

#### **5.6.7. Phase Seven: Building Collective Constructions and Identity**

It is in phase seven of the cross-disciplinary approach shown in Table 5.2 that the collective constructions and identity start to develop. Creative activities are again used to help promote the integration of the different perspectives, move the inter-individual process to higher levels of thinking and help the cross-disciplinary group co-create a vision of the resolution to the complex real-world issue in the form of a conceptual model or theory. The intra-individual process also continues as individuals reflect on new meanings in line with their own personal constructions.

#### **5.6.8. Phase Eight: Preparing for Collective Action**

The main focus of phase eight of the cross-disciplinary approach as shown in Table 5.2 is to develop resolutions and collective action from the collective construction developed in phase seven. This phase is designed to help the group add further details to the overall framework such as long and short-term goals and objectives, and develop a timeline or action plan for implementing the resolution. In order to develop these goals the group is encouraged to consider the strengths and weaknesses, barriers to change, possible opportunities that may exist, and any networks that may need to be built to facilitate the operationalising of these strategies. Participants are also asked to consider the levels and scales of the differentiated reality and how and where the strategies may fit into the comprehensive whole in line with a real-constructivist understanding.

### **5.7 Approach to Promote Cross-Disciplinary Collaboration**

This section presents the approach designed in this study to promote cross-disciplinary collaboration based on the factors identified in the literature in response to the third research question. The approach is presented in Table 5.3.

Table 5-3 *The Approach to Promote Cross Disciplinary Collaboration.*

Phases of Approach	Purpose	Activities
One: Building the Environment	To build a conducive physical, social and intellectual environment that helps individuals engage in cross-disciplinary collaboration.	<ul style="list-style-type: none"> <li>Facilitators need to be able to <ul style="list-style-type: none"> <li>deal with multiple perspectives;</li> <li>understand real-constructivist philosophies;</li> <li>manage group dynamics;</li> <li>develop safe relational spaces;</li> <li>empower participants;</li> <li>build group cohesion.</li> </ul> </li> <li>Develop ground rules.</li> <li>Provide safe physical environments.</li> <li>Provide hospitality to meet participants' needs.</li> <li>Provide stimulating intellectual environment.</li> </ul>
Two: Initiating the Intra-Individual Process	To help stimulate the critical self-reflection process and reduce disciplinary/paradigmatic parochialism and imperialism.	Use of questions and journals to reflect on worldviews and paradigms relating to the complex real-world issue.
Three: Preparing to Build a Common Goal and Vision	To introduce and frame the complex real-world issue positively and help individuals consolidate their own knowledge on the issue.	<ul style="list-style-type: none"> <li>Consolidate participants' understanding of complex real world issue using concept maps.</li> <li>Frame complex real-world issue in a positive way.</li> </ul>
Four: Building a Common Frame of Reference	To help individuals in the cross-disciplinary group overcome miscommunication, share and modify their own personal constructions, and develop a common frame of reference and language on which to build future communication.	<ul style="list-style-type: none"> <li>Introduction of a meta-perspective pertaining to complex real world issue.</li> <li>Use case study to start exploration of different paradigms.</li> <li>Start sharing understanding of different paradigms and causal mechanisms that relate to complex real-world issue.</li> </ul>
Five: Developing Cross-Disciplinary Understanding	To help increase tension across the different perspectives, stimulate cross-disciplinary dialogue about the different perspectives and develop cross-disciplinary understanding of the interactive nature of the complex real-world issue.	<ul style="list-style-type: none"> <li>Contextualise complex real-world issue using international, national and disciplinary timelines.</li> <li>Tracking the paradigms across time and space using the meta-perspective of paradigms and the timelines.</li> <li>Explore the different paradigms in depth using creative activities.</li> </ul>
Six: Re-directing Tension	To help individuals focus on positive experiences of the issue, start identifying the causal mechanisms, and redirect the tension between perspectives.	<ul style="list-style-type: none"> <li>Return to positive focus on complex real-world issue by sharing positive stories relating to the complex real-world issue.</li> <li>Start identifying common causal mechanisms from the stories shared.</li> </ul>
Seven: Building Collective Constructions and Identity	To help move towards transformation and change and start integrating knowledge and a shared vision, collective construction and identity.	<ul style="list-style-type: none"> <li>Use creative activities to integrate ideas on causal mechanisms.</li> <li>Encourage use of metaphors.</li> <li>Build a positive vision about the complex real-world issue for the future.</li> </ul>
Eight: Preparing for Collective Action	To develop integrated resolutions to the complex real-world issue that can lead to collective action.	<ul style="list-style-type: none"> <li>Use a real constructivist framework of levels and scales of reality.</li> <li>Develop long and short-range goals.</li> </ul>

Table 5.3 builds on Table 5.2 and includes suggestions for activities detailed in the initial design specifications that were found to facilitate cross-disciplinary collaboration in the literature reviewed in chapter two. It can be seen, however, that the activities included in the approach are quite generic and could be applied in a number of



different ways to suit the context and complex real-world issue under investigation. The next chapter will consider how this approach was implemented in this study with a cross-disciplinary group from the New Zealand disability field to consider the complex real-world issue of inclusion for those experiencing disability.

## **Chapter 6: Implementing the Approach**

### **6.1 Introduction**

This chapter outlines how the approach to promote cross-disciplinary collaboration was implemented at a weekend event in this study. It discusses the ethical considerations, the number, diversity and demographics of the participants, the recruitment process, the phases of the approach and the methods used.

### **6.2 Ethical Considerations**

Like all research projects that involve human participants, there are a number of ethical principles that need to be considered in this study. These ethical principles ensure that individuals are treated with respect, are fully informed and are not harmed in anyway (P. Oliver, 2003). *The Massey University Code of Ethical Conduct for Research, Teaching and Evaluation Involving Human Participants* identifies the following ethical principles a) respect for individuals, b) minimisation of harm to people, institutions, researchers and groups, c) voluntary informed consent, d) confidentiality and privacy, e) avoidance of unnecessary deception, f) conflict of interest, g) cultural sensitivity, and h) justice (Massey University, 2010).

An ethics application for this project under the name of “We are each of us angels with only one wing: A ‘Whole Systems Change’ approach to cross-disciplinary paradigm shifting as in the case of Rehabilitation and Disability Studies.” was made to the Human Ethics Committee: Southern B Application, at Massey University (Appendix A). This ethics application was assessed as low risk. However, a full ethics approval was sought to ensure that all ethical considerations had been considered.

When the application was first submitted, the Human Ethics Committee raised a number of questions relating to a) intellectual property issues of the participants’ contributions, b) the fact that researchers could not be fully anonymous since they would be meeting in a face-to-face event, c) a fuller explanation on cultural diversity of the group and d) the rights of participants to a summary of findings to be included in the information sheet. The questions and responses to these questions are given in Appendix B. This section describes the ethical principles and highlights how they were considered in the ethics application and the responses given to the ethics committee in this study.

### **6.2.1. Respect**

The principle of respect means that researchers must acknowledge and treat people with dignity, recognising their privacy, beliefs and autonomy. Respect includes an acceptance that individuals have the right to decline to participate in the research or to exit the research at any stage (Massey University, 2010). In terms of this study, the research sought to value the dignity, values and beliefs of each individual. This was particularly important in terms of the provision of accessible accommodation and the needs of those with impairments and dietary requirements. The researcher also reiterated that participants could withdraw from any activity if they did not want to take part and encouraged them to respect and value everyone's diverse views during the ground rules session.

### **6.2.2. Minimisation of Harm**

Researchers must keep any harm to participants in research to a minimum (Massey University, 2010). This harm can be physical, emotional psychological (Cozby, 2007; Dunn, 1999), cultural or spiritual (Massey University, 2010). In terms of this study, the researcher sought to minimise harm through the provision of safe environments. This was important not only from the ethical perspective but also from the perspective of the designed approach. Physical safety was ensured through the provision of safe, comfortable inclusive environments and a resident nurse. Social safety was provided by the conscious building of community and relationships through informal times and formal activities. Emotional, cultural and spiritual safety was provided through the opportunity for solitude, rest and relaxation, and respect for all perspectives and opinions. Debrief sessions were also offered although not taken up. A time of quiet to move out of the role-play was also given to the group as requested by one of the participants.

### **6.2.3. Informed Consent**

Informed consent is based on the principle that participants enter into the research project voluntarily, and are fully informed of their obligations and the nature of the research (Bogdan & Biklen, 2007). The Code of Ethics (Massey University, 2010) states that participants should be provided with the information they need to make a decision about whether or not to participate. This information needs to be in a format that the individuals can understand and they need to be competent to give a decision free from the absence of pressure or coercion (Massey University, 2010). The information should be provided in written format where possible. Tolich and Davidson (1999) say that in certain circumstances participants may feel obliged to participate

because of their relationship with the researcher and that researchers must ensure that the information provided confirms that they are quite free to decline.

In terms of this study, all communication prior to the weekend was in electronic format, which meant that it was accessible to those with a visual impairment. The participants were initially sent a letter inviting them to be part of the project (Appendix C). This letter outlined the type of project, the dates and timing of the weekend and the work commitment required of participants. It also asked those contacted to pass the letter on to others who they thought might be interested.

An information sheet about the project was also given to participants (Appendix D). Each participant was sent, and asked to sign, a consent form (Appendix E). The six assistants, including one of the researcher's supervisors, were also given the participant information sheet and were asked to sign consent and confidentiality forms. Participants and assistants were kept up to date with developments and arrangements via personal emails. Some participants were assisted to carpool and to share transport to the face-to-face event.

#### **6.2.4. Confidentiality and Privacy**

Confidentiality and privacy are also key ethical principles. Researchers need to ensure that no information that is shared or learnt is disclosed without the prior consent of the participants (Salkind, 2009; Wiles, Crow, Heath, & Charles, 2006). The Massey University Code of Ethics, however, states when information is video recorded no absolute guarantee of anonymity or confidentiality is possible and that researchers need to make this clear to participants in the information presented about the research. Researchers also need to take every possible effort to ensure the privacy of the participants and to inform participants who will have access to the information they share (Massey University, 2010).

In this study, the nature of the group work meant that full confidentiality was not possible since the researcher and participants would know all those who took part. A confidentiality agreement form (Appendix E) was sent and signed and confidentiality was sought amongst group members during the ground rules session to ensure that anything that was shared in the group stayed within the group. In addition, each participant was allocated a random letter, which they attached to their journal and any of the activities in which they were involved. Assistants used their randomly selected

colours to identify their journals. The researcher referred to the letter or colour when writing up or discussing the findings to provide anonymity.

Some of the data collection involved photographic and video footage. Separate consent was gained for the photography and video recording (Appendix E) and the researcher assured verbally at the face-to-face event that this material would only be referred to or used if the responses could not be directly related back to the participants. The researcher stated that the data collected at the weekend would be kept safe and not disclosed to others without prior consent. Participants and assistants were also assured that when writing up the results and the conclusion that the researcher would only use the identifying letters or colours.

#### **6.2.5. Avoidance of Unnecessary Deception**

Deception goes against informed consent but this principle recognises that in some situations deception is necessary to the research. This principle ensures that when necessary deception occurs that the research ethics committee is made aware of what is not being disclosed and why this is necessary (Massey University, 2010). The Massey University Human Ethics Committee may grant ethics approval if the benefits of the research outweigh any harm that non-disclosure may cause. Participants must be made aware of the deception and the reasons why as soon as possible once that deception is no longer necessary (Massey University, 2010). No deception was used in this study.

#### **6.2.6. Conflict of Interest**

Researchers need to declare or avoid any potential conflicts of interest. This includes recruiting participants who may be in dependent relationships with the researcher, where researchers may gain financially, or where sponsorship for the research may compromise the study (Massey University, 2010). Although some of the participants were known to the researcher there were no conflicts of interest.

#### **6.2.7. Cultural Sensitivity**

Researchers need to have cultural sensitivity when working with different cultural groups and respect their beliefs, cultures and traditions. The research should at all stages align with the cultural groups that are included in the research (Massey University, 2010). This study did not specifically involve research with specific ethnic groups but since this study was undertaken in New Zealand there needed to be awareness of the ethical considerations of cultural sensitivity to Māori, the indigenous

people of New Zealand. In terms of this study, a whānau<sup>13</sup> group was available through Massey University's School of Health and Social Services and one of the researchers' supervisors had extensive experience of working in Māori contexts. This group's expertise was not drawn on in this study since there was no specific focus on cultural diversity, no cultural information was collected and participants raised no cultural issues, questions or needs during the course of the study.

#### **6.2.8. Justice**

The principle of justice relates to distributive justice and ensures that there is equity between the burden and benefits of the research within a community. Although participants did have to pay for their travel to the weekend event it was considered that they would not be unduly burdened by participating in this study since they did not have to pay for their accommodation costs or food as this was provided via a grant from the Rehabilitation Research Council.

This principle also states that research should not discriminate any group and should be beneficial to the group from which participants have been drawn. This principle particularly applies to vulnerable or minority groups (Massey University, 2010). No specific vulnerable groups were identified as part of this study and it was considered that participation in this study could be of benefit to the individuals.

Finally, once due consideration had been given to all the ethical principles and the questions raised by the Ethics Committee had been answered to their satisfaction, the ethics application was approved on 28<sup>th</sup> October 2008 (Appendix F).

### **6.3 Participant Numbers, Diversity, Recruitment and Demographics**

#### **6.3.1. Participant Numbers**

Two factors needed to be considered in order to determine the number of participants required to provide valid data for the research. These factors included the ideal group size for studying complex real-world issues and the numbers recommended as the sample size in this type of research.

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<sup>13</sup> Whānau is a Māori term meaning extended family. The whānau group mentioned here refers to a group in the School of Health and Social Sciences at Massey University that gives advice to staff on matters pertaining to Māori customs, traditions and protocols.

#### **6.3.1.1. *Group Size for Studying Complex Real-world Issues***

Dornburg, Stevens, Forsythe and Davidson (2007) undertook an extensive literature review into group dynamics when studying complex real-world issues. As part of their review they considered the optimum group size. They found that the choice of numbers for the group was very complex and context dependent (Dornburg et al., 2007). Large groups were found to have the advantages of accessing greater diversity within the group (Bond & Keys, 1993; N. Miller & Davidson-Podgorny, 1987). Small groups, on the other hand, were more easily coordinated (Diehl & Stroebe, 1987; Latane, Williams, & Harkins, 1979; McGrath & Rotchford, 1983) and facilitated higher levels of motivation (Brewer & Kramer, 1986; Karau & Williams, 1993; Shepperd, 1993) and cooperation (Brewer & Kramer, 1986). The optimum group size was dependent on the task, the goal and the research methodology (Dornburg et al., 2007). Much research would indicate that the ideal size of a group is between four and twelve (Katzenbach & Smith, 1993; Nasser, 1988; G. M. Parker, 1994; Scharf, 1989), with twelve being the most preferred (Buys & Larson, 1979; Carron, Widmeyer, & Brawley, 1989; Cini, Moreland, & Levine, 1993; McPherson, 1983). Other research, however, has found that in practice people tend to congregate in groups of two or three in social interactions (Bakeman & Beck, 1974; Burgess, 1984; Desportes & Lemaine, 1988) and that groups of five are ideal for small group discussions (Slater, 1958).

#### **6.3.1.2. *Group Size for Research Method***

Researchers have also considered the number of participants required to provide a recommended sample size for different types of research. Generally, it is considered that the sample size should be big enough to give data saturation but small enough to undertake in-depth analysis (Sandelowski, 1995). Sample sizes, therefore, tend to reflect the type of research. Research that tends to be more in-depth, such as case studies, recommends three to five participants (Creswell, 2002), for focus groups the recommended sample size is six to twelve participants (Johnson & Christensen, 2004; Krueger, 2000), for phenomenological studies, six to ten participants (Creswell, 1998; Morse, 1994), and for grounded theory, fifteen to thirty participants (Creswell, 1998; 2002). No specific sample size is given for design-based research, as it would depend on the topic and context of the specific study. This study would seem to require a relatively deep analysis that fits between a case study and a focus group. This means that an ideal sample size for this study would possibly be between three and twelve participants but more could be included up to a maximum of thirty. It would seem reasonable, therefore, based on these figures, to aim for a group of between twelve to

thirty participants with twelve being the minimum for this study. Lower numbers may need to be considered, however, for some of the activities such as discussion groups.

### **6.3.2. Participant Diversity**

In chapter one it stated that the multiple perspectives of the cross-disciplinary group have a major impact on cross-disciplinary collaboration. In order to consider the effectiveness of the approach, therefore, the cross-disciplinary group needs to include a wide diversity of perspectives drawn from a range of different disciplines and paradigms. From the review of the case from the New Zealand disability field in chapter three, it can be seen that there are a number of different disciplines that have disability as a primary or secondary focus of their studies, including but not limited to Physiotherapy, Occupational Therapy, Nursing, Disability Studies, Social Work, Education and Ergonomics. In order to gain this diversity of perspectives participants were sought from these disciplines.

### **6.3.3. Participant Recruitment and Demographics**

Twenty participants originally agreed to participate in the weekend but one pulled out for personal reasons two days before the weekend event leaving nineteen. These participants were recruited in a number of ways. Initially a list of twelve individuals was constructed from conversations with two professors renowned in the fields of Rehabilitation and/or Disability Studies both nationally and internationally. Individuals identified in this process were then contacted via email. This email letter (Appendix C) included an invitation to 'snowball' by passing the letter on to others they knew who might be interested. Of the initial list of twelve, six agreed to participate. From the snowballing nine more individuals agreed to participate. The final five participants were contacted through an extensive search of New Zealand universities and research institutes, including departments of Physiotherapy, Occupational Therapy, Māori Health, Mental Health, Ergonomics and Disability Studies.

Most reasons for not participating, given by those contacted directly, were that they would be overseas, had family or work commitments, were not able to spare the time or could not afford it financially. Only one person reacted negatively to the request stating that they preferred to choose their own people to work with. The majority who were contacted via email did respond. The people contacted via a contact box on a website did not respond.

The nineteen participants included twelve woman and seven men all over the age of twenty-five. The final nineteen participants came from a range of knowledge bases



including Physiotherapy, Mental Health, Health, Nursing, Sociology, Disability Studies, Education, Disability Rights Advocacy, Rehabilitation including Drug and Alcohol Rehabilitation, and Social Work. Some of the participants were more theoretically focused whilst others, although having an academic background, were more focused on service delivery and/or advocacy. Two participants left during the event, one on Saturday night and one on Sunday morning due to prior commitments. One participant with a young son came with her family but the family took no part in any of the activities. Another participant, who was blind, came with their partner who took on the role of reader/writer.

While it is understood that the age, gender, ethnicity, culture, and/or religious affiliation of participants does impact individuals' worldviews and the cross-disciplinary process as discussed in chapter one, these data were not specifically collected. It was considered that rather than the focus being on gender, age, ethnicity, culture or religion the focus was on the impact of disciplinary and/or paradigmatic influences on cross-disciplinary collaboration. How the multiple influences impacted the participants' worldviews and paradigms was found to be unique and no attempt was made to generalise these findings in terms of these characteristics.

## **6.4 Implementation of the Approach**

This section uses the approach detailed in Table 5.3 and considers how it was implemented in this study with a cross-disciplinary group from the New Zealand disability field drawn together to consider the complex real-world issue of inclusion for those experiencing disability. It outlines the exact activities that were used to implement the approach which were based on the generic activities outlined in Table 5.3

It was decided that the study would include an intra-individual activity as a preparatory phase followed by a weekend group event from Friday night to Sunday lunchtime incorporating two overnight stays. This weekend event included both formal activities and informal times, and individual and group work. Details of the weekend programme and timeline, resources needed and a brief outline of activity explanations are given in Appendix G and shown in Table 6.1. Prior to each activity at the weekend an explanation of the activity was given. This explanation took the form of a verbal explanation, activity sheet and/or powerpoint. It was anticipated that the weekend event could result in cross-disciplinary collaboration at both the large and small group levels.

Table 6-1. *Phases and Activities for Implementation of Approach.*

Phases of Approach	Purpose	Activities for Implementation
One: Building the Environment	To build a conducive physical, social and intellectual environment that helps individuals engage in cross-disciplinary collaboration.	<ul style="list-style-type: none"> <li>• Good facilitation and hospitality.</li> <li>• Conducive physical environment.</li> <li>• Ground rules and informal times.</li> <li>• Creative activities and reflection table.</li> </ul>
Two: Initiating the Intra-Individual Process	To help stimulate the critical self-reflection process and reduce disciplinary/paradigmatic parochialism and imperialism.	<ul style="list-style-type: none"> <li>• Worldview journal reflection</li> <li>• Paradigm of disability reflection using reflective questions.</li> </ul>
Three: Preparing to Build a Common Goal and Vision	To introduce and frame the complex real-world issue positively and help individuals consolidate their own knowledge on the issue.	Individual development of a concept map of inclusion for those experiencing disability.
Four: Building a Common Frame of Reference	To help individuals in the cross-disciplinary group overcome miscommunication, share and modify their own personal constructions, and develop a common frame of reference and language on which to build future communication.	Use of <i>Happy Feet</i> Movie as a case study to compare paradigms of disability using the meta-perspective of a typology of paradigms of disability.
Five: Developing Cross-Disciplinary Understanding	To help increase tension across the different perspectives, stimulate cross-disciplinary dialogue about the different perspectives and develop cross-disciplinary understanding of the interactive nature of the complex real-world issue.	<ul style="list-style-type: none"> <li>• National and Disciplinary Timelines activity on events that impacted the disability field.</li> <li>• Timelines and Typology activity using the timelines from previous activity and the typology of paradigms of disability.</li> <li>• <i>Future Search</i> activity based on role-plays of the paradigms of disability.</li> </ul>
Six: Re-directing Tension	To help individuals focus on positive experiences of the issue, start identifying the causal mechanisms, and redirect the tension between perspectives.	<i>Appreciative Inquiry</i> Discover activity where participants share their best experiences of an inclusive society.
Seven: Building Collective Constructions and Identity	To help move towards transformation and change and start integrating knowledge and a shared vision, collective construction and identity.	<i>Appreciative Inquiry</i> Dream activity where groups creatively present their vision for an inclusive society.
Eight: Preparing for Collective Action	To develop integrated resolutions to the complex real-world issue that can lead to collective action.	<ul style="list-style-type: none"> <li>• (Synthesis and Specialisation activity using a real-constructivist framework of level and scales.)</li> <li>• <i>Appreciative Inquiry</i> Design activity using a fishbone diagram to develop long and short-term goals to achieve the dream of an inclusive society from previous activity and develop one action point.</li> </ul>

#### 6.4.1. Phase One: Building the Right Environment

As was stated in chapter five, building the right environment and planning the process is a very important phase of the approach. Important aspects of building the right environment for this face-to-face event included the selection and informing of the assistants, the choice and arrangement of the venue, the provision of informal times and the ground rules activity to develop a safe relational environment, and the

provision of creative activities and the reflection table to stimulate a creative environment as shown in Table 6.1 These aspects will now be discussed in more detail in the following sections .

#### **6.4.1.1. Hospitality and Facilitation Assistants**

There were six assistants at the weekend event who also collected data through observation. This group consisted of four women and two men between the ages of thirty-five and fifty-five. One of the assistants was the researcher's supervisor who was there to help support the researcher. The remaining five assistants were chosen because they were known to the researcher as people who had the necessary skills and would work well together. Two assistants were selected for hospitality duties and were responsible for making up the rooms and hospitality packs, serving the morning and afternoon teas, and looking after any other needs that might arise. One of these assistants was a registered nurse and was responsible for first aid. Two of the other assistants, who were familiar with real-constructivist philosophies and dealing with group dynamics, helped the researcher to facilitate the large and small group activities. The final assistant was the photographer who was responsible for capturing some of the data and photographs. All the assistants were sent information about the event and the process including the philosophy behind the hospitality and facilitation roles (Appendix I). No official training was given as the researcher was confident that they had the experience necessary for their individual roles.

#### **6.4.1.2. Safe Relational Environment**

Building the safe relational environment was initiated at the beginning of the face-to-face event and continued throughout the process. It involved both informal and formal activities. The weekend began with a time of informal gathering and meeting together. Although no official meal was provided on the Friday evening many arranged for take-away meals that were then shared in the main meeting room. Some also met through car-pooling. Participants were encouraged to settle into their rooms and meet the other participants in their accommodation block and to mingle informally. Throughout the weekend, participants had time to chat over meals, go for walks or to the shops or the café and shared ideas and experiences over communal meals. There was also a free time on the Saturday afternoon set aside for participants to either informally gather or spend time alone. Participants could also meet in the individual lounges or the snug at other times.

The more formal activity in this phase was the introduction and setting of ground rules that occurred on the Friday evening. The timetable and overview of the weekend was

given at this stage so that participants had a clear understanding of the different sessions and what would be expected of them during the weekend. During this activity participants were asked to introduce themselves, where they came from and why they had chosen to participate in the event. The participants were then asked to co-construct a set of ground rules to guide the group interactions over the course of the weekend.

#### **6.4.1.3. Safe Physical Environment**

The selection of the venue was important for a number of reasons. Based on the approach designed in chapter five the venue needed to provide good accommodation that would not only fit the needs of the participants and facilitate them to work at the highest levels of thinking, but also provide the right space for large and small group work. The venue also needed to provide opportunities for rest and relaxation, and informal social interactions.

The Elm Centre, El Rancho, Waikanae Christian Holiday Park, Waikanae, was selected for the face-to-face event as it is well positioned for travel. El Rancho is well situated near Waikanae beach in a rural setting and, therefore, provides a relaxing and pleasant environment for walks and recreation. Full board was provided including morning and afternoon tea. It was also reasonably priced and fell within the NZ\$5,000 budget, one of the constraints detailed in chapter five.



*Photograph 6.1. Accommodation Blocks.*

The accommodation was very comfortable and consisted of six, four-bedroom units each with their own lounge, kitchenette and two bathrooms. Some of the

accommodation blocks are shown in Photograph 6.1. Each participant had their own room except for those who had families with them who were given family rooms. Bedding and towels were provided. All beds were made up and hospitality packs were placed on them. The hospitality packs included face cloths, tissues, candle, soap and shampoo. Extra warm bedding was available if needed. Each unit had a bowl of fruit placed on the table in the lounge. All bedrooms and lounges had heaters and these were put on in each room on the Friday to provide a warm welcoming atmosphere. Each room had its own washbasin. One of the units had a wheelchair friendly bathroom for the wheelchair user. There was also a wheelchair accessible toilet adjacent to the seminar room. Combs, toothpaste and hot water bottles were also available in case people arrived without these items. The lounges in the accommodation blocks were also used for small group work and were ideal for informal groups to meet and interact.

All main sessions were undertaken in the Fireside Room shown in Photograph 6.2, located in the centre of the units. It was heated by a gas fire and had moveable seating and a range of tables and chairs. There was also a lowered snug area that could be used for relaxing and reflecting. The room had a kitchen area where morning and afternoon tea and supper were prepared and served. In one corner of the room there was a display to stimulate curiosity, discussion, reflection and creativity as shown in Photograph 6.3.



*Photograph 6.2. Main Meeting Room.*

Around the display were the following quotations:

*Coming together is a beginning. Keeping together is progress. Working together is success. (Henry Ford)*

*We are each of us angels with only one wing and we can only fly by embracing each other. (Comte de Bussy Rabotin)*

*The test of a first-rate intelligence is the ability to hold two opposing ideas in mind at the same time and still retain the ability to function. (F.Scott Fitzgerald)*

*Interdisciplinarity has to begin in one's own head, asking questions no-one has asked before, to learn what the discipline itself does not know. (Mittelstrass)*



*Photograph 6.3. Reflection Table and Quotes.*

All meals were taken in the dining room, which was situated a short walk from the Elm Complex. The meals consisted of a continental breakfast, cooked two course lunch and dinner. All dietary requirements were catered for.

#### **6.4.2. Phase Two: Initiating the Intra-Individual Process**

This phase was undertaken as an individual activity prior to the face-to-face event. Once participants had accepted the invitation to participate they were sent some reflection questions to consider in terms of their worldviews and paradigm of disability (Appendix H) as shown in Table 6.1.

#### **6.4.3. Phase Three: Preparing to Build a Common Goal and Vision**

In this phase participants were asked to develop a concept map of what they considered was involved in building an inclusive society for all New Zealanders, including those with impairments as shown in Table 6.1. This activity occurred after the development of the ground rules. Instructions concerning the development of a concept map were also given at the start of this session.

#### **6.4.4. Phase Four: Building a Common Frame of Reference**

In this phase the four-fold typology of paradigms of disability outlined by Priestley (1998) was introduced to the participants as a meta-perspective for understanding the multidimensional nature of disability. A case study in the form of the film *Happy Feet* was used as a boundary object to help facilitate critical reflection on the different understandings of disability as shown in Table 6.1.

*Happy Feet* is a movie about a penguin called Mumble whose father dropped him when he was an egg. As a result of being dropped Mumble is unable to find his 'soul song' like all other penguins. He tap dances instead. He is rejected by the leaders of the colony and then rejected by his peers. He feels inadequate and a failure and rejects Gloria, his own true love, in order to protect her. On his journey away from the colony, Mumble finds another group of penguins. These penguins do not reject Mumble but admire his dance moves and accept him. After many adventures where he ends up in a zoo, in his search for the aliens who are taking all the penguins' fish, he returns to his own penguin colony and saves the colony from starvation. At this point he is accepted by some of the younger penguins including Gloria and then by the whole colony, and teaches them all to tap dance.

This film was chosen as a case study for the group to consider for a number of reasons. Firstly, the film had a number of different characters who held different perspectives on disability, which gave the opportunity for considering the outworking of the paradigms in the case of Mumble. Secondly, it helped depersonalise the issues of inclusion and disability as its characters were not only in cartoon form but also mostly penguins.

Before watching the movie, the participants were given a reflection sheet (Appendix J), which included an outline of Priestley's (1998) four-fold typology of disability. The participants were asked to consider the events and interactions that occurred during the movie and consider where they fitted in terms of the four paradigms. After the movie the participants were divided into random groups to discuss and record their reflections on the movie. During the movie popcorn and confectionary were provided. After the movie supper was served followed by the first overnight stay.

#### **6.4.5. Phase Five: Developing Cross-disciplinary Understanding**

Phase five occurred on Saturday morning and involved three activities that related to the three stages of the phase.



#### **6.4.5.1. Contextualising Complex Real-world Issue**

This activity, as shown in Table 6.1, involved a deep analysis of the issue of disability over time and space through the use of a number of different timelines. Participants were encouraged to contribute to global, national and/or self-selected disciplinary timelines by jotting down significant events that they thought impacted the complex real-world issue of inclusion for people with disabilities and the field of disability. They recorded their events on post-it notes and added them to the large sheets at the appropriate dates. They could self-select which timelines they worked on and whether or not they worked on their own or in groups.

#### **6.4.5.2. Context and Paradigms**

This activity involved linking the complexity of the issue with the different paradigms of disability as shown in Table 6.1. The participants considered the timelines they had just created in the previous activity and considered how the paradigms of disability, outlined in the Movie activity, may have influenced events. Again, they could self-select which timelines they worked on.

#### **6.4.5.3. In-depth Exploration of Paradigms**

This activity, as shown in Table 6.1, involved the participants experiencing the different paradigms and perspectives from within, through a process of affective learning and critical debate. A creative role-play activity was used that was designed around a *Future Search* activity. Firstly, the participants were randomly divided into four groups and each group was assigned one of the four paradigms of disability from Priestley's (1998) four-fold typology. The participants then moved into small group rooms and were given an activity sheet (Appendix K).

Each small group was encouraged to consider the paradigm that they had been assigned in terms of the work they had done so far. Then they were asked to creatively present the views of that paradigm to the whole group. Each group then presented their creative presentation. No group was allowed to respond to any of the other presentations to reduce conflict. The groups were then asked to reconvene in their small groups to consider how they considered their paradigm would respond to the other paradigm presentations. Each group then reconvened in the large group and shared their feelings about the other presentations. Again no feedback was given on the presentations. This session was followed by lunch and a free afternoon for informal activities. Participants gathered again after dinner for the next session.



#### **6.4.6. Phase Six: Re-directing Tension**

This phase used the first of the three *Appreciative Inquiry* activities, *Appreciative Inquiry* Discover as shown in Table 6.1. For this Discover activity, participants were asked to think of a positive time when they had experienced an inclusive society for people with impairments. They were given the activity sheet (Appendix L) to guide their thinking.

Once participants had considered and thought about their positive experience, they were asked to pair up with someone that they did not know. Each participant then shared their story with the other person and recorded their results on the interview sheets. Once both participants had shared their stories, the pairs were then joined with two other pairs to make three small groups, Group SNARQK, Group PHOTBD and Group LEGJ (the names deriving from the identification letters of the participants). These groups then discussed the findings from the stories and collated these on presentation sheets. It had been intended that the small groups would present to the whole group but energy levels were very low as people were tired so this part of the activity was not included. This session was followed by supper and the second overnight stay. The three small groups formed in this activity stayed together for the remainder of the activities.

#### **6.4.7. Phase Seven: Building Collective Constructions and Identity**

The next phase used another *Appreciative Inquiry* activities, *Appreciative Inquiry* Dream as shown in Table 6.1. At the introduction to this activity a summary of the previous day's *Appreciative Inquiry* Discover sheets was displayed and read out. Participants then reconvened into the three groups from the previous session and were encouraged to creatively dream what the world would look like if the positive resolutions discussed in the previous session were an on-going reality, guided by the activity sheet (Appendix M). These dreams were then presented as creative presentations to the whole group.

#### **6.4.8. Phase Eight: Preparing for Collective Action**

This phase involved the participants working out the detailed design of how to operationalise the dream created in the previous phase. This phase was designed to consist of two activities, Synthesis and Specialisation and *Appreciative Inquiry* Design as shown in Table 6.1.

At this stage of the weekend it was decided that, due to limited time, one session needed to be dropped. After consultation with the other facilitators and the researcher's

supervisor, it was decided to skip the Synthesis and Specialisation activity. In the Synthesis and Specialisation session, participants were to be given a sheet that explained the different levels and scales of the critical realist philosophy and some statements and questions to consider (Appendix N). Instead these resources were given to the participants at the same time as the following activity.

The next activity was the third *Appreciative Inquiry* activity, the *Appreciative Inquiry Design*. Again participants went into the small groups from the previous activity and were given a sheet with an Ishikawa (Fishbone) diagram, to use to document their planning. They were instructed to design a plan to operationalise the dream bearing in mind the different levels and scales, the different aspects of the resolutions and all that had been discussed at the weekend. Instructions included how to use the Ishikawa (Fishbone) design. Participants were encouraged to write the dream in the head of the fish and the causal mechanisms in terms of people, systems, processes, policies etc. in the boxes in the spines and then the action points on the spines. Each small group then presented their design to the whole group including their first action point.

Following this session was lunch and the final closure of the weekend. Participants were asked whether or not they would be willing to be on an email list sent to all the participants so that they could keep in touch. All agreed. The participants were then all given small gifts and thanked for attending and taking part. Presentations were also given to all the assistants for their help.

Having considered the implementation of the approach, the next chapter will consider the evaluation process used in this study.



## **Chapter 7: Methods to Evaluate the Approach**

### **7.1 Introduction**

This chapter considers the methods used to undertake evaluation of the approach designed in this study in line with research question four and based on the literature reviewed in chapter two. It first outlines the evaluation process and then considers the data collection and analysis methods used in this study.

### **7.2 Types of Evaluation**

The evaluation/reflection phase of design-based research refers broadly to the testing of the approach and the subsequent consideration of the findings with the aim of refining the design and adding to the literature (McKenney & Reeves, 2012).

McKenney and Reeves (2012) consider that evaluation involves establishing the focus and developing questions to guide evaluation, selecting strategies, methods and tools for the data collection and analysis, and reporting on the study. Reflection, on the other hand, can either be structured or unstructured and involves considering the processes and findings of the study (McKenney & Reeves, 2012).

Establishing the focus and guiding questions involves deciding what is the main thing that the evaluation seeks to discover and then shaping the evaluation/reflection questions to ascertain this information (McKenney & Reeves, 2012). This activity is closely aligned with the design propositions and can involve studying a number of different aspects including how the approach is structured, how it operates in practice and what it achieves. These aspects can be broadly aligned with three different types of testing, alpha, beta and gamma (McKenney & Reeves, 2012). Alpha testing considers the internal structures of the intervention and occurs during the design process, beta testing considers the functionality of the approach and often occurs as a pilot study and gamma testing occurs at the end of the design phase to test the intervention in a real situation (McKenney & Reeves, 2012). Being the design and first pilot run of using the approach this study used alpha and beta testing, with the main focus being beta testing in line with research question five.

#### **7.2.1. Alpha Testing of the Approach**

Alpha testing is guided by questions that consider the soundness and feasibility of the approach or parts of the approach. In terms of this study, alpha testing was undertaken by discussing the design with the researcher's supervisors and the other facilitators.

The alpha testing considered whether there was a logical flow to the approach, if the activities would serve their design purpose, and whether they would work well together. For example, the use of Priestley's (1998) typology as a suitable meta-perspective for the study was tested. This test involved four people, two supervisors and two assistants, undertaking the Movie activity to consider if they could identify the different perspectives within the movie and use the typology to frame the exploration of the different perspectives. The four who undertook this activity were able to identify the different perspectives and considered that it was a useful heuristic device to use to explore the paradigms of disability. The feasibility of implementing the approach in line with the constraints of the study, identified earlier in chapter four, was also considered. The researcher and her supervisors determined that the study could be undertaken in the timeframe and that if participants were willing to pay for their travel then the financial constraints could also be adhered to.

Alpha testing also occurred during the implementation of the approach to ensure that changes made due to contextual factors would not disrupt the soundness of the approach. This testing was undertaken through discussions with the supervisor and assistants. For example, discussions were undertaken to determine if activities could be cut short, in the case of the *Appreciative Inquiry* Discover, or modified, as in the case of the Synthesis and Specialisation activity.

### **7.2.2. Beta Testing of the Approach**

Beta testing focuses on whether or not the intended outcomes occur and what factors hinder or promote the designed intervention's implementation (McKenney & Reeves, 2012). The beta testing in this study used the evaluation questions and evaluative criteria shown in Table 7.1 to address the fifth research question, in what ways does the approach designed in this study help to promote cross-disciplinary collaboration when studying a complex real-world issue and what hinders it?

It was stated in chapter two that in order to answer questions, such as those detailed in Table 7.1, new methods should be adopted that consider the unique, interactive nature of cross-disciplinary collaborative outcomes. For this reason the evaluation criteria were developed based on the primary and secondary indicators drawn from chapter two and the purpose of the phases of the approach drawn from chapter five. The evaluation criteria will be used to answer the evaluation questions, which will then be used to consider in what ways the approach designed in this study helps to promote

cross-disciplinary collaboration when studying a complex real-world issue. The remainder of this chapter considers the methods used to undertake this beta testing.

Table 7-1. *Evaluation Questions and Criteria.*

Evaluation Questions	Evaluation Criteria
Was the study cross-disciplinary in nature?	A range of disciplines and/or paradigms were present in the group
Was cross-disciplinary collaboration achieved in this study?	Primary Indicators: Knowledge products were used to integrate ideas that emerged from the group discourse
	Primary Indicator: Collectivity of the group was expressed
	Secondary Indicators: Participants expressed work satisfaction, that they enjoyed networking and/or developed methodological pluralism
Did the phases of the approach achieve their purpose and what promoted and or hindered them?	Phase One: Engagement in the inter-individual process occurred
	Phase Two: The intra-individual process was initiated
	Phase Three: A common goal and vision were developed
	Phase Four: A common frame of reference and language were developed
	Phase Five: Intergroup learning and cross-disciplinary understanding occurred
	Phase Six: Group moved towards transformation and change
	Phase Seven: Collective constructions and identities developed
	Phase Eight: Collective action was planned
What factors promoted and/or hindered cross-disciplinary collaboration in this study?	The environment and/or activities and/or participants led to the promotion of cross-disciplinary collaboration
	The environment and/or activities and/or participants led to the hindrance of cross-disciplinary collaboration

### 7.3 Data Collection

Data collection methods, often used in beta testing in design-based research, include discourse analysis, observations, interviews, questionnaires, assessments, participant logbooks, focus groups and document analysis (McKenney & Reeves, 2012). Based on the criteria stated in the previous section and the methods used to mitigate the presence of the researcher, it was determined that the data collection methods chosen needed to collect data throughout the cross-disciplinary process, include participants' perspectives and be unobtrusive where possible. The data collection methods also needed to be varied to cater for the different types of data to be collected. Therefore,

the data collection methods that were selected for this study were participant journals, observations and individual and group artefacts as described below.

### **7.3.1. Participant Journals with Semi-structured Questions**

Participant journals are found to provide an authentic account of a participant's thoughts, experiences and values (Banner, 2008). When the researcher initiates a topic for reflection it helps to focus the participant's reflections and makes journals particularly good sources of data (Jacelon & Imperio, 2005). Participant journals were also found to be particularly useful when the researchers could not observe events or when their presence might impact the responses (Jacelon & Imperio, 2005; Zimmerman & Wieder, 1977). Giraud (1999) found that participant's journals were sometimes better than interviews as they reduced interviewer bias, reduced the inconvenience of arranging interviews and gave very good accounts of actual experiences. Banner (2008) found that they also complemented the data from observations.

Participant journals were selected for this study as they provided a means for participatory feedback and evaluation on an on-going basis, as recommended by Huutoniemi (2010). The journals were used to collect data prior to and during the weekend event and were designed to provide a rich source of data from each phase of the process and the outcomes of the collaboration as perceived from an individual's perspective and could, therefore, be used to address the fifth research question.

Participants were provided with the journals as soon as they agreed to participate so that they could record the Worldview and Paradigm of Disability activity prior to the weekend event. As well as providing the first activity of the approach, the reflections were useful to understand the content and diversity of perspectives held by the cross-disciplinary group. These worldview and paradigm reflections were guided by the questions included in the letter to the participants (Appendix H).

After each activity at the weekend participants were asked to reflect on the activity guided by the following information and questions. These reflections were designed to give feedback on each activity and determine what factors helped to promote the different phases of cross-disciplinary collaboration.

During the weekend you will be asked whether or not you think activities or the event helped to promote different types or ways of working. In order to help you evaluate I would encourage you to use the following descriptions.

“Multidisciplinarity draws on knowledge from different disciplines but stays within the disciplinary boundaries. Interdisciplinarity analyses, synthesises and harmonises links between disciplines into a coordinated and coherent whole. Transdisciplinarity integrates the natural, social and health sciences in a humanities context and transcends their traditional boundaries.”

These descriptions have been taken from the work of Choi and Pak (2006), who undertook a literature review to help to bring clarity to the terms often used to describe joint activities undertaken by different disciplines.

### **Reflection Questions**

In your journal please state which activity you are reflecting on and then answer the following questions.

1. Do you think this activity sparked any change of thinking in yourself and/or others? If so, how and why?
2. Do you think this activity facilitated cross-disciplinary dialogue and if so, how?
3. Which way of working did you see operating during this activity, multidisciplinary, interdisciplinarity, transdisciplinarity or none of these? How was this way of working demonstrated?
4. Record any other comments you may have about this activity.

After the final activity of the weekend the participants were also asked to answer the following questions relating to the whole weekend.

### **1. Formal Activities**

- a. How do you think people generally worked at the weekend in terms of multidisciplinary, interdisciplinarity or transdisciplinarity? Please explain why you hold this view.
- b. Do you think the way people worked over the weekend changed and if so, when, where and how?
- c. Do you think it has influenced how you or others view other disciplinary or paradigmatic perspectives and if so, how?
- d. Do you think the weekend facilitated cross-disciplinary or cross-paradigmatic dialogue and if so, which do you think was most significant and what do you think made this possible?
- e. Do you think the weekend has made you or others think differently about the topic of disability and/or an inclusive society and if so, in what ways?

### **2. Informal Activities and Environment**

- a. How did you find the weekend overall? What aspects did you enjoy or would you have liked to be different?
- b. How did you find the overall atmosphere of the weekend, for example, did you feel welcomed and safe? Were your needs met? Was it conducive to group interaction and if so, in what ways?
- c. Did you feel that being together for two days and nights assisted or hindered the working of the group? Did you notice a change of atmosphere or the way of working of the group over the weekend and if so, when and where?
- d. How did you find the informal times together with others? Do you think this impacted the way people understood each other or worked together and if so, how and why?



### **3. Personal Perspectives**

- a. What times did you most value at the weekend? Please state why you found them so valuable.
- b. Which activities did you find the most helpful and why?
- c. What would you have liked to have seen done differently over the weekend either in terms of the environment, activities or facilitation?
- d. Did you find any of the activities challenging and if so, what were they and how did they challenge you?
- e. What do you think you contributed to the weekend?
- f. What do you think others contributed to the weekend?
- g. Would you like to see something happen as a consequence of the weekend and if so, what?

### **5. Any other comments**

These final questions were designed to highlight reflection on the process overall and the individual and group outcomes. Participants were also encouraged to note any other reflections that they thought might be relevant. The journals were collected in at the end of the weekend.

#### **7.3.2. Observations Mediated and Unmediated**

Observation, as a data collection method, is designed to record what is seen and heard (T. R. Murray, 2003). This can be either unmediated involving face-to-face observations or mediated via video footage or photographs. The main advantages of observations as a data collection source is that they can capture data from unplanned spontaneous events, they require no specific equipment, they fit with most settings (T. R. Murray, 2003), and are unobtrusive (McKenney & Reeves, 2012).

One of the main disadvantages of observations is that observers can be biased and only attend to certain aspects of the events (T. R. Murray, 2003). This can be mediated through the use of questions to focus the observations. It has been found that the more specific the questions the more efficient the observations (T. R. Murray, 2003). This tendency for different people to focus on different aspects can also be an advantage if more than one observer is used as they can provide insights that are complementary, offering a different perspective and thereby adding to the richness of the data (Eisenhardt, 1989). Data from multiple observers also helps to provide confidence in the findings of the research. When the observers are given different roles this has also been found to add to the diversity of perspectives and leads to more novel insights (Eisenhardt, 1989). Eisenhardt (1989) also recommends keeping field notes and having team meetings with the observers that combines data collection and analysis as the researcher reflects on the observations and considers emerging themes.

Another disadvantage with face-to-face observations is that recording the data straight away is not always possible and sometimes while recording the data other activities are missed (T. R. Murray, 2003). Mediated observation via video or audio recording helps to avoid some of these limitations and allows the events to be viewed a number of times at a later date (T. R. Murray, 2003). Video recording also allows for less researcher interference but can be difficult to use especially in noisy environments or when more than one person is talking (Derry, 2007).

Mediated and unmediated observations were used in this study to collect data during the weekend event. Mediated observations were used primarily for the creative activities and large group sessions. The researcher, the five assistants and the researcher's supervisor undertook the unmediated observations throughout the weekend using focus questions on the topic of group dynamics. These observations were based on the theoretical underpinnings (Appendix I) and guided by the following questions:

- 1a) How did the groups work? Did you observe a change in how they have worked during the weekend and if so, when? What do you think instigated this change?
- 1b) How do you think people generally worked at the weekend in terms of multidisciplinary, interdisciplinarity or transdisciplinarity? Please explain why you hold these views.
- 1c) Do you think the activity has influenced how the participants view other disciplinary or paradigmatic perspectives and if so, how?
- 1d) Do you think the weekend facilitated cross-disciplinary and/or cross-paradigmatic dialogue and if so, which do you think was most significant and what do you think made this possible?

The assistants were also asked to record any other reflections in line with the questions below:

- How are the individuals and groups interacting?
- What have you observed?
- What has helped or hindered interdisciplinary dialogue and discussion?
- What do you think helped build an environment for interdisciplinarity?
- Write down anything you think might be relevant or pertinent.

The researcher and observers also engaged in on-going reflection on the observations gathered during the weekend and met at different times during the weekend to discuss what had been observed. The researcher recorded notes of these group reflections.

Mediated observations were undertaken by one of the assistants whose role was to photograph and video record any of the events throughout the weekend at their discretion. The researcher used the mediated observations to review events and to supplement the other data collected.

### **7.3.3. Artefacts**

Artefacts represent the work undertaken by individuals and groups and relate to individual and group knowledge products generated as part of the research process (Lankshear & Knobel, 2004). The artefacts need to be planned in advance and are typically collected along with other data. It is important that the artefacts are clearly identified so that their context and relevance to the other data is maintained (Lankshear & Knobel, 2004). In this study, some artefacts were presented in the individuals' journals such as the concept maps, some were recorded on activity sheets such as the timelines, and other artefacts were recorded in written and video form such as the *Appreciative Inquiry* Dream and ground rules activities. In this study the artefacts were used to consider the different phases of the approach and the degree of interaction, interconnection and integration of the individuals and their knowledge. This data collection method was also used in this study to complement the data gathered from the participants' journals and the assistants' observations.

## **7.4 Data Analysis**

The data analysis methods selected need to be appropriate to the type of data collected and the research questions posed by the study (Ezzy, 2002). In design-based research the data analysis also needs to consider how the design might be refined in further iterations of evaluation (Wang & Hannafin, 2005).

The data collected from participant journals and mediated and unmediated observations are qualitative by nature and generate data about subjective experiences and observations. Analysis of this data will, therefore, look for meaning in the data (Ezzy, 2002). The data collected from the artefacts records participants' ideas in time and can be used to consider how collective constructions are developed. Analysis methods that track these ideas are needed. A number of data analysis methods were, therefore, considered and it was decided that a combination of these methods would be used.

### **7.4.1. Content Analysis**

Content analysis is a deductive method that allows data analysis categories to be determined from pre-existing theory (Ezzy, 2002). In this study the categories used for

the content analysis were drawn from the literature reviewed in chapters two and three. For example, content analysis was used to consider if the study was cross-disciplinary using themes drawn from the literature on the disciplines and paradigms that study disability in chapter three. This data analysis method was also used to consider if cross-disciplinary collaboration had been achieved using themes drawn from the literature on primary and secondary indicators of cross-disciplinary collaboration identified in chapter two. Content analysis was also used to consider the phases of the approach and the factors that hindered and promoted cross-disciplinary collaboration drawing on the outcomes identified in chapter two.

#### **7.4.2. Thematic Analysis**

Thematic analysis is an inductive method that allows themes to emerge from the data, which is then related back to the theory (Ezzy, 2002). It was considered that the use of thematic analysis alongside content analysis would allow other factors that may have impacted the collaboration to be highlighted. In this study, the thematic analysis was first undertaken at the same time as the content analysis, borrowing the idea of memoing from grounded research, and identified themes such as transparadigmatic worldviews and the motivations and experiences of the participants. Memoing involves recording the insights, thoughts, feelings and ideas that emerge as the data is explored. Memoing is considered to be fundamental to the development of quality theory as it helps meaning to be derived from the interpretations in the thought process that emerge during the analysis (Punch, 2005). In critical realism, the philosophy underpinning this study, it is important that findings can be connected to artefacts and the context. For this reason, axial coding, that focuses on the context, activity, process and consequence (Suthers, 2006), was then applied to the initial themes that emerged from the memoing so that the findings could be related back to the specific phases of the approach, the activity undertaken and/or the context of the cross-disciplinary collaboration.

The mix of deductive and inductive approaches to data analysis was considered to be particularly suited to design-based research since together they sought to build on existing theory at the same time as add to the theoretical base (Wang & Hannafin, 2005).

#### **7.4.3. Tracking Ideas**

Another type of data analysis that was undertaken in this study related to tracking the ideas to determine the integrated nature of the knowledge products, one of the primary indicators of cross-disciplinary collaboration. A number of data analysis methods were

researched including conversation analysis (Hutchby & Wooffitt, 2008), meme-tracking (Leskovec, Backstrom, & Kleinberg, 2009) and the mobility of ideas (Allen-Robertson & Beer, 2010).

Conversation analysis that involves the detailed analysis of talk-in-interaction was quickly eliminated since it requires that all the interactions should be transcribed. This was not possible in this study since many of the interactions were informal and the large number of different interactions made it impractical.

Meme-tracking was a method developed to track ideas that emerged in the media using on-line environments. The first search looks for the exact words and phrases. This is then followed by a second search using variations of the original words or phrases. These searches help to show not only where the ideas come from and go to but also how they mutate (Leskovec et al., 2009).

Mobility of ideas is similar to meme-tracking and involves tracking ideas across time and space. The first analysis seeks to track the ideas in chronological time to discover where the ideas originate and how frequently they are used. The second analysis seeks to map where in terms of geographical location the ideas are used. This method seeks to discover the trends in usage and consider the networks of association that may exist. The one major drawback of this method is that while it is easy to track unique ideas, ideas that are in common usage are much harder to map (Allen-Robertson & Beer, 2010). It was decided that for this study a combination of meme-tracking and mobility of ideas would be used as a data analysis method to track the ideas generated by the participants and groups to determine whether or not the final knowledge products emanated from the group's interaction or from one individual as well as consider where and how often the ideas emerged.

The tracking of ideas method applied in this study used the data from all the individual and group knowledge products that were collected throughout the study. The main ideas were extracted from the final two group knowledge products, the *Appreciative Inquiry* Dream and the *Appreciative Inquiry* Design undertaken by the three small groups. These ideas were then tracked back through the activities to see where they originated. This search used the transcribed activity sheets and the information from each individual's worldview and paradigm of disability reflections, and their concept maps. The search was undertaken using the computer find tool using the exact words or mutations from the group knowledge products. Diagrams were then plotted to show

how the ideas emerged from the individuals' perspectives and/or through the group work in order to determine the level of integration of ideas that had occurred as well as identify where the ideas had come from.

## **7.5 Meta-Analysis of Data**

Triangulation and researcher's reflections were used in the study to undertake a meta-analysis of the data in order to answer research questions five, six and seven.

### **7.5.1. Triangulation**

Since a number of different data sources were used, the data analysis involved triangulation to consider whether or not the same meaning could be derived from each source or whether or not it was contradictory. Triangulation of data was used to help mitigate issues generated by the researcher's presence and to provide validity to the data. For example, data from the individuals' journals, assistants' reflections and artefacts were all used to determine if cross-disciplinary collaboration had been achieved. Triangulation of the data is considered particularly valid within real-constructivist research, such as in this study, as it provides the multiple subjective perspectives on objective reality. In this way, rather than being contradictory or confusing, the multiple perspectives generate greater understanding of the interactive nature of complex reality (Eisenhardt, 1989; Sobh & Perry, 2006). This triangulation of data also increases the findings' validity (Willis, 2007).

### **7.5.2. Researcher's Reflections**

Researcher's reflections can be organic or structured and involve reasoning and/or creativity and can occur throughout the evaluation process (McKenney & Reeves, 2012). Organic reflection involves an intended contemplation as one reflects in times of quiet when the mind is free to make its own connections between ideas, such as in the shower or on the journey to work. Structured reflection relates to the more organised reflective process that uses questions and specific reflection times to consider aspects of the approach. Structured reflection has three main phases: collecting the data for reflection, analysis and synthesis of the data, and the development of conclusions (McKenney & Reeves, 2012). These three phases can be used to reflect on different aspects of the data guided by questions such as those described below. These questions are based on the four strategies for structured reflection suggested by McKenney and Reeves (2012).

- Were there any unanticipated factors that influenced the process, if so what were they, how did they arise, what impact did they have and how might they influence the on-going design of the approach (McKenney & Reeves, 2012)?

- Take a particular moment in time and reflect on what is going on between the individual, other participants, the process and/or environment. Does this action help to promote or hinder the desired outcome? Consider why the individual acted as they did and consider how this might be used to further improve the design of the intervention (McKenney & Reeves, 2012).
- Consider an instance and list the different individuals and perspectives that were relevant to that event. How did these people understand this event the way they did and why? Consider what can be learnt from viewing the situation from these perspectives (McKenney & Reeves, 2012).
- Identify the different methods used to collect and analyse the data. Consider how well they have addressed the questions, what has been missed and what could be changed to improve the evaluation (McKenney & Reeves, 2012).

In this study organic and structured reflection were undertaken by the researcher. The researcher undertook her reflection during and after the weekend event, and also reflected with the assistants during the course of the weekend using the questions given above. These reflections were used to inform the final analysis of the data in terms of refining the approach and considering how the findings may inform the literature presented in chapter ten.

The analysis and meta-analysis in this study were undertaken manually except the tracking of ideas that used the computer 'find' function. It was considered that this manual approach helped the researcher become immersed in the data and allowed themes to be identified.

## **7.6 Evaluation Process Used in this Study**

The evaluation process presented in this section addresses the fifth research question. A number of rounds of evaluation were undertaken in this study to address the different sub-questions and evaluative criteria. Table 7.2 shows how the different types of data collection and analysis methods were used to address the different evaluation questions and criteria and the type of findings presented.

### **7.6.1. First Round of Evaluation**

As shown in Table 7.2, the first round of evaluation involved considering whether or not the study was cross-disciplinary in nature and whether sufficient differences in perspective were present to generate the tension and create the innovation needed to promote cross-disciplinary collaboration. This analysis included considering the

different disciplines involved, and the reflections of each participant from the Worldview and Paradigm of Disability activity. The data for this round came from the documentation of the disciplines present and the participants' journals. Content analysis was manually undertaken to examine the data for the large group and the small groups that came together for the three final activities. The findings of this analysis were then mapped on Priestley's (1998) typology as described in chapter three and presented in chapter eight.

Table 7-2. *Evaluation Process.*

<b>Evaluation Round</b>	<b>Questions</b>	<b>Criteria/Methods</b>	<b>Data Collection</b>	<b>Data Analysis</b>	<b>Findings Medium</b>
<b>One</b>	Was the study cross-disciplinary in nature?	A range of disciplines and/or paradigms were present in the group	Disciplines attending Journals	Content analysis	Typology diagrams
<b>Two</b>	Was cross-disciplinary collaboration achieved in this study?	Primary Indicators: Knowledge products were used to integrate ideas that emerged from the group discourse	Journals Artefacts	Tracking Ideas	Flow of Ideas map
		Primary Indicator: Collectivity of the group was expressed	Journals Observations Artefacts	Content analysis	Narrative
		Secondary Indicators: Participants expressed work satisfaction, that they enjoyed networking and/or developed methodological pluralism	Journals Observations	Content analysis Thematic analysis Triangulation	Narrative
<b>Three</b>	Did the phases of the approach achieve their purpose and what promoted and/or hindered them?	Phase One: Engagement in the Inter-individual process occurred	Journals, Observations	Content analysis Thematic analysis Triangulation	Flow of Ideas map Narrative
		Phase Two: The intra-individual process was initiated			
		Phase Three: A common goal and vision were developed			
		Phase Four: A common frame of reference and language were developed			
		Phase Five: Intergroup learning and cross-disciplinary understanding occurred			
		Phase Six: Group moved towards transformation and change			
		Phase Seven: Collective constructions and identities developed			
		Phase Eight: Collective action was planned			
<b>Four</b>	What factors promoted and/or hindered cross-disciplinary collaboration in this study?	The environment and/or activities and/or participants led to the promotion of cross-disciplinary collaboration	Journals, Observations	Researcher's reflections	Narrative
		The environment and/or activities and/or participants led to the hindrance of cross-disciplinary collaboration			

### 7.6.2. Second Round of Data Analysis

The second round of evaluation, as shown in Table 7.2, was to determine whether or not cross-disciplinary collaboration had been achieved. This analysis involved



examining the data in terms of the evaluation criteria based on the primary and some of the secondary indicators identified in chapter two. The first primary indicator related to the integration of ideas in the knowledge product. The data collection method for this indicator was the artefacts and included the individual's worldview and paradigm exercise, the concept maps, and all the group activity sheets. The tracking ideas method using the computer 'find' function was used to analyse the data and the findings were presented as flow diagrams. The other primary indicator was the collectivity of the group. The data for this indicator was taken from the participants' journals and the observations. Content analysis, thematic analysis and triangulation were used to examine the data manually. Collectivity of the large group and the three small groups was determined by examining the level of cooperation and integration of the group through the language and descriptions used to describe the sense of teamwork, the effectiveness and efficiency of the team, the sense of group and/or community empowerment, and the degree of shared responsibility in decision-making. The general secondary indicators that helped to support the primary indicators included considering if participants wanted to explore and use other methodologies, if they gained greater job satisfaction, and if they enjoyed the opportunity to network. These secondary indicators were taken from the data recorded throughout the process and the participants' final reflections. Other factors that demonstrated that cross-disciplinary collaboration had been promoted were also identified. All the findings from this round are presented in chapter eight.

#### **7.6.3. Third Round of Evaluation**

The evaluation in the third round, as shown in Table 7.2, used the data from the participants' journals and observations to consider whether or not the purposes of the phases of the approach were achieved and what helped to promote and or hinder them. Content analysis, thematic analysis and triangulation were used to manually examine the data. This round of evaluation was undertaken using criteria based on the aims of the phases of the approach identified in chapter five and some of the individual and group secondary indicators considered in chapter two. This analysis considered the different phases, their overall designed purpose and the outcomes of, and factors that promoted or hindered, the different activities. The findings from this third round of evaluation are presented in narrative form in chapter nine.

#### **7.6.4. Fourth Round of Evaluation**

The fourth round of evaluation involved a meta-analysis of the previous evaluation rounds using the researcher's reflections based on the reflection questions, mentioned in the data analysis section, to confront the data. It considered what factors, the

environment and/or activities and/or participants, promoted and/or hindered cross-disciplinary collaboration. In particular, it considered a) how the different phases of the approach related to one other and contributed to the overall promotion of cross-disciplinary collaboration, b) compared and contrasted the findings from the three small groups to consider what factors may have contributed to the differences in the group's outcomes and experiences, and c) considered certain events when tension was high. The findings of this evaluation are presented in chapters eight, nine and ten in narrative form.

These rounds of evaluation were then used to address the fifth, sixth and seventh research questions and consider how the findings relate, or add to the literature, how the approach could be refined, and what might be useful to inform other approaches to cross-disciplinary collaboration when studying complex real-world issues.

## **7.7 Section Summary**

This section has considered the methodology and methods used in this study. Chapter four considered the philosophy of critical realism and how its ontology, epistemology and axiology impact the choice of research methodology. Design-based research was introduced and discussed in relation to theoretical literature and some examples from research in the field. The process of design-based research was also considered. Chapter five described the design process and then outlined how the approach was developed through the different phases of the design process including the initial design phase, the morphological chart, the skeleton design and the final design specification. Finally, the approach to promote cross-disciplinary collaboration was presented in line with research question three. Chapter six then considered how the approach was implemented in this study including the ethical considerations; the participant numbers, diversity, recruitment and demographics; and the phases of the approach and methods used. Chapter seven outlines the evaluation process that addresses research question four. This evaluation process includes the different types of evaluation, and the data collection and analysis methods used to undertake beta testing using a case from the New Zealand disability field. The next section reports on the findings of the beta testing cycle of evaluation undertaken in this study.



## SECTION THREE

### Findings

*The test of a first-rate intelligence is the ability to hold two opposing ideas in mind at the same time and still retain the ability to function.*

F. Scott Fitzgerald

Section three presents the findings from the weekend event in line with research question five that asks, in what ways does the approach designed in this study help to promote cross-disciplinary collaboration when studying a complex real-world issue and what hinders it? This section is divided into two chapters. Chapter eight presents the findings on whether or not cross-disciplinary collaboration was achieved and the factors that hindered or had the potential to hinder the cross-disciplinary process. Chapter nine considers the phases of the approach and the factors that promoted the phases at the weekend event.



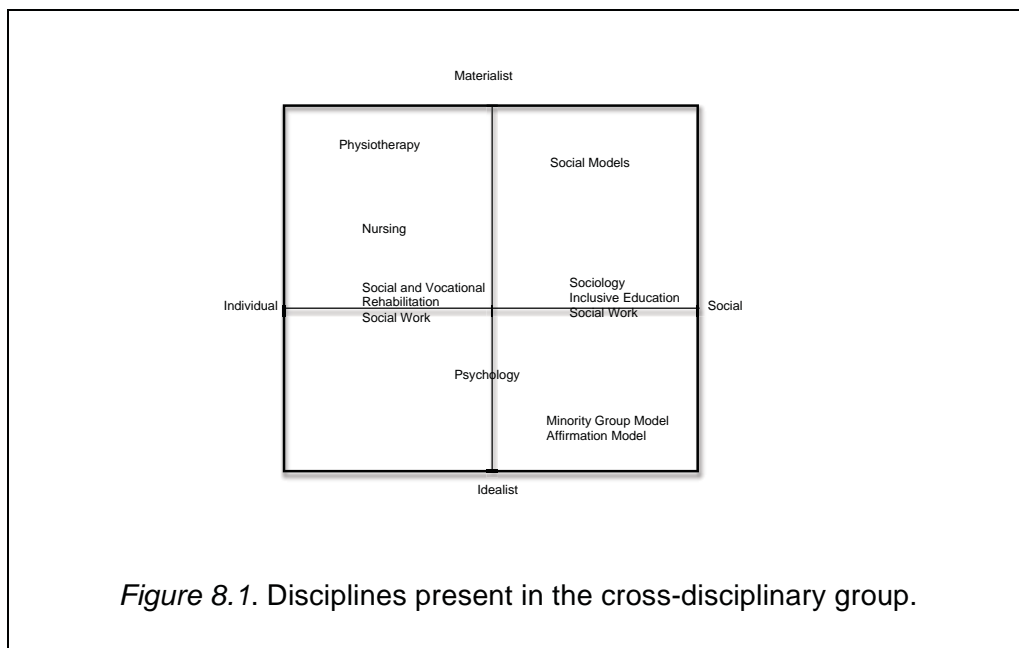
## Chapter 8: Was Cross-Disciplinary Collaboration Achieved and What Factors Hindered, or had the Potential to Hinder, it?

### 8.1 Introduction

This chapter presents the findings on whether or not cross-disciplinary collaboration was promoted at the weekend event and the factors that hindered or had the potential to hinder it in line with the evaluation process developed in chapter five. The chapter is divided into three sections. The first section considers whether or not the weekend event was cross-disciplinary in nature. The second section considers whether or not cross-disciplinary collaboration was achieved. The third section identifies the factors that hindered or had the potential to hinder the cross-disciplinary process at the weekend.

### 8.2 Was the Study Cross-Disciplinary in Nature?

In order to determine if the study was cross-disciplinary in nature it is first necessary to ascertain whether or not the cross-disciplinary group brought together in this study was representative of the disciplines and paradigms of disability present in the New Zealand disability field.



The disciplines that were present in the cross-disciplinary group at the weekend event are shown in Figure 8.1. If this Figure is compared to Figure 3.2, the disciplines and

perspectives in the disability field, it can be seen that the main disciplines that are missing are Medical Rehabilitation, Rehabilitation Ergonomics, Occupational Therapy,

Table 8-1. *Paradigms of Disability Present.*

Participant	Participant's Quotes	Paradigm
A	(Did not undertake the Worldviews and Paradigm of Disability activities)	
B	Disability, of course is caused by accident or illness. Disability is reduced or removed by the attitudes of others and by an awareness of handicapping environments. But also, disability can be reduced or removed by the individual learning skills and adaptations and attitudes. Disability has positive connotations for me.	Individual Materialist, Individual Idealist, Social Idealist
C	Our wonderful postmodernist liberated society it seems to me has done little to liberate people but has effectively led away from an inclusive society to a 'me at all cost society'. You do not need a social care system to meet people's needs we need a way of knowing and supporting disabled people where they do not constitute a different class of citizen.	Other
D	I like Simi Linton's suggestion of attending to the mechanisms (a) society uses to create vulnerable 'others' – rather than vulnerability as a given.	Social Materialist
E	(Disability) is a label – maybe this is helpful or maybe it helps to define an individual or maybe used as a protective device. Cause of disability – state of mind developed from perceptions of what society might consider as normal – therefore left feeling less than.	Social Idealist, Individual Idealist
G	Tolerance will allow others to identify and give up power, which helps others be empowered. Empowerment also needs sense of self and leads to belief and recognise ability which gives energy and reinforces empowerment and sense of self.	Social Idealist, Individual Idealist
H	Disability is removed when disabling factors such as ...are reduced. A lot in common with feminist, racism.	Social Materialist
I	Disability just is. I don't accept the individual focus.... What disability is, is what others in society do. It is the collective discrimination that derives from other people's worldviews about impairments. Disability is discrimination and exclusion if a definition is needed. It concerns me that there is not a real understanding of the implications of the social models of disability. We want real change to the relations of power.	Social Materialist
J	I understand disability in the political/critical style...a social construct.	Social Materialist
K	I agree with the 'social model', 'rights model' argument that society disables people who don't conform to expectations for what is 'normal'.	Social Materialist
L	Its like a continuum and really depends on the context. To me disability sits around many levels – socio-political, cultural and global.	Social Materialist, Social Idealist
M	Very much influenced by social model But my PhD argues there is a gap in so far as it leaves the body out. Social model excellent, however, for changing consciousness and setting the political agenda. Critical realism, which allows for the body and impairment makes the most theoretical sense to me currently <u>but</u> must not abandon the social model because the non-disabling society is a more important goal.	Multi-paradigm
N	The barriers are predominately because society is organised for the 'average' person. How this impacts on an individual can add to the disabling experience. The impact is social, psychological, political, economic. [Disability caused] complexity of society makes it challenging for others to comprehend others experiences. Until these assumptions are explored society continues to be disabling.	Social Materialist, Social Idealist, Individual Idealist
O	Political solutions are sought.	Social Materialist
P	Disability occurs when an individual is unable to perform an activity that he/she considers to be a common everyday event due to physical, psychological, social and spiritual causes. Disability is reduced through aids such as mechanical and through changes in societal perspectives.	Individual Materialist, Social Idealist
Q	Disability is a term used by others and institutions to name or place a person in regard to their impairment.	Social Idealist
R	The greatest barriers for people society labels as disabled are the attitudes of others!	Social Idealist
S	Disabled people are most often handicapped by the negative attitudes of others.	Social Idealist
T	Socio-political definition of disability – disability stems from the failure of a structured social environment to adjust to the needs and aspirations of disabled citizens.	Social Materialist

Special Education, Cultural Studies and Political Studies. While these knowledge bases do leave a gap there are still disciplines/knowledge bases in each of the quadrants within the group as a whole. This diversity of disciplines was also present in the small groups that worked on the last three *Appreciative Inquiry* activities. For example, Group SNARQK was made up of Participants S, N, A, R, Q and K who came from the disciplines/knowledge bases of Nursing, Physiotherapy, Disability Studies, Rehabilitation and Education. Group PHOTBD consisted of Participants P, H, O, T, B and D from the disciplines/knowledge bases of Rehabilitation, Sociology, Education and Physiotherapy. Group LEGJ consisted of Participants L, E, G and J, who came from the disciplines/knowledge bases of Nursing, Physiotherapy and Social Work.

In order to further consider if there was sufficient diversity in the cross-disciplinary group, an analysis was made of the participants' worldviews and paradigms of disability to ascertain their perspective, or paradigm of disability as shown in Table 8.1. Table 8.1 has been colour coded with the purple being the participants in Group SNARQK, blue being participants in Group PHOTBD and green being participants in Group LEGJ. The colourless boxes represent participants who did not take part in the final group exercises either because they were unwell or because they had to leave early. The paradigms identified by the quotes from the participants' worldviews and paradigms of disability were then mapped in terms of Priestley's (1998) typology as shown in Figure 8.2.

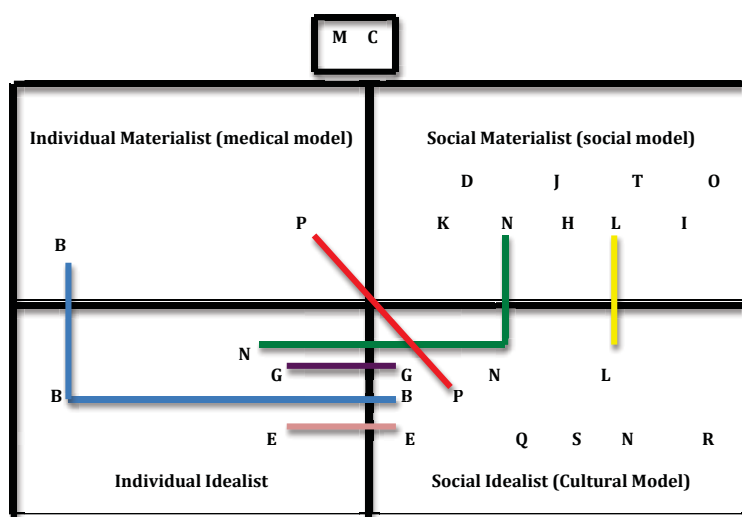


Figure 8.2. Map of paradigms present in the cross-disciplinary group.



It can be seen from Table 8.1 and Figure 8.2 that while there are a good range of paradigms of disability present, there is a predominance of the two social paradigms. It is also interesting to note that there are only two participants whose perspectives align with the individual materialist quadrant, and they are both in Group PHOTBD. Participants B, P, N, E, G and L clearly held perspectives that bridged more than one paradigm. Participant M, on the other hand, held a multiparadigm view of disability, whilst still favouring a social materialist paradigm. It can also be seen from Table 8.1 that Groups SNARQK and LEGJ both had three of the four paradigms represented. Group SNARQK had a predominance of Social Idealist and Group LEGJ was fairly well-balanced between social materialist, social idealist and individual idealist. Group PHOTBD, however, had all four paradigms present with a predominance of social materialist.

Across the three groups, therefore, the findings seem to indicate that despite an under-representation of the individual materialist paradigm, the large group can be considered to be both cross-disciplinary and cross-paradigmatic. The three small groups can also be considered to be cross-disciplinary and cross-paradigmatic despite some having a predominance of one paradigm and having an under-representation of the individual materialist paradigm.

### **8.3 Was Cross-disciplinary Collaboration Achieved?**

This section considers if cross-disciplinary collaboration occurred in the study and presents the findings that relate to the evaluative criteria outlined in chapter six based on the primary indicators, integrated knowledge products and collective identity, and some general secondary indicators of cross-disciplinary collaboration as described in chapter two.

#### **8.3.1. Primary Indicator: Integrated Knowledge Products**

No large group knowledge products were developed at the weekend due to a lack of time. Knowledge products were, however, developed throughout the course of the weekend by different small groups. This section looks at the final knowledge products developed by the three small groups, SNARQK, PHOTBD and LEGJ who came together for the final three *Appreciative Inquiry* activities. This analysis considers how these three groups integrated the ideas from individual and group work throughout the weekend. The ideas documented in the final *Appreciative Inquiry* Designs for each group are shown in Figures 8.3, 8.4 and 8.5. The different coloured boxes and arrows represent the different ideas while the unidirectional and bidirectional arrows represent

the flow of ideas. Broken lines represent a possible flow of an idea. The participant boxes represent ideas that originated in a participant's worldview reflection, paradigm of disability reflection and/or concept map.

### 8.3.1.1. Group SNARQK

Participants, S, N, R, Q, and K, recorded their worldviews and paradigms and A, R, Q and K recorded their concept maps. Group SNARQK developed two group knowledge products, one during the *Appreciative Inquiry Dream* and the other during the *Appreciative Inquiry Design* activities.

Group SNARQK expressed their *Appreciative Inquiry Dream* for an inclusive society as a song and dance. Each participant in the group danced using their own steps and rhythms, thus expressing diversity and unity at the same time. The idea of unity in diversity was also reflected in the words of the song, which was sung to the tune of *Imagine* by John Lennon. The *Appreciative Inquiry Dream* provided the base metaphor for the *Appreciative Inquiry Design* with the design being a more detailed version of the *Appreciative Inquiry Dream*. The group also chose a first action step to help them implement the resolution developed.

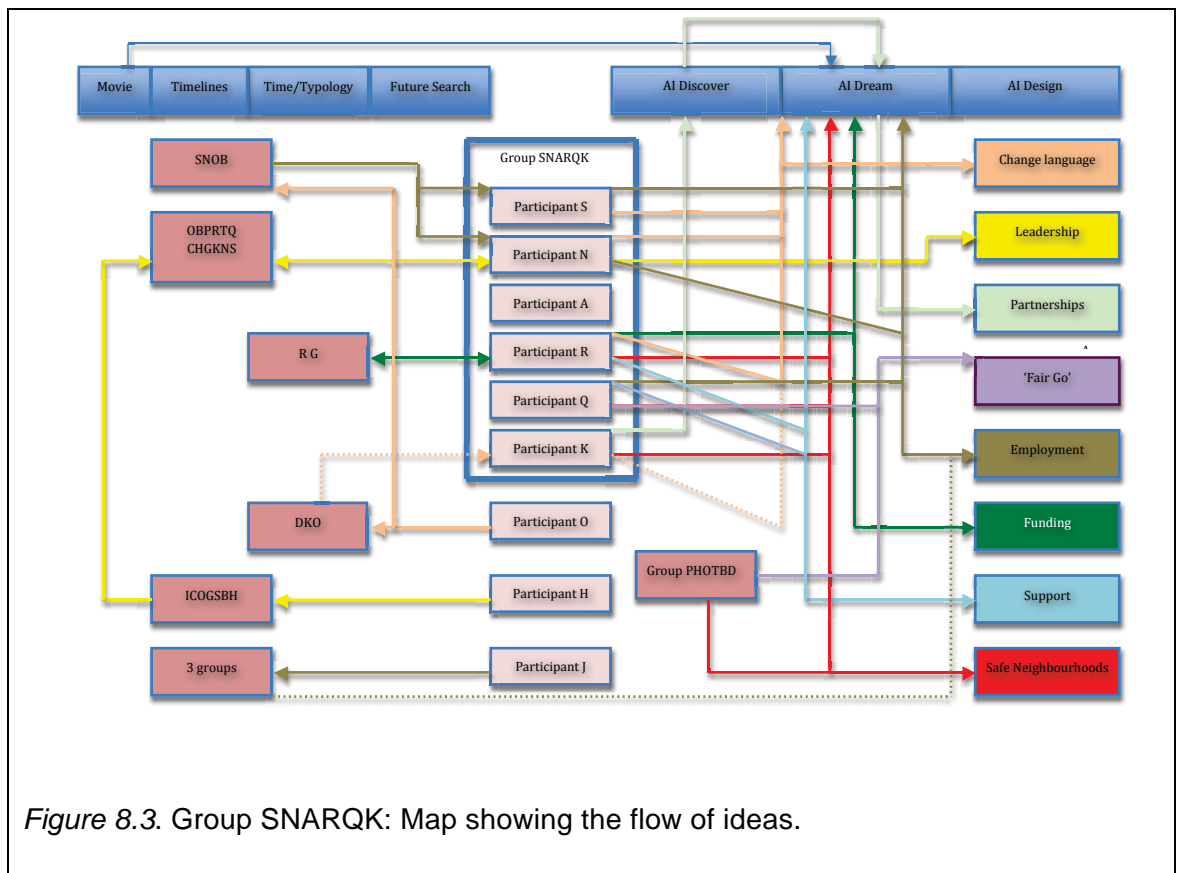


Figure 8.3. Group SNARQK: Map showing the flow of ideas.

As can be seen from Figure 8.3, the ideas for the *Appreciative Inquiry* Dream and *Appreciative Inquiry* Design emanate from a number of different places. For example, values such as *openness, honesty, accepting all people, life is more important than material things* and *a happy life* were carried through from Participant R's worldview to Group SNARQK's *Appreciative Inquiry* Discover and *Appreciative Inquiry* Dream activities. Another idea, *barriers*, was also carried through from Participant R and N's paradigms of disability to the *Appreciative Inquiry* Dream activity. One idea, *connections between people or shared kaupapa [topic]*, appears in Participant K's concept map and the *Appreciative Inquiry* Discover activity. Some ideas, such as *enjoyment, no discrimination, positive attitudes, accepting and understanding differences, focus on abilities, supportive relationships, respect and caring communities* from the concept maps and *flexibility* from the *Appreciative Inquiry* Discover, were also carried forward to the *Appreciative Inquiry* Dream activity. The concept of *Happy Feet*, from one of the earlier activities, was also carried through to the *Appreciative Inquiry* Dream activity.

The *Appreciative Inquiry* Design for Group SNARQK had a number of different foci based around the main concept of *Safe Neighbourhoods* including *changing the language of disability through the use of popular media, involving people with disability in leadership and decision-making, building alliances and partnerships with other groups who are discriminated against, building purpose and opportunities for people with disabilities to gain work and be involved through a 'Fair-Go' Employment Conference*, and *address the structures that provide funding and services for people with disabilities*. When asked what would be their first action step the group unanimously stated that they were going to organise a 'Fair-Go' employment conference.

The resolution/knowledge product developed by Group SNARQK can be seen to integrate elements from three of the four paradigms described by Priestley (1998). For example, the ideas of *building purpose and opportunities for work* and *the inclusion of people with disabilities in leadership and decision-making* reflects the individual idealist paradigm. *Building alliances with other discriminated groups* and *addressing the structures that provide funding and support* reflects the social materialist paradigm, and *building safe neighbourhoods* and *changing language* fits with the social idealist paradigm.

As can be seen in Figure 8.3 the main theme of *safe neighbourhoods* was carried forward from the *Appreciative Inquiry* Dream activity and the concept maps of Participants Q, K and R. For example, in their concept map Participant Q talks about *secure neighbourhoods* and *supportive relationships* and Participant K talks about *supportive, caring communities* and *belonging*. Participant R talks about *love* and *acceptance* in their worldview and about *integrated communities where there is no discrimination, positive attitudes, acceptance, and understanding difference* in their concept map.

As shown in Figure 8.3, the ideas around changing the language of disability in the *Appreciative Inquiry* Design came predominantly from the paradigms of disability of Participants N, R, and S. For example, Participant N speaks about disability being reduced through *communication with others about their attitudes*, Participant R talks about, *the greatest barriers for people society labels as disabled are the attitudes of others*, and Participant S states, *disabled people are most often handicapped by the negative attitudes of others*. Although as individual ideas these statements may not have been shared directly by the group, they would no doubt have informed Participant N and R's contributions to group discussions. The subject of the critique of language was discussed in one of the Timelines and Typology groups consisting of Participants D, K and O. Participant O, for example, states in their worldview that *language is not neutral but is embedded in relations of power*. This may suggest that Participant O's ideas from her worldview were shared in the Timelines and Typology activity with Participants D and K. Participant K may then have shared the ideas about language during the *Appreciative Inquiry* Design activity.

The idea of *people with disabilities in leadership and decision-making* is another strong perspective of the *Appreciative Inquiry* Design of Group SNARQK. This idea picks up on the themes of *power sharing* from the group's *Appreciative Inquiry* Dream and the idea of *empowerment* from their *Appreciative Inquiry* Discover activity. These ideas were also reflected in the concept map of Participant Q who states that people with disabilities should have *opportunities to participate in civil activities*. Participant H recorded the idea of *leadership of a person with disabilities* on one of the Timelines activity sheets that Participants K, N and S were part of, and Participant N recorded the associated concept of *empowerment* on another Timeline sheet. These recorded ideas may then have been shared by Participants K, N and S during the group work and been integrated into the group knowledge building process.

*Building alliances and partnerships with other groups who are discriminated against* was also another theme in Group SNARQK's *Appreciative Inquiry* Design. This idea originated in the *Appreciative Inquiry* Discover activity of the group but does not directly appear in any of the other activities. The comment *I have always been an advocate for social justice issues, initially environmental and anti-racist issues* from Participant K's worldview and *I loathe injustice and especially persecution on spurious grounds relating to personal attributes* from Participant N's worldview indicates that they both have an interest in social justice and may have shared these ideas in group discussions, which were later adopted by the group.

Funding and support are two more themes that appear in Group SNARQK's *Appreciative Inquiry* Design with the statements, *re-position the money spent on disability issues*, and *funding needs to be questioned – ACC – Social Welfare need reviewing and reorganise family support systems ... support they might need*. The idea of funding is closely linked to support in Participant R's concept map where it states *adequate support systems, guiding strategies, provision of resources to meet needs*, while *supportive relationships* is mentioned in Participant Q's concept map. Participant K, in her concept map, also links the two ideas of funding and support, stating, *free education, free healthcare, free social services ... supportive, caring communities*. These ideas of funding and support are then carried through to the *Appreciative Inquiry* Dream in the words of the song *systems support us ... supports need on demand*.

An interesting idea developed as part of Group SNARQK's *Appreciative Inquiry* Design is that of the '*Fair-Go*' Conference for employment issues. This idea has two main strands. The first strand is employment and develops from the group's *Appreciative Inquiry* Dream. When the activity sheets were scanned for the word employment, three references to supported employment were found within different Timeline activity sheets all recorded by Participant J. There would appear to be no direct link to employment issues in the recorded ideas of the participants of the group but they may have had access to the employment ideas through studying the different Timelines activity sheets that were accessible to the participants throughout the weekend. The concept of '*Fair-Go*' is slightly different since it is a fairly unique concept that formed a major part of Group SNARQK's resolution developed in the *Appreciative Inquiry* Design activity. The concept of '*Fair-Go*' did not appear in any of Group SNARQK's individual or group artefacts. *Fair-Go Thinking*, however, did appear in Group PHOTBD's *Appreciative Inquiry* Discover activity. All the groups' *Appreciative Inquiry* Discover outcomes were shared and available and so the idea of '*Fair-Go*' may well have been

discussed and adopted by members of Group SNARQK who then integrated the idea into their final *Appreciative Inquiry* Design.

It would appear from tracking the ideas of Group SNARQK that the two knowledge products developed by the group were definitely the synthesis of more than one participant and that the ideas had been drawn from a number of different sources including other participants, activities, activity sheets, and formal and informal discussions with others. The final *Appreciative Inquiry* Design also reflects three of the four paradigms from Priestley's (1998) typology. These findings would seem to indicate that Group SNARQK did maximise the benefits of not only their ideas and perspectives but also those shared within the wider group as well as ideas and concepts from the activities themselves, such as *Happy Feet*, in order to develop integrated knowledge products or collective constructions.

### 8.3.1.2. Group PHOTBD

All six members of Group PHOTBD documented their paradigms of disability and all but Participant O their concept maps. Four participants recorded their worldviews, including participants T, O, B and D. Group PHOTBD developed two group knowledge products during the *Appreciative Inquiry* Dream and the *Appreciative Inquiry* Design activities.

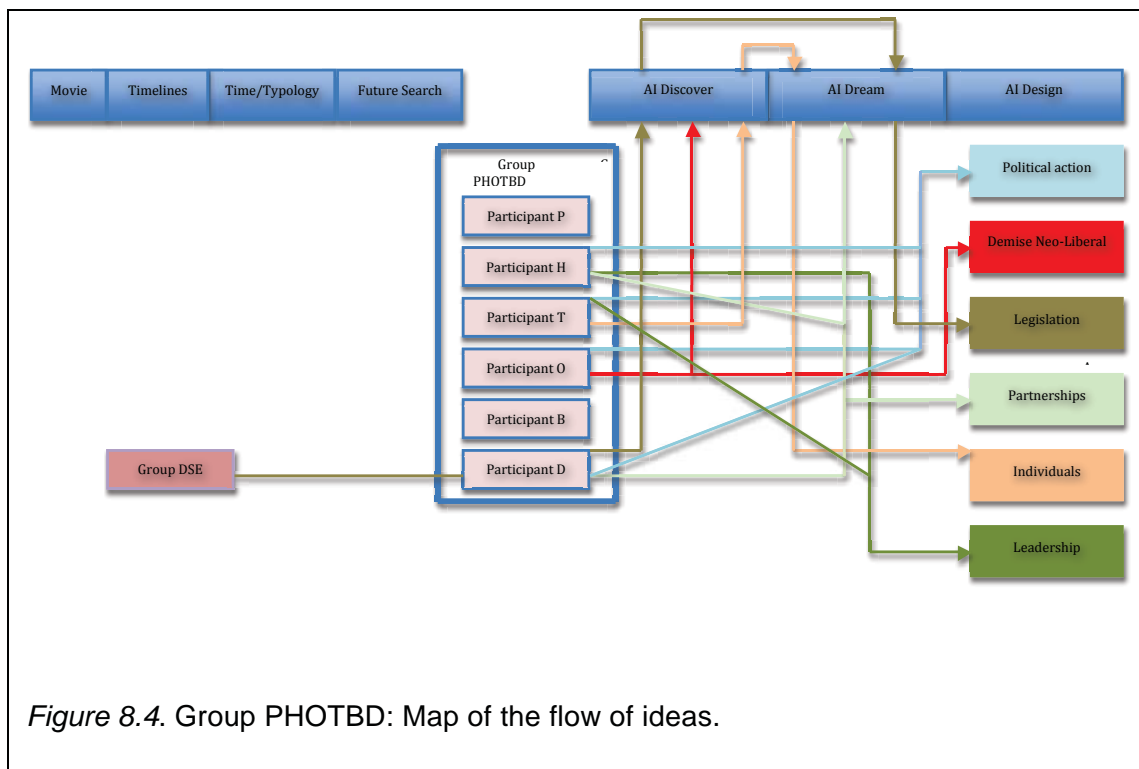


Figure 8.4. Group PHOTBD: Map of the flow of ideas.

In the *Appreciative Inquiry* Dream activity for an inclusive society, Group PHOTBD designed an event entitled *I have a dream: He Moenga au*. Each participant in the group wrote short quotes on post-it notes that they then stuck on a large piece of paper. When they did their presentation people were asked to pass the paper around and select a post-it note, read it out and pass it on. People could also add their own post-it notes if they wanted to. It can, therefore, be seen that while all the participants of Group PHOTBD contributed to the activity there was little integration of ideas during this *Appreciative Inquiry* Dream activity.

As can be seen in Figure 8.4, a number of factors were carried through from the group's individual ideas to the *Appreciative Inquiry* Discover activity. These ideas included *respect, equality, tolerance of difference*, and the *importance of systems*. For example, *respect* and *equality* were both evidenced in the concept map for Participant H, who stated, *an acknowledgement that some people may require more support than others and that that's not unfair, respect for all and equality of opportunity*. Tolerance of difference was mentioned in the concept maps of Participants T, D and P. For example, Participant T considered that *difference, needs to be respected and tolerated*, Participant D talked about *valuing difference/diversity*, and Participant P talked about *tolerance of differences*. Tolerance was then carried through to the *Appreciative Inquiry* Dream where quotes included *embracing difference* and *accept and embrace my difference*.

The importance of systems also emerged as one of the ideas in the *Appreciative Inquiry* Discover and seemed to derive from the concept map of Participant P who talked about *fully democratic systems*. The importance of systems also flowed through the *Appreciative Inquiry* Dream where one post-it note stated, *The New Zealand Social Service System should ensure that all can live in dignity and a reasonable standard of living*, and another stated, *the measure of society is the mechanisms used to create vulnerabilities*.

The idea of social justice was evidenced in the worldviews of Participants D and O. Participant D, for example, stated, *I grew up in a home where principles and social justice and fair play were articulated and enacted*, while Participant O talked about *relations of power* that impact society. Social justice is also contained within Participants P and D's concept maps. Participant P stated, *disability stems from the failure of a structured social environment to adjust to the needs and aspirations of disabled citizens*, while Participant D stated, *I like Simi Linton's suggestion of attending*



*to the mechanisms society uses to create vulnerable 'others' – rather than vulnerability as a given. The theme of social justice was also carried through the Appreciative Inquiry Discover via the wish to have a fair and just society to the Appreciative Inquiry Dream in the quotes get up stand up, stand up for your rights, Bob Marley, to each according to their needs, from each according to their means, and no one should have so much money they can buy the life of another; no one should be so poor that they need to sell their own, Wilberforce.*

In the *Appreciative Inquiry* Design activity, Group PHOTDB used the Ishikawa (Fishbone) diagram to document their aims, which were *politicisation, there are alternatives* and *dismantle the neo-liberal state*. They approached the task on three levels: macro, meso and micro. The idea for these levels was taken from the information shared by the researcher at the beginning of the activity. The group clearly integrated and used these levels to provide an overarching framework to structure the development of their *Appreciative Inquiry* Design. When Group PHOTBD was asked what would be the first action step, they stated that no group decision had been made but that they would all do what was stated in their *Appreciative Inquiry* Design within their own spheres of influence. This action plan was, therefore, highly individualised and was not refined by the group.

As can be seen from Figure 8.4, political action seems to be a definite theme in the *Appreciative Inquiry* Design taking the form of *politicise causes at community level, be smart about who you lobby in Parliament, and create political and economic alternatives*. This theme of political action emerged from the worldviews of Participants O and D. Participant O stated, *social theory enabled me to see how the personal was political* and *political solutions are sought*, while Participant D stated, *I was a feminist/activist*. This theme continued through the paradigms of disability for Participants H and T with Participant H advocating for activism while Participant T quoted a socio-political definition of disability:

*Disability is removed when disabling factors such as [list given]... are reduced. A lot in common with feminist, racism. (H)*

*Socio-political definition of disability – disability stems from the failure of a structured social environment to adjust to the needs and aspirations of disabled citizens. (T)*

*Political access* is also mentioned in Participant T's concept map. Having appeared in the individual ideas, however, this theme is not carried through the *Appreciative Inquiry*



Discover or the *Appreciative Inquiry* Dream and only re-emerges in the *Appreciative Inquiry* Design.

Associated with this theme of political action is *dismantle the neo-liberal state*. The ideas about neo-liberalism were carried forward from Participant O's worldview through to the *Appreciative Inquiry* Discover and then onto the *Appreciative Inquiry* Design:

*[Worldview Reflection] I lived the Neo-Liberal reforms, user pays, charging for specialist's appointments, prescriptions, the rationalisation of health care. Public vs Private.... [Three wishes of the Appreciative Inquiry Discover activity] Demise of Neo-Liberalism and replacement with a fair and just society. (O)*

Another idea linked to political action is legislation, reflected in the statements *consistency with key legislation – NZDS & UNROC* and *implementing the enabling legislation that we already have* in the *Appreciative Inquiry* Design. The importance of legislation is drawn from the *Appreciative Inquiry* Discover activity where it was stated that what was important was *inclusion policies local (national) and international*. The group made up of Participants D, S and E also mentioned different legislation in a number of the Timelines, and Timelines and Typology activities. As part of this group, Participant D might well have taken the idea about legislation from the Timelines activity into the *Appreciative Inquiry* Discover or *Appreciative Inquiry* Design.

The idea of *strategic relationships over issues, alliances, lobby groups, strengthen coalitions* and *personal alliances* all point to the importance of developing partnerships with others. This would seem to have flowed through from one of the quotes *no man is an island* in the *Appreciative Inquiry* Dream, which in turn appears to have come from Participant T's worldview, where again the same words *no man is an island* were used. The ideas of *interdependence* and *relationships* also appeared in Participant D's concept map.

The ideas of the importance of individuals was another dominant theme in Group PHOTBD's *Appreciative Inquiry* Design, with the micro level suggestions, *individuals can make a difference, personal alliances* and *speak up, speak out*. The theme of the importance of individuals was also reflected in the action point for the group, which recommended that they should each do all of the resolution suggestions within their own spheres of influence. This theme was also reflected in the quotes, *the power of one, what is the most precious thing in the world? He Tāngata, He Tāngata He Tāngata [the people, the people, the people]*, and *the only way that evil can triumph is for good people to do nothing* from the *Appreciative Inquiry* Dream. These ideas in the

*Appreciative Inquiry* Dream in turn were drawn from the *Appreciative Inquiry* Discover where it was stated, *individuals (especially individual efforts) may have powerful impacts, and their loss from the system can be damaging to the process.*

Closely linked to the importance of individuals was the idea of leadership by people with disabilities, represented by the statement, *strengthen representation at government level* in the meso level of the *Appreciative Inquiry* Design. The idea of people with disabilities being in leadership is a strong theme from Participant H's concept map. This idea was also reflected in the comment *visible participation and political access* from Participant T's concept map.

Overall, it would seem from tracking the ideas of Group PHOTBD that while the ideas of all the members were used in the *Appreciative Inquiry* Dream the ideas were juxtaposed rather than integrated. The emphasis on political action and power relationships in the *Appreciative Inquiry* Design meant that the knowledge product developed by the group mainly reflected the social materialist paradigm and so did not represent an integration of paradigms. Also, from Figure 8.4 it can be seen that while the ideas of Participants H, O, T and D were all integrated into the *Appreciative Inquiry* Design, no ideas were carried forward from Participants P and B. The final action point was also highly individualised and had not been refined by the group. The group did, however, use the structure of the different levels of reality to provide a framework for their ideas. It can, therefore, be seen that Group PHOTBD, rather than developing fully integrated knowledge products, developed ones that either juxtaposed ideas or were uniparadigmatic and did not include some of the members' ideas.

#### **8.3.1.3. Group LEGJ**

All the participants in Group LEGJ documented their worldviews. Participants L, E and J documented their paradigms of disability and Participants L, E and G documented their concept maps. Group LEGJ developed two group knowledge products during the *Appreciative Inquiry* Dream and the *Appreciative Inquiry* Design activities.

Group LEGJ's activity for the *Appreciative Inquiry* Dream was an unspoken role-play in which they all joined a circle in the midst of the bigger group. Some of the group faced inwards, some out, some to the side. At the centre was the Circle of Friends statue with a candle in the middle that was taken from the reflection table. Once their circle was formed they then kept inviting others from the wider group to come and join the circle

and the circle enlarged. There were no words spoken by group members during the activity. At the end of the activity the group gave the following summary.

*People were invited to join circles not squares. People were allowed to go in and out as they chose. Can be facing in or sideways or however. Whenever guys stepped out, like XXX came out with me and the circle grew and came bigger again. No one was excluded, no one put in a corner. Not intentional, just happened. Invited but didn't have to join. (Summary of activity given by Group LEGJ)*

The idea of *tolerance* from Participant G's concept map and *acceptance* from Participant E's concept map were both reflected in the *Appreciative Inquiry* Dream through the idea of all being invited but free to express individuality by standing sideways, backwards or facing inwards.

Group LEGJ's *Appreciative Inquiry* Design activity was not structured around the Ishikawa (Fishbone) diagram but statements were placed on post-it notes and grouped together on a sheet. Although no overall aim was written on the activity sheet, the core theme, as described by Participant E, was citizenship.

*The core central theme here was around achieving citizenship – 1) from a legal perspective Top down 2) from an individual perspective Bottom up. Citizenship and being part of a society is dependent on knowing rights (arrow) a central depository. You don't know what you don't know. So the development of a central depository - legislation but of who is who and what they do and how they are linked. Taught about in schools – in libraries – 101 things you didn't know that you needed to know. (E)*

The statements *citizenship guaranteed, supported and connectedness, natural networks*, and *strengths collectivity and flexibility* represented the themes of citizenship and belonging. As shown in Figure 8.5, this theme of citizenship flows from the inclusivity of the circle that was the group's *Appreciative Inquiry* Dream. Citizenship can also be clearly traced from Participant L's concept map where they stated, *citizenship leads to social participation, civic participation and community participation* and then through one of the Timelines activity sheets where Participant L stated, *revival of the notion of citizenship, social inclusion*.

When asked what the first step was going to be, the group commented that this would be the development of an information portal. They also stated that none of them had the technical skills to undertake the task and so they would need to find someone who could help with this aspect of the action point. The concept of the information portal picks up on the theme of access that is mentioned in the following statements from the *Appreciative Inquiry* Design. These statements include *resources, multiple connection*

points – signposts to different systems, first point of contact, open access to information, access point, open access to experiences, and open access to information. This idea of access again flows from the open invitation to join the circle in the *Appreciative Inquiry* Dream but did not really appear in the *Appreciative Inquiry* Discover activity for Group LEGJ as shown in Figure 8.5. The idea of access would seem to have flowed through from the paradigm of disability of Participant E where it was stated, *disability removed by equal opportunity, access*, which they also shared in the Timelines and Typology group made up of Participants D, S and E.

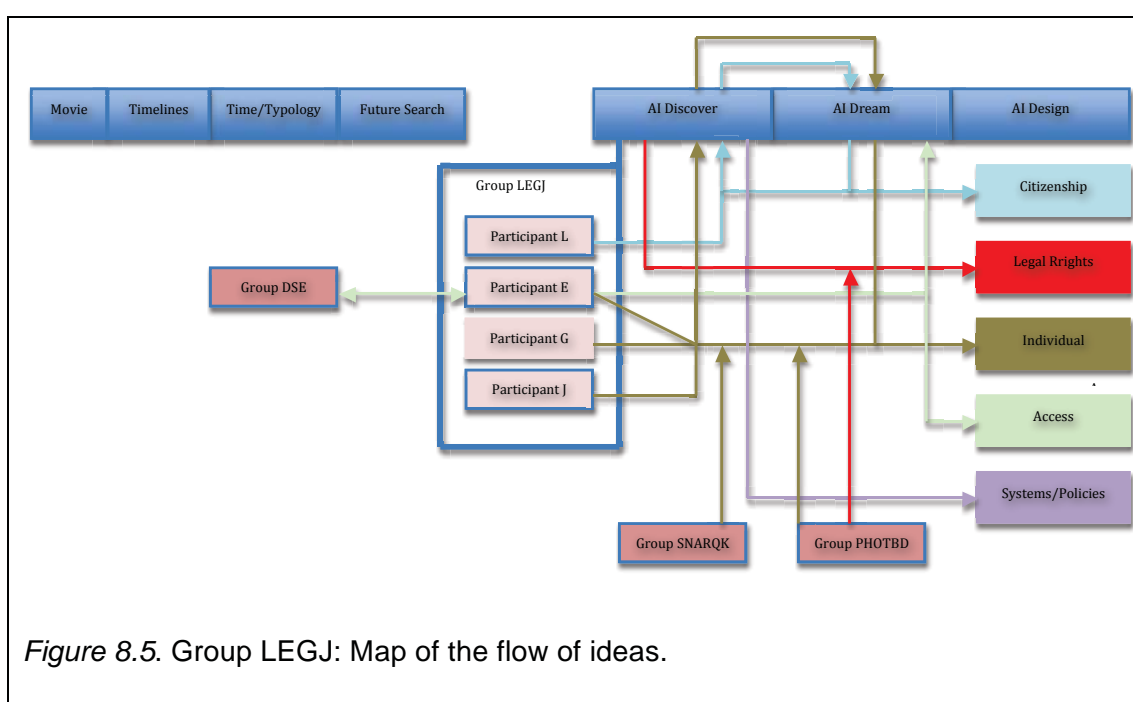


Figure 8.5. Group LEGJ: Map of the flow of ideas.

Knowledge of Legal Rights was also a dominant theme in Group LEGJ's *Appreciative Inquiry* Design, represented by the statement *rights and experience*. This theme picks up on many of the entries on the Timelines, and Timelines and Typology activities and appears in Group LEGJ's *Appreciative Inquiry* Discover activity in the comments *rights, justice, fairness* and *stand up for what important*. It also reflects the quote *stand up for your rights by Bob Marley* from the *Appreciative Inquiry* Dream of Group PHOTBD.

The idea of the importance, strength, resilience, and courage of individuals is expressed in Group LEGJ's *Appreciative Inquiry* Design in the statements *self-responsibility, strengths building, building on current strengths of capacity, strengths, willingness, empathy* and *courage*. This theme of strength and resilience was reflected in multiple sources, for example, *focus on strengths* was found in Group SNARQK's *Appreciative Inquiry* Discover. The statement *history despite its wrenching pain cannot*

*be unlive*d, but if faced with courage need not be lived again was found in Group PHOTBD's *Appreciative Inquiry* Dream. *Courage* was also stated in Group LEGJ's own *Appreciative Inquiry* Discover activity sheet, while *sense of self*, from Participant G's concept map, was carried forward to the *Appreciative Inquiry* Discover activity. *Self-efficacy*, *being brave*, *empathy* and *self-determination* were carried forward from the *Appreciative Inquiry* Discover to the *Appreciative Inquiry* Design activity.

Overall, it would seem that the *Appreciative Inquiry* Dream for Group LEGJ was a cohesive concept that used ideas from the group members. The group not only incorporated others into their activity but also used an artefact from the reflection table as a metaphor for their *Appreciative Inquiry* Dream. The *Appreciative Inquiry* Design further developed the concept from the *Appreciative Inquiry* Dream and incorporated the ideas from all of the group members as well as the activities and ideas from both Group SNARQK and Group PHOTBD. The *Appreciative Inquiry* Design integrated three of the four paradigms described by Priestley (1998), with the theme of legal rights reflecting the social materialist paradigm, the theme of systems reflecting the social idealist paradigm and the focus on citizenship and the individual's strength and resilience reflecting the individual idealist paradigm. The action point from the group was refined and determined by the group but the *Appreciative Inquiry* Design did not use the levels and scales or the Ishikawa (Fishbone) diagram to structure their ideas.

#### **8.3.1.4. Summary of Group Knowledge Products**

In summary, it can be seen from this analysis of the knowledge products that while there were no large group knowledge products the ones developed by the small groups integrated ideas from multiple sources. These sources included participants, other groups' knowledge products and ideas; knowledge shared in the group activities, activity themes e.g. *Happy Feet*, and levels and scales of reality, and artefacts e.g. the Circle of Friends. It can also be seen how ideas were shared and developed throughout the activities provided. Two of the Groups, SNARQK and LEGJ, were able to build on the abstract concepts developed for the *Appreciative Inquiry* Dream activity in their *Appreciative Inquiry* Design activities and then outline a clear plan of action to deliver their dream. Groups PHOTBD and SNARQK used the structure provided e.g. the Ishikawa (Fishbone) diagram to structure their ideas and knowledge products, while Group LEGJ used their own methods. Three of the resultant knowledge products developed by the groups reflected an integration of three of the paradigms from Priestley's (1998) typology. The individual materialist paradigm was not present in any of the knowledge products.

### **8.3.2. Collectivity of the Group**

The next evaluative criterion, based on the primary indicator of cross-disciplinary collaboration, to be considered is the collectivity expressed by the large and small groups. The collectivity of the large and small groups was evaluated using the participants' journals and assistants' observations.

#### **8.3.2.1. Collectivity of Large Group**

Three of the participants and one assistant considered that a sense of collectivity within the large group occurred over the course of the weekend. For example, Assistant Purple observed that there was a cohesiveness in the group that allowed them to work and face frustration together.

*Atmosphere was one of a cohesive group working to use an opportunity to tackle frustration together. (Purple)*

Participant G considered that she was very much part of the group and was able to move and work with the different individuals in the groups.

*Felt included in all group work and able to move and mix with different groups and strengths. (G)*

Participant N also thought that there was a sense of collectivity and belongingness that reminded her of other groups that she had been a part of.

*Great. Felt a bit like my consciousness raising (feminist) groups in some ways. Was looking forward to it on an ideas level and really feel at the end of it would love to rejoin and extend it. (N)*

The development of a large group identity was also confirmed by Participant I who returned at the end of the weekend after having been ill.

*From the outside coming in, there does seem to be cohesiveness, a sort of intimacy. The groups who presented appeared to be very together, and a whole-group level of together. (I)*

#### **8.3.2.2. Collectivity of the Small Groups**

Two of the small groups, SNARQK and LEGJ, expressed a level of collectivity. For example, there was a clear sense of group cohesion described in the metaphor and the words of the song used in Group SNARQK's *Appreciative Inquiry* Dream through the concept of *village* and the use of the collective word *we* in the song. Participants of Group SNARQK also confirmed the collectivity of the group, as described below.

Participant R considered that there were no boundaries during the *Appreciative Inquiry* Dream activity and the group worked together as a cohesive whole. They considered



that the group's way of working was an example of the vision itself. Participant A also considered that the dream was a shared idea.

*It was good pursuing the discussion from last night and brainstorming our vision – there were no boundaries in the discussion – all participated fully with no debate – almost a ‘shared vision’. Some participants who have previously shown strongly held often opposing perspectives during discussion were open and accepting and we were all on the same track in pursuit of this vision. The group work was in some ways demonstrating the vision – all abilities were valued and respected and contributions embraced – a good team effort. (R)*

*A real good activity ... group really shared ideas about the dream. (A)*

Participant N agreed and thought that the *Appreciative Inquiry* Dream was not only a good metaphor for inclusion but was also an example for how inclusion could work.

*I felt when we performed it, if we can do it here, then that is a microcosm of a neighbourhood that cares for each other and builds on its strengths ... each neighbourhood is manageable, lots of neighbourhoods makes a city, nation. (N)*

Participant K also agreed, stating that the process was transcendental and a good example of cooperation where all voices were engaged and heard.

*It was hopeful. The collaboration aspect was good. It was good that we had a disabled person in our group to contribute her perspective and dreams rather than us able-bodied people assuming on ‘behalf’ of disabled people ... I would say our process was transcendental and humanitarian rather than disciplinary as we related and engaged as people, rather than through bodies of knowledge. (K)*

Members of Group SNARQK also showed their collectivity in their decision-making and the collective refining of their action point as described by Participants Q and N below.

*We decided that practically the idea of safe neighbourhoods where people take a genuine interest in others and feel safe and able to participate would be a practical way to start. Also an employment based conference where ‘talents’ could be sought for the purpose of collective capabilities in the disabled community. This is to re-think the idea of what ‘jobs’ are liked or viewed as – so as to allow for more opportunities based on talents rather than traditional vacancies. (Q)*

*Checks and balances on practical steps from persons with disability issues and others, lesser extent disciplines. (N)*

Unfortunately, no journal was collected from Participant S. This participant did not hand the journal in at the weekend and despite reminders never sent it to the researcher. It is, therefore, not possible to tell whether or not they also thought that Group SNARQK achieved collectivity.

Group LEGJ also expressed their collectivity. For example, Participant G considered that the group verbalised and acted as a collective during the *Appreciative Inquiry* Dream activity.

*Although we had all verbalised our different dreams we developed an unspoken role-play that was both individual and collective in presentation. Although stated differently very similar in story behind our dreams. Believe it allowed (gave permission) for some of the group to verbalise a far larger 'dream' that they would usually talk about ... When people are passionate and supported to engage then dreams become reality. It was almost as if no disciplines existed just human beings who looked positively to a future, where who you are, is celebrated rather than what you are. (G)*

Two other participants in Group LEGJ expressed this sense of collectivity and that there was consensus and an integration of ideas.

*Transdisciplinary – integration of all thoughts. (E)*

*During the process of coming up with the role-play the group process was important because we all have different ideas about the perfect world. Whilst we had limited time to come up with a presentation, we were able to agree on the circle. This is quite a fruitful exercise even though we have come from different disciplines but when it came to the ideal world we all seemed to agree on a few visions and elements. Perhaps the notion of transdisciplinarity has been evolved to a stage that if there was no boundary we feel the freedom to explore. (L)*

### **8.3.2.3. Summary of Collectivity of Large and Small Groups**

Overall, from this consideration of the collectivity expressed by the groups it can be seen that the large group and Groups SNARQK and LEGJ all expressed a level of group identity and collectivity during the *Appreciative Inquiry* activities. However, Group PHOTBD did not express any level of collectivity.

### **8.3.3. General Secondary Indicators**

A number of other factors of a general nature that do not relate to particular phases of the approach emerged that could be considered secondary indicators that cross-disciplinary collaboration occurred at the weekend as detailed below. Some, such as work satisfaction, wanting to explore other methodologies and opportunity to network, were identified in the literature review and some, such as benefitting from the experience and on-going impact, emerged from the thematic analysis.

#### **8.3.3.1. Passion and Commitment/Work Satisfaction**

Three of the participants also considered that the weekend helped them to re-prioritise and reignited their passion and commitment for the topic of inclusion.

*Hearing other people's priorities/suggestions for change reminded me of things that need to stay 'on the shopping list'. (D)*



*Perhaps reignited a passion for seeing improvements from the status quo for people who are challenged, and a potential idea for addressing this. (R)*

*[Think differently] Not hugely except that I feel more committed and enthusiastic about creating alliances and working nationally in the disability context/movement. (K)*

Assistant Purple agreed and thought that being part of a group may have also encouraged the participants to see the possibilities for action.

*Just maybe the weekend has increased levels of optimism or 'can-do'. Participants encouraged knowing a wider group there for reinforcement. (Purple)*

#### **8.3.3.2. Identify Areas for Further Exploration**

Participant J enjoyed the weekend and wanted to explore other methodologies further.

*I enjoyed the play of ideas and I think we came to a useful point. There are definitely ideas I can take away. I will look to find out more about Appreciative Inquiry. (J)*

Participant L also considered that she wanted to explore some of the ideas further.

*Personally I came away feeling that I need to explore some of these issues or terminologies in my own time and see how I would re-position myself. (L)*

#### **8.3.3.3. Enjoy Opportunity to Network**

Many of the participants expressed that they had enjoyed the opportunity to network with others, sharing experiences and ideas, such as Participants L and A. Participant A, in particular, thought that they left richer from the experience, while Participant G had found it a humbling experience.

*I enjoyed the opportunity to be able to attend the workshop and listen to other people who are passionate about their work. (L)*

*Overall – very big thank you for the invitation and thanks to all who supported the weekend. I appreciate the opportunity to be part of the process and have felt that I have made the most of the opportunity to contribute and I know I am going home richer for the experience. (A)*

*Great weekend with such a diverse and passionate group of people. Was great to sit and listen, interact and debate with such a group is both humbling and enjoyable experience. (G)*

#### **8.3.3.4. Benefitted from Experience**

Participant N considered that the benefits of the weekend made up for the personal costs.

*Was not looking forward to it in last few days b4 – used humour to get thru that in my desperation to get ready. However, I was more than repaid for the cost to me, and my family by the extraordinary hospitality, aesthetics and thoughtful observations from Julia and her team of support people. (N)*

#### **8.3.3.5. On-going Impact**

Three participants thought the weekend had the potential to have a lasting impact on the disability field in New Zealand and hoped that the ideas generated would be acted upon.

*While I hope this knowledge is useful for you Julia and I personally have been delighted to be part of it. I would hate to think this is where it stops. (H)*

*I hope the conference idea is developed to become a reality. (R)*

*Fantastic project – changing the face of disabilities. (Q)*

#### **8.3.3.6. Summary of Secondary Indicators relating to Overall**

##### **Process**

Although these secondary indicators do not directly demonstrate that cross-disciplinary collaboration has occurred, they do help to support the primary indicators and demonstrate that the weekend had a positive impact on the participants, could have an impact on the New Zealand disability field and/or gave pointers for further exploration.

#### **8.3.4. Summary of Whether Cross-disciplinary Collaboration was Achieved**

From the findings in this section, it can be seen that although no large group knowledge products were developed a sense of collectivity was expressed indicating that some level of cross-disciplinary collaboration may have occurred within the large group. The findings from the small groups indicate that Groups SNARQK and LEGJ did develop knowledge products, which integrated ideas from three of the four paradigms of disability that emerged from the group discourse and not just from one individual, and demonstrated a level of collectivity. It can, therefore, be stated that, despite one group only juxtaposing ideas and not achieving a level of collectivity, the approach designed in this study did help to promote cross-disciplinary collaboration within some of the small groups. These findings are also supported by the findings relating to the secondary indicators that showed that the weekend event had had a positive impact on the participants and had the potential to contribute positively to the disability field in New Zealand.

### **8.4 Hindrances and Potential Hindrances**

There are a number of factors that emerged at different times during the weekend that hindered or had the potential to hinder cross-disciplinary collaboration. These will be reported in this section. They were drawn from the journals and observations and emerged during the content and thematic analysis.

#### 8.4.1. Individual Challenges

Three participants found that they were personally challenged by the activities at the weekend, which impacted their ability to fully engage. For example, Participant C stated that they found developing a concept map challenging.

*Find the idea of concept mapping difficult: not a visual learner, find it visually confusing.... Did enable reflection on social inclusion and the complexity of a truly inclusive society. (C)*

Participants L and O, on the other hand, found the Timelines activity a challenge.

*The timelines exercise was quite a challenge on an individual basis because of all the historical specific events and also the discipline specific.... Perhaps I felt a bit embarrassed that I did not remember much of the key dates. (L)*

*Initial panic – would not remember details but stunning exercise the combined knowledge of the groups really impressive. (O)*

Assistant Orange observed that some participants found the *Appreciative Inquiry* Discover activity challenging, which was confirmed by Assistant Purple who observed that it took some of the pairs a while to start interacting.

*Bringing it back to the personal having to share experiences hard for some easy for others. (Orange)*

*Pairing up – a couple of awkward starts but 5 mins in all OK. Half hour later 2 pairs still not connected but talking, 2 dominated by one person. (Purple)*

Participant O also noted that they had difficulty finding a positive story for the *Appreciative Inquiry* Discover activity, while Participant T also commented on their partner's inability to think of a positive story.

*Found it hard to think of a positive story. (O)*

*In my partner, it brought out a negativity for her present and appreciation for a past opportunity. Fascinating that a glass-half empty person could turn such a positive exercise into a negative – from hope to no hope – from the socio-political system's enlightenment to the doom of a political announcement. (T).*

Participant Q, on the other hand, found being interviewed a challenge.

*I preferred to do the interviewing than discuss my story although the story was easily received. (Q)*

Participant A also had trouble identifying a positive story, which they considered detracted from the exercise.

*Process is real interesting. I had a problem identifying a key scenario, which detracted from the exercise. Once again this provided a personal challenge in that it caused me to identify a situation, which was really outside my normal mode of working. (A)*

#### **8.4.2. Individuals' Bias**

Individual biases that originate from individuals' worldviews were also found to hinder the cross-disciplinary process. For example, Participants R and Q in Group SNARQK found that while the listening was respectful during the *Appreciative Inquiry* Discover activity, sometimes the person recording the shared ideas changed the meaning.

*Listening and respect for the views of others was evident. However I did notice that some views/statements lost meaning in the process of being recorded by the scribe who interpreted into own words at times. (R)*

*The group work was less enjoyable – I found the person writing the content of the stories was re-writing an interpretation of the narrative, which didn't reflect what was being said – how often does that occur when working with people! (Q)*

#### **8.4.3. Disciplinary/Paradigmatic Parochialism and Imperialism**

Disciplinary/paradigmatic parochialism and imperialism were both evidenced at the weekend. For example, disciplinary/paradigmatic parochialism was evidenced during the Timelines activity when one of the participants recorded in their journal that another participant had stated, *health and nursing have nothing to do with disability*, which surprised the participant.

Disciplinary/paradigmatic imperialism was also evidenced. For example, two participants, although accepting some of the merit of the other paradigms and their role in adding knowledge and understanding to the topic, still thought that the social materialist paradigm should be prioritised. Participant M, for instance, stressed the importance of the social model.

*Critical realism, which allows for the body and impairment makes the most theoretical sense BUT must not abandon the social model because the non-disabling society is a more important goal than long tracts on the subjective experience of impairment or disability. (M)*

Participant I agreed with Participant M and again prioritised the social model despite holding a holistic and complex paradigm of disability.

*An observation from one other of your participants (said some years back) is that one can operate from a 'more comfortable paradigm' but see that another paradigm is a good platform for political change. I have come to agree.... So while I may have a more complex paradigm of disability – one that I find more intellectually and morally honest and not focused solely on disability, but how disability intersects with/interweaves into the other bits of my identity, I know that I will use the social model paradigms politically as they deliver more of the change we all require. (I)*

Evidence of disciplinary/paradigmatic imperialism also occurred during the development of the ground rules. For example, one participant was not happy to have voices that they thought to be wrong being considered 'valid'. Another participant,

however, considered that *people should be free to say what they want to say*. Someone else thought that there needed to be a *balance ... [and] if something is factually wrong ... [people should be free to] politely contest*. As Assistant Red noted, *a good number were going to enjoy being heard*.

Participant G noted that it was interesting to see how different participants dealt with the different perspectives.

*As an observer of people interesting to observe other's level of comfort if views differ from their own. (G)*

For example, during the Timeline activity Participant E noted that *people are secure and comfortable when they have a stance/position they believe in*, while Participants O and E felt affirmed when perspectives agreed with their own views during the *Future Search* activity.

*The argument of the individual materialist being the default position was very interesting/accurate analysis.... Exposure to constructionism gives people something to think about. (O)*

*Drs role play and critique of medicine – group affirmation of this an eye opener, did not think that this would be such a shared view – affirming. (E)*

One participant also thought that other peoples' perspectives needed to be changed.

*Think rehab/disability studies and the students/practitioners that they teach need to be political/politicize. (O)*

#### **8.4.4. Miscommunication**

Miscommunication was found to occur during the weekend due to a lack of clarity around definitions of concepts and instructions for the activities as considered below.

##### **8.4.4.1. Lack of Clarity about Concepts**

Participants R and G considered that there needed to be greater clarity of the terms and definitions used particularly around types of cross-disciplinarity.

*Perhaps some definitions displayed. (R)*

*Felt at times though some words were used that myself and others had difficulty understanding what you meant or wanted – discipline (multi, trans, inter – good examples of this). (G)*

Participants C, N and E also struggled with understanding the typology and the language used to describe some concepts during the Movie activity, which impacted their ability to interact and engage in the cross-disciplinary process.

*Struggle with the way models are presented: Would have needed more time to digest the models and the language of the models to gain from and participate well in this. (C)*

*Need more time to assimilate. Interesting, not yet contributing as I'd like. (N)*

*Language and even concepts, which are familiar, may take others longer to grasp. Frustration as trying to gain an understanding of others understanding of the concepts – Maybe everyone there already knew this typology? Maybe a bit more time might have helped this as takes time to feel comfortable. (E)*

Discussion during one of the assistants' feedback sessions, the observations of Assistant Brown and the reflections of Participant B also confirmed the lack of clarity around concepts during the Timelines and Typology activity.

*Cross over of theory and lack of definition of meaning. More meaning and understanding of the personal rather than the theory. Group more accepting of the personal. (Brown)*

*Great activity. Enthusiastic sharing and discussion. We stuck together as a group. Loved the process. Not sure I learned too much – was struggling to digest concepts and voice my own thoughts in the group. It did solidify what I already know. (B)*

As expressed by Participant B above, this lack of clarity of concepts was found to hinder engagement in some of the activities. Other examples are when Participant I struggled with the concept of worldview and spent time reflecting on the concept itself rather than expressing their own worldview and when Participant C found the lack of understanding of concepts impacted her ability to engage in the cross-disciplinary process.

*I am finding worldview a difficult concept to get my head around – I can't really work out why, and I'm not convinced it is startlingly relevant. It may become clearer as I think/talk about paradigms etc. (I)*

*I am very out of touch with the academic jargon and rhetoric and am finding it very difficult to engage with ... the language used in defining concepts rather than the concepts themselves denoted the difference (C)*

#### **8.4.4.2. Lack of Clarity of Instruction**

Assistant Brown and Participant J considered that engagement in the activities could have been improved with better instructions.

*I know it is hard to do but being crisper and more precise on instructions for the various activities might have been helpful, including the time available – perhaps an instruction sheet at each stage (as was done for the Dream) ... a worked example of an Ishikawa (Fishbone) diagram might have been helpful ... one observation: groups got a little confused in putting together the data from the interviews because the interview question asked the 'core thing' but the data collection sheet asked for 'core values' ... importance of sending groups off with a clear idea of timeframe for activity. (Brown)*



*I struggled a little to grasp the overall shape of the weekend and would have benefitted from a more thorough introduction to the purpose, process and concepts being used. I think others may have grasped this more easily since they are more immersed in academia. (J)*

The impact of the lack of clarity relating to the instructions was also confirmed by Participants G, L and A and Assistant Red during the *Appreciative Inquiry* Discover activity. They considered that more direction was needed and that this lack of clarity detracted from undertaking the activity.

*As this maybe something new for some more time and how AI works and how you story it. The feelings of the event would help – easy to link events to future happenings and get off track. (G)*

*I have never done a particular exercise using AI so I was actually quite looking forward to learning more about AI. It would have been good to have more foundation knowledge about AI. I thought the exercise of the interview was quite interesting but I was having some difficulty with just focusing on the event, rather than how the story begins and the process led to outcome of afterthoughts. (L)*

*It looked simple at first but there were probably too many questions to really get a quality input. The interviews are a good idea but probably need more direction/experience to maximise the potential. (A)*

*Some reluctance to getting started, maybe they didn't clearly understand until they talked to each other. Once they got there was good interaction. (Red)*

Participant G found that a similar lack of understanding about how to use the Ishikawa (Fishbone) diagram also hindered the process during the *Appreciative Inquiry* Design activity.

*Required us to adapt our thinking if we were to utilise the design provided. Limited exposure in the group to using this model – also limited group to six links to reach goal. (G)*

#### **8.4.5. Lack of Relationship Building**

Participants K and J considered that the participants would have interacted better if more time had been spent at the start getting to know the other participants and hearing their stories at the beginning of the weekend.

*I thought time spent at the beginning getting to know each other could have been greater and would have moved us to a place of positive interaction much sooner ... a greater emphasis on letting people feel comfortable with each other. (J)*

*Spent more time sharing and hearing other people's personal stories and about their working and activist activities. (K)*

#### 8.4.6. Dominant Voices

Participant E considered that the social idealist paradigm of Priestley's (1998) typology was a dominant voice at the weekend and they wondered which voices were not engaged or being heard.

*Query as someone new to this area, is it always the same people speaking. Whose voices aren't being heard? Are the advocates really the advocates or those who think they know best? I guess if put into a typology Social Idealist re this research says ... or this is what x people want – but on what basis are these judgments requests made. Conversely should only people with the disability have the right to speak e.g. family have the experience too. (E)*

Assistant Blue also commented that there were some voices that were not being heard in the Timelines and Typology activity.

*There was commonality but it was presented as 'taken for granted', ideas rather than critical. [name]'s point re inclusion was a clear critical, analytical point, others were not as clear. The disciplines did work together on this but there was some silence in the room so not sure what the quiet people thought about the discussion. (Blue)*

Assistant Brown and Participant B confirmed this lack of contribution of some group members of Group PHOTBD during the *Appreciative Inquiry* Design activity.

*While presenting this it was clear that there are strong emotions of frustration etc. at work here from some in the group. Not sure how much [name] buys into the political change, 'hegemony of the neo-liberal approach' view. He was effectively an observer during the presentation. (Brown)*

*I was in the wrong group. This process amazed me. I was so excluded and uncomfortable within our group. During our presentation I felt so unwell and needed to sit and was told 'we are all tired' WOW! What happened to accommodation? Acceptance? Choice? (B)*

Participant B considered that it was the rehabilitation voice that was not being heard, valued or indeed understood.

*I have heard over and over again this weekend that 'I don't believe in rehab' or 'Hey, you are rehab, but we actually agree on some things'. Yet no one has asked what rehab is, or does. I never sought to find the boundaries of various disciplines this weekend – almost didn't seem relevant, but others kept pointing out the boundaries they assume exist. (B)*

Participant R also confirmed the silencing of the medical/rehabilitation voice during the Timelines activity. They considered that there was a strong opinion in the group that thought that nursing and health had nothing to do with disability.

*Beginning the process and deciding on a discipline, on suggesting 'health' or 'nursing', one participant said very strongly that had 'nothing to do with disability' which I found remarkable. As a health professional I believe almost every individual with whom I interact has an impairment – be it temporary or*



*permanent. Perhaps others develop their perspective from negative encounters with support systems? (R)*

Another voice that was recognised as being absent was the Māori voice, as stated by Participant T.

*Is Kaupapa Māori [Māori ideology] a discipline to be multi – inter and or transdisciplinarity. If so there was no such voice in our weekend. (T)*

#### **8.4.7. Tension Between Perspectives**

Tension between the perspectives was found to hinder the cross-disciplinary collaboration during the Timelines and Typology activity. For example, Assistant Brown and Participants E and D considered that this activity raised emotions, highlighted the differences in perspectives and raised the tensions between conflicting discourses.

This closed down some of the dialogue, thus hindering cross-disciplinary collaboration.

*I noticed during the reporting back that the emotional level started to emerge. Disagreements were backed up by feelings about personal experiences. At this stage came the first challenge to the process in the sense of [name] challenging Priestley's typology. (Brown)*

*More aware of conflicting discourses. The activity really allowed for talking with and amongst different people but we were all seeing different trends. (E)*

*The dialogue worked reasonably well at fostering connections until one particular analysis was cast as 'Academic Wanking'. Lost interest after this – went from feeling interested and invested to turned off/tuned out. (D)*

Participant R agreed and considered that the Timelines and Typology activity encouraged participants to strongly express their points of view.

*Rather than working across disciplines this activity seemed to provoke a small platform for 'soapboxing' in the feedback session. However, the group discussions were interesting at times as people shared and elaborated on emerging themes. We need to use terms that Joe Public can relate to for change to occur. (R)*

Participant P recognised the tension during this activity and how the dialogue was cut short.

*Difficult process – interesting how most groups recognised similarities across the spectrum. However – debate re language and perspectives cut short (Marxist – 'simple' – post-structuralist). (P)*

Participants T, P, D and R recognised that the tension was mainly caused by the difference in power differentials between theoretical and practical knowledge.

*If there was a disparity, it was between theorist and practitioner – pure researchers and practice based researchers, university employee and agency employee. These were the worlds that separated. (T)*

*Group work as before, general consensus but noted the great sway of academic input from 3 of the 6 members ... Interdisciplinary – interesting split between academic – service disciplines. (P)*

*I didn't pick this up from others – apart from the early accusation of 'academic wanking'. (D)*

*I am interested in the terminology used on various spreadsheets and thinking how the reality of disability discourses can be drowned in academic terms and explanations. This was beautifully summarized in the last presentation with the term 'Academic wanking'. (R)*

The tension between the theoretical and practical knowledge was also evidenced in other participants' reflections. For example, Participant N questioned the need to always refer back to theory and Participant B considered they got lost in the theoretical discussions and wanted more action.

*Do we need to refer back to theory each time to achieve this? Know that is not popular with some of the others here. (N)*

*I did see some groups organise themselves into proposing action. I was lost in the theoretical discussions and would have fared better in a group, which had some action in mind. (B)*

#### **8.4.8. Process Conflict**

Process conflict or disagreement with the process was also found to hinder cross-disciplinary collaboration for some participants, as expressed by Participant O.

*I found this exercise really difficult – my discipline is taught not to be prescriptive – unintended consequences of human action and all that. (O)*

Participant O went on later to explain this further and how towards the end of the weekend they had a better understanding of the whole process.

*Initial mystification as to the point of the exercise, structured dialogues – not enough time to talk/debate/engage around issues. Dislike for AI process probably didn't help – resistance. See AI [Appreciative Inquiry] as part of the neo-liberal agenda – its not the fact that you are poor, oppressed and discriminated against that is the problem its your attitude towards the fact that you are poor, oppressed and discriminated against. Individualised/depoliticized oppression blah blah blah But actually I started to get it by mid Saturday – thought that some of the exercises were really useful – the timelines and the criticisms of the role plays – some of the criticisms could be clearly identified as coming from a particular disciplinary standpoint and I really enjoyed the dialogue among the participants. (O)*

Participant L, while frustrated by the *Appreciative Inquiry* process, was keen to learn more about the methods.

*Whilst I was frustrated with the Appreciative Inquiry method I am very keen to explore this further by looking at more research and literature about AI. (L)*

Participant I, on the other hand, considered that the set questions in the paradigms of disability activity led the responses in a particular direction, a direction that they did not adhere to.

*These are really questions that are focused on finding a particular kind of answer. They derive from seeing disability as an individual problem.... Disability is discrimination and exclusion if a real definition is needed. The cause? – stinking thinking. (I)*

Participant H considered that the typology was biased, which impacted how some engaged in the process.

*A couple of people in my small group didn't contribute a lot and I wonder if this was because of the original framing of the typologies – they are quite disability focused. I wonder if that entirely fair on our rehab colleagues? (H)*

Participant O also struggled with the personal on-going reflections preferring to reflect while in discussion with others.

*Found the reflecting questions hard – I'm not a spontaneous thinker, like to compost issues – enjoy collective discussion bouncing ideas off the group. (O)*

Participants P and Q also preferred debates and expressed a desire for more.

*Greater lead in time more open debate about aims, meanings, overall direction etc. (P)*

*Possibly more group (larger) discussion around the philosophical ideas underpinning our beliefs and processes. (Q)*

Participant J agreed and considered that there needed to be more discussion around the different disciplines that were present to help illuminate the different perspectives and aid interaction.

*I remain unsure about this. I think that because the disciplines were not really articulated it was difficult for us to know where others were coming from. (J)*

Assistant Brown also wondered if a discussion on the disciplines might have been helpful to the process.

*I wonder if this might have been even deeper if there had been a discover stage, with interviews, specifically on one another's disciplines and paradigms. (Brown)*

Participant B also agreed and expressed throughout the weekend that there needed to be more discussion around the different disciplines that were present to aid understanding of the different perspectives. In the end, however, Participant B considered that not having this discussion might have been ideal.

*We should know each other's disciplines so we can learn about the context of different views. Communication was frustrated – not sure we knew where each other came from. [After the Movie activity]... Still not sure the disciplines people are connected with. But it is clear that there is not always a shared vocabulary between disciplines. People found their voices, tried to find common ground with others and then mapped shared concepts. [After the Timelines activity] ... lots of sarcasm in the role-play so I don't know where others actually place themselves in the paradigms [After the Timelines and Typology activity] ... for the most part I think disciplines were not acknowledged in formal activities. People seldom acknowledged their own discipline ... No body seemed to claim any particular worldviews. In private discussion I could not get anyone to claim one either. Maybe that was ideal. Had us discuss issues and strategies not typologies [Final reflections]. (B)*

One participant also noted that there had been no discussion around the disciplines or the boundaries between the disciplines and wondered if the process was in danger of developing a discipline that had no substance.

*Our group took the opportunity to explore our disciplines – our common experience and our different experiences – would it have been different if we had been asked to describe, explain, justify the foundations of our professional/discipline? I'm not sure we've done this yet. How strict/impermeable are the boundaries between the disciplines present in the room and between the quadrants/typologies? A useful heuristic – but in danger of constructing a 'straw discipline'? (D)*

#### **8.4.9. Lack of Time**

Four of the participants considered that there was not enough time for the different activities, which hindered the cross-disciplinary process. For example, Participant D considered that there was not enough time to undertake the Timelines activity.

*Potential for X disciplinary – but not enough time yet to look at other tables/discipline tables. Get some sense that the same events influenced people in national and global timelines – but would like time to hear how. (D)*

Participants N and R also considered that time restraints were an issue and hindered the creativity and full participation of the group.

*Time allowed for development of the vision perhaps restricted the creativity of the group but we quickly pulled a poem together. (R)*

*Time pressure GRR! Not endless but just a little more if you want full group participation. (N)*

Participant P also expressed that time was an issue and that more time was needed for debate, reflection and drawing conclusions.

*Insufficient time to debate further ... More time needed! ... gradual emergence of a main aim/goal. Process adequate in time available, but as before, too hurried (for me) to draw well argued conclusions. More time needed to think and reflect. (P)*

#### **8.4.10. Tiredness**

Tiredness on the Saturday evening was also considered to hinder the cross-disciplinary process. For example, Assistant Red considered that the participants were tired by the time they got into the small groups, which was confirmed by Assistants Blue and Purple.

*Felt they had run out of steam once they went back into groups (Red)*

*Flagging energy levels yet seemed to still be trying really hard to keep going. Groups still functioning and listening to each other. (Blue)*

*Group of six clearly out of energy. Die hards only ones really enthusiastic. (Purple)*

The tiredness of the group was also expressed by Participants L, P and A, which Participant L considered was the reason for finding the task challenging.

*When it came to the big group discussion, it was even more challenging to put down key points in those headings. Perhaps it was because I was getting tired and couldn't think clearly. (L)*

*The summary group – some difficulty in extracting key points. General group fatigue and dropping productivity. (A)*

##### **8.4.10.1. Summary of Hindrances and Potential Hindrances**

Overall, the findings indicate that individual challenges and bias, disciplinary/paradigmatic imperialism, miscommunication, lack of relationship building, dominant voices, tension between perspectives, process conflict, lack of time, and tiredness all impacted the cross-disciplinary process and hindered or had the potential to hinder cross-disciplinary collaboration.

This chapter has considered whether or not cross-disciplinary collaboration has occurred and the factors that hindered or had the potential to hinder it in this study. The next chapter presents the findings from the study on the different phases of the approach and the factors that promoted them.

## **Chapter 9:      Phases of the Approach and What Promoted Them**

### **9.1 Introduction**

This chapter presents the findings on the different phases of the approach. The chapter is divided into sections that correspond to the phases of the approach designed in chapter five and applied in chapter six for this study. These phases are 1) building the environment, 2) initiating the intra-individual process, 3) preparing to build a common goal and vision, 4) building a common frame of reference, 5) developing cross-disciplinary understanding, 6) redirecting tension, 7) building collective constructions and identity, and 8) preparing for collective action. Each section considers the evaluative criteria derived from the aim of the phase, and some of the secondary indicators identified in the literature in chapter two, and the factors that helped to promote each phase. The findings are taken from the journals and observations.

### **9.2 Phase One: Building the Environment**

The evaluative criterion for this phase was to consider if engagement in the inter-individual process occurred. The aim of this phase was to build a conducive physical, social and intellectual environment that helps individuals engage in the inter-individual process. The secondary indicators that related to this phase were that participants felt safe to challenge others and take risks, had greater tolerance for others, developed better interaction and built relationships. This section also considers what factors helped to facilitate this engagement.

Generally, it was considered that the participants engaged well at the weekend. Assistant Brown noted that participants engaged in cross-disciplinary dialogue at the weekend, while Participant E considered that they were drawn out of their comfort zones.

*Cross-disciplinary dialogue. The structured activities made this safe to do.*  
(Brown)

*The weekend overall was good. For me it took me out of my comfort zone – getting to know strangers with common interests. Felt very welcomed – which made group interaction work.* (E)

Although Participant B considered that engagement fluctuated over the weekend Assistant Light Blue thought that by the end of the weekend the participants were fully engaged.

*I withdrew and then engaged again several times over the weekend and saw others do the same. (B)*

*Did their reflection over morning tea and straight into the exercise – there is synergy/people are connecting and seem to quickly understand the task. Feels seamless. Amazing! Even reminded you about the reflection. They are engaged!! (Light Blue)*

Factors that were found to develop this engagement in the cross-disciplinary process are outlined below.

### **9.2.1. Characteristics of Participants**

There were a number of characteristics held by the participants that were identified as helping to promote engagement in the cross-disciplinary process as described below.

Participant R and Assistant Blue considered that having a good balance of participants who held a wealth of knowledge was important to the overall process and helped to facilitate engagement. Assistant Light Blue agreed and considered that the participants were also willing to share their knowledge and brought their own creativity and skills to the activities, which again helped to promote engagement in the cross-disciplinary process.

*Good balance of participants. (R)*

*You have the right people in the room – there is a wealth of knowledge in the room. (Blue)*

*People have brought their creativity, their skills, their knowledge and they have been prepared to share all of this with each other. It has enriched the stories we heard them exchanging info/resources. (Light Blue)*

Participant K considered that motivation to come and share was also important to how participants engaged in the cross-disciplinary process.

*Actually I think there is at least one and maybe more participants who have come here because they wanted to cross boundaries and gain from the benefits of that for them as a person, their thinking and work. I also had the same motivation for coming wanting to learn about other disciplines and teach/share mine. (K)*



Participant R also confirmed that motivation was an important factor in engagement while Participant A demonstrated an openness and willingness to learn and be stretched.

*There is significant value, I feel, in being open to this extension of self in our constant and ongoing learning and personal development. (R)*

*Overall it was a very positive experience, which pushed me out of my comfort zone. However, I felt safe and my opinion respected. In the various groups there was a high tolerance for the opinion of others and a good understanding of each other's views. This led to a really positive and exciting dialogue. I believe that I have learnt from the experience and have attained a wider perspective on disability issues. I have probably taken home more than I contributed. But I do feel that my attendance has assisted with the overall development of the project. (A)*

It was also noted by two of the participants that having traversed a number of perspectives before or having a worldview that bridged a number of paradigms also meant they were more willing and able to engage in the inter-individual process.

*The age and experience of most of us means that we've traversed more than one way of thinking/working already. (D)*

*I think from having been spending time and doing activities with the other people here that although we are diverse in the places that we come from, our biographies, work situations, disciplines for those of us who come from an academic background are different – what we have in common already or to a large degree is what you might term as a transdisciplinary worldview. It appears to me that all or most of the people here have been through a personal or professional journey in which they have questioned the hegemony of traditional ideas about disability and have transcended those in their lives and work (or try to).... So in terms of how this group is working in relation to their disciplines I think that all or most of us who came had already begun a journey of critiquing society, ourselves and our workplaces. (K)*

Participant D also goes on to demonstrate how this traversing of different perspectives is a reality in their own lives and how their 'transdisciplinary worldview' has evolved due to different education and life experiences.

*A lot of us bring a number of identities to the weekend – a professional – or otherwise discipline bound identity – is not one that has been to the fore for me this weekend.... I think we heard some new ideas/pieces of information but not sure if there were any epiphanies. I recognised some of my ways of framing problems had changed over the years and I've learned to ask different questions to the ones that were deemed core/central to my initial profession/discipline (the 'scientific practitioner'). As a new professional my focus was on the micro – now I look at connections – the complex web of relations – that criss-cross micro/meso/macro. I don't know if I always had access to the info/understanding of 'big picture' as a beginning professional and have grown. (D)*



Participant K, in particular, thought that the ability of those who were used to crossing boundaries had a significant impact on the engagement in the study and that a consideration of this characteristic would be helpful to further research into cross-disciplinary collaboration.

*Possibly what we might bring to a discussion of how to encourage, support and facilitate people to transcend their disciplinary boundaries and to work collaboratively for a better world is contained in our personal stories of what brought us to the realisation and commitment to 'boundary cross' and work for social justice or in relational ways or however we conceptualise our purpose in work and in life.... We have a lot to learn from each other I feel. When I say our personal journeys I also include our working/activist/professional lives and an examination of how and why we have 'boundary crossed' what helps/hinders that etc. (K)*

Participant D also commented that it was the individual's desire to know and understand how people think that helped to facilitate the inter-individual process.

*Still not sure how disciplinarity figures/shapes how this 'works'. I suspect when our small groups – presenting back to whole group 'clicks' it's because, regardless of our discipline, we're interested in what people think and why they think that way. (D)*

In summary, these findings indicate that having a good balance of participants who had a wealth of knowledge, creativity and skills, were motivated to share and learn, had previously traversed a number of perspectives, and had a desire to understand how other people think helped to promote interaction and engagement in the cross-disciplinary process.

### **9.2.2. Quality Facilitation**

Another factor that helped to build the environment and promote engagement in the inter-individual process was the quality of facilitation, as expressed by Participant Q.

*Group interaction was safe and well facilitated. (Q)*

Other participants agreed and considered that the weekend was fun, productive and professionally facilitated and that although the pace was quick it helped participants to engage and kept the cross-disciplinary process moving.

*Facilitation was professional and appropriate to make the activities both fun and productive. Very well planned and supported weekend of inquiry. (A)*

*The weekend was well structured and organised. Pace quite quick but meant we got through a lot and didn't become mired in a particular issue or debate – yet people got to have a say. (O)*

Although, as discussed in chapter eight, the participants considered that a lack of clarity in instructions for some of the activities hindered the cross-disciplinary process,

Assistant Light Blue considered that the explanation of other activities was clear and helped to facilitate the process.

*Did really well at explaining the timelines and resisting being too directive so that they could keep an open mind on this – excellent. They got straight into the exercise. A good explanation of Whole Systems Change approach and Appreciative Inquiry. (Light Blue)*

Assistant Brown, when considering how some activities were dropped due to tiredness or time restrictions, thought that the flexibility of the facilitation was also important to meet the needs of the participants, create a safe environment within which the participants worked and maintain participant engagement.

*I think the weekend went well overall. It was important to be flexible about the process to negotiate between the needs of the participants and the purpose of the weekend. (Brown)*

In summary, these findings demonstrate that quality, professional facilitation that was flexible enough to adapt to changing situations, that provided clear instructions and provided an environment of fun helped to promote engagement in the cross-disciplinary process.

#### **9.2.2.1. Good Hospitality**

Participants K and D considered that the overall hospitality provided at the weekend helped them to relax and set the scene for engagement.

*It was very hospitable and comfortable. (K)*

*The hospitality and welcoming vibe was amazing. I think this set the kawa [protocols, customs]. The whole team made us feel comfortable and valued – it was truly a pleasure to support you and your PhD journey. (D)*

Assistant Light Blue agreed and thought that the interaction and engagement started from the moment the group got together due to the hospitality that was being offered.

*Useful to have people come to one place to work together. I noticed the 'bonding' that took place as people arrived – your point about hospitality. (Light Blue)*

#### **9.2.2.2. Overnight Stays**

Five of the participants considered that the two overnight stays helped the group to connect as well as allowed for a depth of discussion and the time necessary to undertake the work.

*[Two nights] Yes necessary as warm up so time consuming plus 2 days essential to get thru exercise. (N)*

*Residential meant a full focus over extended period of time. (T)*

*[Two nights] Yes I think it did. It is a difficult balance having sufficient time to fulfil what was required in terms of the work but also having time to connect. It was about right. (H)*

*[Two nights] I think it helps ... we did work together better over time. (J)*

*The opportunity to get together over the longer period made the depth of discussion possible – we could check in with someone about something we heard them say – seek more information. (D)*

### **9.2.2.3. Type of Activities**

A number of activities were found to help promote engagement in the inter-individual process. For example, as was discussed in chapter eight, disciplinary/paradigmatic imperialism emerged during the ground rules activity that occurred at the beginning of the weekend but was dealt with by the group discussion and the parameters for the interaction developed by the group that encouraged engagement by all. The ground rules developed by the group were as follows:

- Confidentiality
- Respect
- One person speaking clearly at a time
- Cell phones off
- Say what you think
- Allow others to voice views
- 'Play the ball not the player' (not personalise)
- Provide each other with a safe place
- Pull one another up on ground rules
- Respect rights of others
- Seek to understand not necessarily agree
- Listen to one another and get informed.

Assistant Blue observed that the ground rules helped to develop an environment of respectful listening, while Assistant Red thought that the quality of the ground rules developed was unusual for such a new group.

*Ground rules established respectful listening. (Blue)*

*Some really good rules came forth with passion, which I found unusual so soon into a session. (Red)*

Assistant Brown thought that the Movie activity was a good way to start the weekend, as it not only helped to stimulate engagement in the cross-disciplinary process, but was also enjoyable.

*Good to see the participants clearly engaged – smiling, laughing etc. But also taking notes, engaged in relating movie to typology. (Brown)*

Assistant Red considered the Timelines Activity stimulated interaction.

*The interaction was amazing. People worked together to understand dates and events. There was some laughter and tension between them. Very relaxed.*  
(Red)

Participant C, on the other hand, thought that the nature of the role-play in the *Future Search* activity helped participants to interact and engage.

*Taking on the role of the model is helpful. Strongly taking the roles mitigated against multidisciplinary. This activity was stimulating and engaged greater enthusiasm for the issues than previous exercises.* (C)

Participant E considered that by the time the group had been working together on Sunday they were more relaxed, which helped them to share more freely. Participant H also thought that this relaxation and sharing occurred due to the nature of *Appreciative Inquiry*. Participant G thought that the *Appreciative Inquiry* Discover activity was non-judgmental and allowed people to share and understand other perspectives.

*Now we are starting to relax we can all share opinions more freely.* (E)

*I think this mainly because of the design of AI and the people involved.* (H)

*[The activity was] transdisciplinary as no judgment was placed on people's stories or interpretation and embraced what was happening for that person at that time.* (G)

Participant B considered that the creative activities helped participants to engage and brought them together, while Participant A considered that the creative activities helped people engage and move out of their comfort zones.

*The energy that came from the skits and group presentations seemed to bring people together.* (B)

*Some of the creativity of the presentations was fantastic and allowed people to move out of comfort zone with confidence.* (A)

In summary, the Ground Rules, Movie, Timelines and *Appreciative Inquiry* activities helped to facilitate sharing, respectful listening and engagement in the cross-disciplinary process. In particular, the creative activities helped people to move out of their comfort zones, the Movie activity was fun and enjoyable and the *Appreciative Inquiry* activities were non-judgmental and allowed people to share and understand other perspectives.

### 9.2.3. Small Group Characteristics

The group work was also found to help facilitate the engagement in the cross-disciplinary process, as can be seen from Participant R and E's comments.

*Group work – encourages cross-fertilisation and a snowballing of ideas. (R)*

*The first night was definitely more difficult. I guess that many people in the room already knew each other from previous experiences. This may have made the people more confident. I think the group work by Saturday afternoon was when I started to relax more. (E)*

Assistant Blue considered that the mixing of the groups in the earlier activities was essential to the facilitation of the cross-disciplinary process. Assistant Orange agreed and considered that the mixing up of the participants in the groups helped to promote engagement as it pushed people out of their comfort zones.

*Mixing groups at all points was essential to the process. (Blue)*

*Yes – by Julia mixing the groups and not allowing them to choose made them have to work together on another level stepped out of their comfort zones and be more productive. (Orange)*

Participant K considered that the variety in the size of the groups was important and helped to facilitate engagement, while Participant Q found the small group work to be particularly productive.

*I liked the variety of being in the big, smaller groups, individual reflection and pair 4 appreciative interviews. (K)*

*The small group work was useful and focused. (Q)*

The effectiveness of the groups to engage seemed to be very context dependent. For example, Assistant Purple identified that the groups that engaged well were not dominated by certain individuals.

*Obvious difference between groups (disciplines) one very cheerful, one quiet, one serious, one vocal. 2 groups dominated by individuals, cheerful group not. Groups working mostly within one discipline. (Purple)*

Participant N confirmed Assistant Purple's observations and stated that the degree of cross-disciplinary dialogue and/or agreement that occurred was very individual/group dependent. One interesting comment from Participant N is that they thought that more agreement was held on global issues rather than disciplinary issues.

*Interesting to think that which table you started at may have affected conversations. Even though disciplines were grouped together differences emerged here whereas starting at global table pulled us together (we talked and got each other started). (N)*

It was also interesting to note from Participant N's comments that part of engagement being group dependent related to the focus of the group, the global being easier than the disciplinary.

When participants moved onto the Timelines and Typology activity from the Timelines activity they seemed to feel less comfortable and tended to break up into smaller groups, with some taking longer to get started than others. In the same way as the previous activity, participants seemed to find more agreement working on global trends rather than the more detailed disciplinary themes, as expressed by Assistants Red and Brown and Participant H.

*It was noticeable to see the difference between the disciplinary groups and the global and national groups that had people from different disciplines. (Red)*

*During the activity per se the participants seemed to initially engage within their disciplines, aside from the group that tackled the global trends. This group took a long time to get anything down. (Brown)*

*In the small group session we quite unconsciously came together because the group I was in was interested in a general topic rather than specific disciplines – I was in the global group. Transdisciplinary, without doubt. We transcended the traditional boundaries in a most unusual way. Wherever we came from we agreed on general themes. I think my main learning was KISS, keep it simple stupid, works well when dealing with a diverse range of people. (H)*

The Timelines and Typology activity also seemed to spark a shift in the way the groups worked with participants taking on different roles within the groups. Some participants were beginning to feel safe, more relaxed and able to contribute and some leaders or more dominant voices were beginning to emerge, as detailed by Participant G and Assistant Brown.

*The most animated led the discussion. For others they appeared satisfied with the outcome. Multidisciplinary approach in some groups where everyone was valued and encouraged to participate. Interesting to see the roles people took up in their group throughout the process. What was brought out to me was both hope and despair is evident – we move but not always forward. (G)*

*Once one person took 'charge' group dynamics changed – better interaction energy level takes over and get some separate conversations happening. (Brown)*

In summary, it can be seen from these findings that mixing of the group members and changes in size of groups helped to promote engagement in the process. It was also found that this engagement was very context, group and task dependent but that when

the task was at a more generic level, as people got to know one another, and felt safe and more relaxed, and when someone took up a leadership role that engagement increased.

#### **9.2.4. Face to Face Nature of Event and Physical Environment**

Participant H considered that the physical proximity of participants at the weekend helped participants to engage and led to deeper levels of conversation and interaction.

*I think the personal face-to-face connections and conversations were incredibly valuable because it allowed for depth of conversation. (H)*

Other participants considered that the physical aspects and comfort of the venue were conducive to the work.

*Overall peace and tranquillity of the place. (A)*

*I liked how the rooms and meeting place were close together. (K)*

*The venue was appropriate and comfortable. (J)*

*Surprised by the physical comfort of the place. (N)*

*Location was most appropriate and facilitated the work. (A)*

*The common meeting room with a kitchenette and fireplace area was good. (A)*

*Thought venue very appropriate ... from place of El Rancho to an understanding of who uses the facilities. (G)*

#### **9.2.5. Safe Relational Environment**

It was generally considered by the participants that a safe environment was created at the weekend that helped them to engage, take risks and share stories.

*Atmosphere was relaxed and friendly...and helped people to express both beliefs and experiences. (Q)*

*I felt welcomed and safe. Thank you Julia for making my stay warm, welcome and enjoyable. (L)*

*Loved the weekend Julia. Thanks for creating a safe place for us to share our stories and ideas. (O)*

*I felt welcome, safe and able to express my point of view. (R)*

*Yes I was really looking forward to the weekend and also felt apprehensive about disagreeing with people over an issue that is so close to my heart and life – similar to the feeling I get before IEP meetings – the change happened very*



*quickly, almost as soon as I arrived and especially after breakfast on the first morning. (K)*

Assistant Orange thought that the safe environment helped to build an environment of trust that allowed the participants to be willing and open to share and accept other points of view. Assistant Blue considered that these safe and trusting environments helped the participants cross boundaries.

*I think they have come to an understanding of others, how they work. Comes about when we have a sense of trust with those around, gain the ability to be more open, accepting and willing to share. Creating a safe environment. (Orange)*

*In safe and trusting environments [the participants] were able to move across boundaries. (Blue)*

#### **9.2.6. Informal Times**

Many of the participants found the informal times were fun and helped to facilitate engagement in the process by giving the individuals time to reflect, regroup and discuss issues in greater depth. These times were also found to develop trust and allowed people to be comfortable with one another.

*Informal times together, great to assist with trust, comfort etc. (J)*

*[Liked best] Having a break time on Saturday for networking and a rest. (K)*

*The 'break times' were fun and facilitated some relaxed non-focused discussion. The intensity of the various activities required some downtime. (A)*

*Quite convivial – 'enjoyed the downtime' to regroup/rethink, discuss in greater depth etc. atmosphere fine, friendly. (P)*

*Informal chats fun and enjoyed. Helped to surface thoughts, feelings, humour and camaraderie around issues. (Q)*

Participants K and R highlighted the mealtimes as being times of fun and relaxation that allowed individuals to get to know one another and interact better.

*The informal times definitely impacted how people understood and worked together – meal times got to know each other a little personally and also met people and had conversations related to daughter's path, and got some references for my PhD. (K)*

*There did not seem to be much informal time apart from meals and they were good for mixing and general discussion. (R)*



### 9.2.7. Building Relationships

It was found that as people relaxed and got to know one another they were able to put their own assumptions aside, start to engage in the cross-disciplinary process and take the risk of sharing. This openness then helped to facilitate discussions.

*Getting to know one another also helped in generating openness in discussion.*  
(R)

*Although everyone shared it was not until people began to relax more did more positive work evolve.* (E)

*As the group became more comfortable with each other we took more risks, shared more easily and developed the ability to challenge positively.* (J)

*It was the coming to know each other that enabled cross-paradigmatic as we could leave assumptions aside.* (N)

Participant G considered that as participants got to know one another there were greater levels of tolerance and appreciation. Participant N found that as they shared stories, deep dialogue was possible.

*The weekend was great as people accepted others for themselves and everybody's views valued and encouraged. Hope others follow their dreams.*  
(G)

*Personal links e.g. shared overseas experience with someone that resulted in deeper layer of sharing the next day.* (N)

Participant H also found that as they connected with Participant E so the barriers between their disciplines came down and they were able to relate person-to-person.

*As Participant E and I walked together we covered a range of diverse topics – some of these topics were quite personal but seemed to just come naturally ... life has moments of complexity but also deep simplicity and at that moment it wasn't Participant E the person from Rehab and [name] from Disability. It was [name] and Participant E seeking to make a deeper and more authentic connection. It was also interesting to me where it happened – outside the formal requirements of the meeting or formal reason for being together.... In order to strengthen professional boundaries, we have to be open to strengthen personal ones just as much.* (H)

### 9.2.8. Summary of Building the Environment

In summary, it can be seen that the aim of the phase, to build a conducive physical, social and intellectual environment that helps individuals engage in the inter-individual process was achieved. For example, participants felt safe and able to take risks and challenge others, have tolerance for others and others' perspectives, improve the interpersonal relationships, and build relationships over the course of the weekend. The findings suggest that the mix of participants, their motivation, 'transdisciplinary

worldviews', and openness; the physical environment, the face-to-face meetings and overnight stays; the quality facilitation, good hospitality and type of activities such as the Ground Rules, Timelines, *Future Search*, *Appreciative Inquiry* and, in particular, the creative activities; and the size and variety of the small groups helped to promote this phase of the approach.

### **9.3 Phase Two: Initiating the Intra-Individual Process**

The evaluative criterion for phase two of the approach was that the intra-individual process was initiated. The aim of the phase was to help stimulate critical self-reflection in order to help reduce disciplinary/paradigmatic parochialism and imperialism. The secondary indicators that related to this phase included participants being open and able to reflect on their own assumptions, and being surprised and challenged as they considered other perspectives.

Participants G and H reported that the weekend had helped them reflect on their own assumptions and experiences and where they positioned themselves in terms of thinking about disability.

*For myself it has helped me redefine what my impairment means for me and to reinforce how I see the world. (G)*

*This weekend has certainly made me think very deeply – not so much about the inclusive society but about where I actually sit in terms of disability rights and my activism. (H)*

Participant B was surprised with some of her reflections.

*Wow. I am gobsmacked. Disability has such positive connotations for me that this never occurred to me. Sometimes I forget how far we have to go in this world in terms of difference. (B)*

Participants J and T found that the weekend raised some interesting questions for them in terms of inclusion and disability.

*It raised some very important topics such as, what is inclusion? Do we all have the same picture? And, do we really want it? (J)*

*Does addiction come within the world of disability, included/excluded from the world of disability? Does an interest in one area of disability create 'disturbance' in one as one feels another area of disability is receiving more/less support/resources from another. Does specialisation within a disability create its own silo? (T)*

Two activities in particular were designed to help facilitate critical self-reflection, the Worldview activity and the Paradigms of Disability activity.

### 9.3.1. Worldview Activity

Only three participants, A, B and H, chose not to undertake the Worldview activity. The remaining participants actively engaged in this activity of self-reflection and demonstrated high levels of critical reflection and self-understanding. Two participants in particular were able to clearly and succinctly express their worldviews. Participant E articulated their worldview in a paragraph and Participant C expressed their worldview in a succinct sentence.

Others, such as Participant Q and N, expressed their worldviews as mind maps. Participant Q, for example identified what they considered were the elements that made up a worldview and then used these ideas to draw another mind map of their actual worldview that they stated as an *ontological position that no one truth exists*. This mind map clearly showed the link between the constituent parts and how those parts combined not only in a worldview but also in an ontological position. Participant N, on the other hand, also used a mind map to express different aspects of their worldview but no links were made between concepts, which were just displayed as a page of different values and ideas.

Two participants used stories of their experiences to explain their worldviews. For example, Participant D explained how their experience in rape crisis impacted their worldview.

*I was a feminist/activist in rape crisis for a number of years – I found many of the ideas about valuing/not valuing different bodies to be useful thinking about my work/study. (D)*

Participant R, on the other hand, used their own reflective questions and statements to express their paradigm.

*How has this affected me? I believe I have far greater insight into the culture of Indian registered nurses and students who come here to study. (R)*

These comments above from Participants D and R not only showed that they could articulate their underlying assumptions and worldview but also the influences that they considered had impacted and helped to shape their worldview. Participant O also recognised the factors that impacted their worldview, identifying their academic studies as a major influence on the development and evolution of their thinking.

*I can't emphasise how much Foucault's theories influenced my thinking – how I understand the world. (O)*

Participant J, on the other hand, recognised the significance of their religious beliefs on their worldview.

*The Judeo-Christian heritage informs my worldview, especially more radical theology such as liberation theology. (J)*

Participant R clearly saw how their worldview had changed and evolved over time due to these influences.

*I see my worldview as constantly evolving and changing as life events impact on the maturing (or aging if you like) process. For instance getting married, experiencing childbirth, deaths of close family members, living and holidaying in other countries – all these things influence your perspective on life. (R)*

Participant T demonstrated deep self-reflection and understanding of the impact of worldviews and how, when articulated or understood, they could also be modified in order to be *acceptable* within a given situation. This participant also clearly articulated the strength of certain worldviews within certain disciplines or academic structures and identified the pressure to conform to these worldviews.

*Where the 'school' jars with the student's worldview, the student must accommodate the school's worldview in order to graduate. A student may play this game to graduate but assert their point of difference in future academic practice. (T)*

Participant O also demonstrated deep levels of self-reflection and understanding, combining the Worldview and the Paradigm of Disability activities within a narrative of their own experience. This task was obviously very emotionally taxing for this participant.

*I have to say that I have avoided doing this exercise until I couldn't put it off any longer, composting, what would I say? (write) How would I say it? How much do I want to reveal about myself (need to)? How deep do I want to go – a lot of tears, as old scabs are picked open. A few antidotes seem unconvincing, insubstantial, to lack the ability to convey understanding of how horrific my illness experience was (is?), too much left unsaid, unsayable. (O)*

Participant J made an interesting observation about reconstructing experiences to fit worldviews, in other words worldviews being the lens through which the world is viewed.

*I think we all reconstruct experience to fit with our worldview so it is reinforced, which is why it is so difficult to separate it from reality. (J)*

### **9.3.2. Paradigm of Disability Activity**

Of the eighteen participants who handed in journals, only two, A and G, chose not to undertake the Paradigm of Disability activity. All other participants were able to express their paradigms of disability.

Eleven of the participants used the questions presented in the exercise instructions to frame their answers. Seven of these participants answered the questions as set.

Participant R, however, while using the questions as a guide, framed their answer around a narrative.

*In further reflecting on my worldview of disability, I was thinking about my childhood experiences growing up with a cousin the same age who was, apparently, the smallest dwarf in Australasia at the time. (R)*

Participant H used the set questions but also illustrated the answers with stories.

*I tell that story because I believe it very nicely shows how a support relationship shouldn't happen – but so often does. (H)*

Two participants, O and M, identified how their paradigms of disability evolved from their worldview. Participant M integrated their paradigm of disability with the historical account of their developing worldview, while Participant O integrated it implicitly in their personal narrative and reflections on their own experience.

*Ideas, precious ideas, the ones documented in this journal, shone light on a very dark place – enabled me to breathe again – the power of returning the gaze, of making the doctors/medicine the objects while I claimed the position as subject – a small personal triumph, but so empowering. Thank you Foucault. To feminist theories of the body – through, which I came to understand my own problematic body. And, to Gramsci for his elucidation of the concept of hegemony ... social theory enabled me to see how the personal was political, how my life experiences were embedded in larger social forces that were outside of my control, a kind of liberation. (O)*

As with their worldviews, many of the participants were able to not only express their paradigm of disability but also to explain how their paradigm had evolved and developed. Participant K, identified how personal and work experiences had shaped their paradigm of disability.

*I am a parent of a disabled child, a teacher and researcher in the Disability Studies in Education – inclusive field. These experiences have shaped my paradigm of disability and life. (K)*

Participant M, on the other hand, identified how study had impacted their paradigm and related it to theories, their worldview and their religious beliefs.

*Marx, Freire and liberation theology make strong combination/impetus to get into EJD in church – lots of stuff on Waitangi, optimism of Vatican II ecumenicalism [arrow from left to right] all made a lot more sense to me. Making contact with disability rights activists in early 80s added another strand to social justice bow.... Very much influenced by social model. But my PhD argues there is a gap insofar as it leaves the body out. (M)*

Participant I reflected their paradigm by expressing how they would like to see the situation for people with disabilities.

*We want to lead our own lives. We want to lead the services that we use. We do not want others to know what's best for us. We want real change to the relations of power, not fancy words that just give same old same old. (I)*

Participant P was slightly different. Rather than expressing their own paradigm of disability, they represented their understanding of adaptation to disability in a diagram. The degree of disability was expressed as a continuum from fully disabled/unadaptable at one end to fully adaptable/fully able at the other end.

### **9.3.3. On-going Critical Self-reflection**

In line with the interactive nature of the intra-individual and inter-individual processes Assistant Red and Participant K considered that critical self-reflection was also promoted through interaction with others throughout the weekend.

*[Critical self-reflection occurred] Because of the interaction with each other at times when they were just chatting i.e. breaks, meals and walking to and fro. (Red)*

*I have re-learnt the power and importance of coming together instead of working and living in our isolated places. So thank you for giving me/us this opportunity and facilitating activities that have brought us together. (K)*

The fact that the intra-individual process was promoted through the interaction with others is also evidenced through the reflections on some of the weekend activities. For example, two of the participants recognised the wealth of information that was available and undertook critical reflection on some of the ideas that were raised during the Timelines activity.

*Revealed wealth of information in the room. Does addiction come within the world of disability. (T)*

*Ideas from own and other tables helped to stimulate own thinking. (P)*

The *Future Search* activity also engaged the participants in high levels of reflection and thinking in relation to the paradigms and the complex issue. For example, it can be seen from the journal entries below that the activity stimulated Participant T's group to think deeply about the power imbalances in society and the training and workforce development opportunities and Participant C considered how the paradigms operate in New Zealand.

*Confirmed the power imbalance present in our society around disability. Unfortunately, most of the resources are now politically funnelled through the individual materialist model. In science ('material' as opposed to 'social')*

*technology there is money to be made through innovation application of 'discoveries' into non-medical applications. After our work together we talked of the current reality in academia around training opportunities for workforce development – actually there is a SHRINKING resource. (T)*

*Also reflecting where in reality disabled people's experiences fit and how and where each of the models operate within NZ society is something I will continue to reflect on. (C)*

As well as general reflections on the complex real-world issue, the *Future Search* activity helped three participants reflect on their own assumptions, as expressed by Participant D and H. Participant B recognised how their perspectives differed from others.

*Good opportunity to look at the underlying assumptions and 'fish hooks' in the paradigm that I am drawn to. (D)*

*As we were discussing things and concepts in our group I couldn't help reflecting that sometimes as particularly being a young disabled leader I can be sometimes pushed and pulled between two social idealist and social materialist positions – sometimes it takes bravery and courage to be an individual but still be committed to the collective. (H)*

*Great process. I learned more in this session than I had earlier. Really synthesised the paradigms for me. I did think my worldview/paradigm differs from others – but still not sure where others come from. (B)*

Participant N really struggled with the *Future Search* activity but also considered that it initiated them thinking about their assumptions.

*Would like to re-listen now to realign where I am. It took me a lot to take on the role and I needed to be coached a lot and fought to be the extreme of this position. Very uncomfortable and I kept working to let the medics be more reasonable so I guess has confirmed I am not in just one box – but I am in 3 ... had to get into the head of the 4 perspectives.... I want to reread the sheet and perspectives more/see the video again, which I take means that I am less familiar with the ideology of this weekend. (N)*

Participants Q and K also reflected on their own paradigms and concluded that they also adhered to more than one.

*Nursing certainly affiliates itself with the Individual Materialist model although I as a nurse would move around all/many of the typologies in practice. More to leaning in the Individual Idealist to Social Materialist approaches. (Q)*

*I tend to draw from a lot of them (except for the med mod) to critique the medical model/deficit discourses and it helped me to understand them and their implications. The typology comes from one discipline – sociology? I found it helped me to think about the relationships and boundaries between the different ways of approaching disability. (K)*



As well as being stimulated during the activities, critical self-reflection was encouraged after each activity. Participant Q found that the on-going reflection time was useful and gave time to consider the issues in more depth.

*The time to reflect was useful to close off issues and move onto others. (Q)*

Generally, Assistant Purple considered that the participants engaged well with the on-going reflection times.

*People serious about individual reflections – not chatting, except the helper group!! (Purple)*

#### **9.3.4. Summary of initiating the Intra-Individual Process**

Overall, the findings in this section indicate that the intra-individual process was initiated at the weekend and participants were able to critically reflect on their own and others' assumptions and perspectives, issues relating to the complex real-world issue, and consider the complex integrated nature of their own perspectives and how they had evolved. Factors that promoted the achievement of this phase include the Worldview, Paradigm of Disability, Timelines, and *Future Search* activities; the informal interaction; getting to know the other participants; and the on-going reflections.

### **9.4 Phase Three: Preparing to Build a Common Goal and Vision**

The purpose of this phase of the approach was to introduce and frame the complex real-world issue positively and help individuals to consolidate their own knowledge on the issue in preparation for building a common goal and vision. The evaluative criterion for this phase of the approach was that a common goal and vision were developed.

#### **9.4.1. Consolidating Knowledge**

Generally, Participants N, Q and P thought that the weekend helped them to consolidate their own knowledge and thinking.

*Yes I have learned heaps, feel more solid on my own platform. I haven't yet had the conversation with others if they think differently, but I imagine I will tomorrow at work. (N)*

*It's influenced me – particularly service users' views, and re-confirmed my worldview written at the beginning. (Q)*

*It has strengthened my beliefs – values overall. Shared with other academics 'though like attracts like'. Strengthened views. (P)*



The main activity designed to introduce and frame the complex real-world issue in a positive way and help to consolidate the individuals' knowledge was the Concept Map activity. Assistant Brown considered that this activity did stimulate the participants' thinking and prepared them for the next phase of the approach.

*The concept map worked well as a warm up 'got them thinking'.... They were well warmed up for Priestley and for the film!! (Brown)*

Sixteen participants attempted this activity. These participants itemised a large number of different concepts that they considered were important to the facilitation of an inclusive society for all New Zealanders, including those with disabilities. Many of these concepts were similar and had the potential to provide a common base of understanding for the future work together. These concepts were summarised as: a) dealing with diversity such as acceptance and tolerance of diversity, b) democracy and human rights, including social justice, equity and empowerment, c) legislative such as reforms, Treaty of Waitangi, universal design and laws, d) community such as participation and support, alongside values of interdependence and belonging, e) access issues including accessible environments and access to information, f) collaboration and discussion on different perspectives, and g) personal attitudes to disability.

The number of concepts participants placed in the parking lots for inclusion in their maps ranged from six to twenty five. Participants D, E, G, J and T all developed concept maps that were hierarchical and included relationship links. Participants I, K, L, P and R developed maps that included links but the links did not explain the relationships. Participants B and H did not have maps but did have lists that included subgroups, while Participants M and Q had lists that also included links.

The *Appreciative Inquiry* activities also helped to consolidate knowledge of the complex real-world issue. For example, Participant H considered that the *Appreciative Inquiry* Discover activity helped to further consolidate their thinking and reminded them to keep a broader perspective on how and when positive resolutions occurred.

*I am not sure to be honest if this exercise has so much changed my way of thinking or reinforced it. I was, however, interested to hear the story of the participant I interviewed who talked about a very positive access story from before the development of the NZDS [New Zealand Disability Strategy]. This reminded me that we have to be very careful that we don't get ourselves into what I would describe as binary thinking – or perhaps linear – that nothing good happened before the development of NZDS or any other core policy document.*  
(H)

Participant H also considered that the *Appreciative Inquiry* Dream activity helped the participants to consider the wider issues of inclusion as they watched the different presentations.

*Yes I think for me the diversity of expressions and presentations allowed me to think in diverse ways about inclusion – which we can sometimes think of in quite insular ways. (H)*

#### **9.4.2. Developing Common Goals and Vision**

The knowledge products developed in the *Appreciative Inquiry* Design activity by the small groups also reflected many of the themes identified in the participants' concept maps. For example, the themes of leadership and partnerships were found in the knowledge products of Groups PHOTBD and SNARQK; the themes of neighbourhood and citizenship were found in Group SNARQK and Group LEGJ's knowledge products; and the themes of political action, the demise of the neo-liberal state, legal rights, legislation, systems and policies, and power of the individual were found in Groups PHOTBD and LEGJ's knowledge products. This would seem to indicate that the introduction of the positive focused complex real-world issue in the Concept Map activity did help the groups develop a common goal and vision that was similar across the groups.

These findings are further supported by three of the participants. For example, Participants P and K considered that their small groups came together around common goals. Participant N identified these goals as helping this doctoral research, inclusion and improvement for people with disabilities.

*Being together with a common cause worked quite well. (P)*

*[Worked well] Because of the focus on a common issue or vision. (K)*

*The common goal (Julia, inclusion improvement) meant we put other agenda aside. (N)*

The findings that relate to this phase of the approach indicate that participants were able to consolidate their knowledge concerning the complex real-world issue and frame them in a positive way facilitated by the Concept Map activity and the *Appreciative Inquiry* Discover and Dream activities. This helped to facilitate the development of common goals and vision later in the process.

## 9.5 Phase Four: Building a Common Frame of Reference

The aim of phase four of the approach was to help individuals in the cross-disciplinary group overcome miscommunication, share and modify their own personal constructions, and develop a common frame of reference and language on which to build future communication. The evaluative criterion for phase four was that a common frame of reference and language were developed.

As was reported in chapter eight, some miscommunication did occur during the weekend event due to a lack of clarity around definitions and concepts, and instructions. However, other findings demonstrated that a common frame of reference and language were built based on the positive framing of the complex issue from the previous phase of the approach. A number of activities helped to further build this common frame of reference. For example, Assistant Blue thought that the Movie activity helped people to engage, reflect and share common experiences on which to build common ground. Participant H, in the final reflections, thought that the Movie activity was pivotal as it set the scene for the rest of the cross-disciplinary process during the weekend.

*Starting with Happy Feet 'broke the ice'. Common highlights songs e.g. find me somebody to love! – amigos accents, the nasties etc. Helped the listening process – eager to hear what else others might have picked up in the same way 'I did'. (Blue)*

*Yes I think Happy Feet was crucial in this process – it gave people something to think about and reflect on but in a fun and relaxing way. (H)*

Other participants also considered that the Movie activity was a good warm up exercise that helped people to initiate the sharing and analysis of perspectives on which to build further discussions.

*The movie was an interesting focus to our discussions and a good way to 'warm' into the weekend. (Q)*

*Seeing the video Happy Feet from disability perspective set the scene well. (T)*

*Got people to start analysing out loud and listening to other perspectives. Movie a bit long but useful activity to get conversation started. (J)*

### 9.5.1. Timelines Activity

Common ground was found to develop during the Timelines activity as participants considered the same events.

*This activity facilitated a lot of discussion across disciplines – what and who was important changed on different timelines even though it may have been the*

*same event ... so many of the events/acts/laws affected each of us in different ways which resulted in common ground. (E)*

#### **9.5.2. Future Search Activity**

Assistant Purple considered that the *Future Search* activity helped individuals move to a different level of understanding, transcend their perspectives and develop common ground.

*Rebuttal session produced several 'aha' moments, particularly [name]'s group but also rest. At this stage everyone came onto a common footing. Unified in basic belief and purpose and not caught up in personal perspectives. (Purple)*

#### **9.5.3. Appreciative Inquiry Discover Activity**

Participant K, on the other hand, considered that the *Appreciative Inquiry Discover* activity helped to build a sense of commonality.

*It boosted my feelings of hope and community in terms of there being others who have a similar worldview or aspirations for our country and planet. (K)*

Participants D and N considered that the coming together and cross-fertilisation that occurred during the *Appreciative Inquiry Discover* activity helped the group develop common ground based on shared values.

*In the small group follow up I appreciated being reminded of other theoretical lenses to use to interrogate a proposition.... In the small group follow up recognised many similarities in values/3 wishes. (D)*

*Cross-disciplinary dialogue – not at an analytical level – finding common ground for expressing structures, values etc was as close as it got ... identified similar values. (N)*

#### **9.5.4. Appreciative Inquiry Dream Activity**

Participant H considered that during the *Appreciative Inquiry Dream* activity the group started developing a common language.

*I think this exercise was transdisciplinary and was definitely able to connect us in amazing ways but in ways that meant that we talked the same language. (H)*

Assistants Brown and Purple thought that the way the wider group responded to Group LEGJ's presentation showed a strong level of harmony within the large group, possibly facilitated by the creativity of the activity.

*Group LEGJ's presentation created uncertainty as they didn't explain what they were doing or expected of others. But people were willing to trust and joined the circle. Then in the uncertainty again – people who were not part of that group tried to creatively and humorously fill the vacuum. Kumbayah, the Hokey Tokey, circle dance etc. I think everyone thought the ritual focused on the object in the middle of the circle, but in the end the explanation showed it was about the circle and its formation and adaptation. Quite powerful, I think, as people think about it. (Brown)*

*Clear improvement in energy. 'Creativity' boiled big picture down to few elements. Slightly abstract gave interesting result. To those that understood, but to me (on the outside) it was slightly baffling. I suggest this shows a strong group harmony by this stage. (Purple)*

Participant J considered that the *Appreciative Inquiry* Dream activity demonstrated the commonality of dreams held by the group, while Participant L considered it gave the opportunity to think outside the box as a group facilitated by the positive approach to envision a desired future.

*The realisation that there are more of us having the same dreams than we realise and this is exciting. The potential is enormous. (E)*

*Visioning a perfect world was a good exercise as it involved a limitless approach (pie in the sky). It gave us, the group, the 'power' and 'freedom' to think outside the box. (L)*

#### **9.5.5. Appreciative Inquiry Design Activity**

Participants Q and N and Assistant Light Blue considered that there was a lot of energy amongst the participants in Group SNARQK during the *Appreciative Inquiry* Design as they focused on the common goals of the group.

*There was considerable energy towards a common goal of working and living in an inclusive society. (Q)*

*Interdisciplinary? But the edges of differences were not able to be addressed. We were focused on a common task.... Purpose we are here – for Julia for the goal of improving inclusion in society, really made a difference as personal learning gains of a personal/professional nature were not the main focus. (N)*

*Focus on inclusion – felt energized and synergistic, connected 'epiphany'. (Light Blue)*

The findings that relate to this phase of the approach indicate that the group did overcome the miscommunication issues identified in chapter eight and was able to find common ground and a common language, which they used to further develop common goals and vision facilitated by the Movie, Timelines, *Future Search* and *Appreciative Inquiry* activities, and the positive approach initiated in the previous phase.

## **9.6 Phase Five: Developing Cross-disciplinary Understanding**

The evaluative criterion for phase five was that intergroup learning and cross-disciplinary understanding developed. The main aims of this phase were to help increase tension across the different perspectives, stimulate cross-disciplinary dialogue about the different perspectives and develop cross-disciplinary understanding of the interactive nature of the complex real-world issue. The secondary indicators that

related to this phase included participants being open to learning from others, broadening their perspectives and adopting more integrated perspectives on the complex real-world issue, and intergroup learning.

Generally, participants considered the weekend helped them to explore, learn about and re-evaluate other perspectives and that they could use this information in their future work.

*We do have a lot to learn from each other. (K)*

*Yes, in the sense that consideration of other people's worldviews have been surfaced and described so that they can be considered. (Q)*

*Hearing the perspectives and ideas of others was refreshing and will be useful as I participate in the development of a new curriculum. (R)*

Assistant Light Blue agreed and thought that the activities had initiated changes in thinking and helped participants to consider what had already been achieved and what could be used in the future.

*I do think activities sparked changes in thinking. People were open to being challenged and to share ideas. I think it was also a chance to see how much has been achieved and to think about how this can be harnessed to build the future. (Light Blue)*

Assistant Purple observed that some of the participants were surprised by the similarities in the paradigms and perspectives of the other participants as they started to explore them.

*Some surprised to see similarities [in paradigms and perspectives]. (Purple)*

Participant K, on the other hand, considered that the weekend helped to identify the strengths and weaknesses of the different paradigms.

*I think that I tend to draw from each of the three non-medical paradigms in my study and theorising and have been working on trying to combine them in my PhD to critique direct medical approaches. This weekend has helped me to more clearly understand or articulate some of the nuances of each approach and their strengths and weaknesses. (K)*

Generally, Assistants Red, Blue and Orange thought the interactions between the participants had helped broaden their understandings and consider other perspectives.

*I can't say if it made the participants feel differently about disability but I am sure it has broadened their views with a better understanding of others.... I'm sure it has influenced how the participants view each other's perspectives. (Red)*

*May have opened eyes and eyes of mind to other worldviews. Hopefully starting with the individual will keep this focus and act as a stimulus for development. (Blue)*

*Yes enabled them to consider other points of view and experiences. (Orange)*

Participant E considered that while the weekend consolidated their thinking it also led to the understanding that there was more than one way of considering the issue and more than one solution.

*[Did the weekend impact your thinking?] Yes probably or maybe reinforced already held views. There is no 'one solution' and this probably needs to be accepted a bit more. It has possibly helped me to see the gaps, which would possibly be changed a bit more easily and sometimes small changes can lead to big changes. (E)*

Participant B agreed that there was more than one way of viewing the issue and that people could hold different perspectives depending on the context.

*Disciplinary or paradigmatic perspectives became clearer (slightly) to me over the weekend. 'There are other alternatives'.... I'm pretty clear that most of us move through various worldviews dependent upon context. (B)*

Assistant Purple thought that the participants were not only open to other perspectives but also willing to let go of their own perspectives. Participant K agreed and considered that it helped to dispel stereotypes.

*I observed precious little of hanging on to old or cherished perspectives by individuals. (Purple)*

*I think that what I have realised is that there are many good people in those disciplines I was formerly discounting as the 'enemy' on too many levels. I do learn and relearn this lesson regularly ... it seems to be the personal/particular individuals that 'make a difference' and this weekend has been a catalyst for bringing 'isolated individuals' together. (K)*

There were a number of activities that helped to facilitate the cross-disciplinary understanding as described below.

#### **9.6.1. The Movie Activity**

Participants J and N considered that the typology that was used as a meta-perspective did help the individuals and group explore the different perspectives.

*Yes for me the work around the typologies was useful to explore different ways of thinking. Especially helped re-evaluate some viewpoints. (J)*

*As we talked the typologies became clearer and momentum built. Different viewpoints were expressed, attempted to clarify, agreed to disagree, found*



*similarity. One person, spoke of sociological perspective, another strongly theoretical, others thematic leading to learning things as we go along. (N)*

While Participant T considered that the typology was controversial, they still considered that it was a useful way of considering the different perspectives.

*The analytical tool (Priestley's typology) whilst controversial forced participants to see things from one perspective whilst reflecting on the others. (T)*

Participant H considered that the movie did help to prepare people to reflect and helped to stimulate cross-disciplinary dialogue.

*Way people worked changed – Did it help promote cross-disciplinary dialogue. I think most definitely. (H)*

Participant K also thought that The Movie activity helped to spark a different way of thinking about issues, making the 'familiar strange'.

*I think it emphasised that there are different/multiple ways of interpreting a phenomenon (in this case a narrative from a film) and that applying particular lenses/questions/ways of seeing can bring new insights and make the 'familiar strange'. I have seen the movie many times with my children at home and had never looked at it or thought about it in this way.... We had one person in our group from rehabilitation and he was quite quiet during the discussion but afterwards said he was listening to our dialogue because the terms we used and our views were new to him and he found it fascinating – so for him I think it did facilitate cross-disciplinary thinking and issues if not dialogue in the group. (K)*

Participant R thought that the Movie activity and, in particular, hearing other perspectives in the group discussion, helped to broaden their perspective.

*Hearing the discussion was useful as a means of broadening or expanding my own perceptions as individuals interpret events from their experience and background, which may be so different to my own. (R)*

Assistant Blue considered that the use of the movie, in particular a cartoon, helped to facilitate the exploration of the paradigms.

*Use of animation lends itself to the activity – cuteness opens heart doors! Easier identification of character types and situations. Extreme personalities able to be easily portrayed. Cross-disciplinary dialogue encouraged through shared experiences even from different perspectives e.g. ostracism a common experience. Telling a story allows observers to share feelings, events and even to relive own stories. (Blue)*

Participants A, G and T agreed that the Movie activity encouraged them to consider other perspectives and concepts, brought clarity to the paradigms, initiated cross-disciplinary dialogue and helped to initiate discovery of how other participants viewed the topic.



*As someone who works (researches) on the fringe of the 'disability' area my thinking is somewhat superficial and very pragmatic. This activity forced me to think about terminology, philosophy and to actively work to clarify material. I was surprised at the ease in which many/most of the discussion group members 'thought' and were conversant in this terminology – it made for a very rich discussion. (A)*

*Certainly provoked discussion and interesting to note how some people perceive things and also how they analyse them. There was some agreement on the issues but debate over where it sits. (G)*

*Viewing the DVD from a disability perspective. Those of us who had seen the movie before did not think Happy Feet was disabled just 'different'. It came about as a surprise when we considered how he felt about himself when Gloria 'pursued him' and he rejected her... there was energy to meet on common ground rather than focus on own view of life. A willingness to see the other person's perspective. (T)*

Some groups obviously felt comfortable enough during the Movie activity to share their different views and adapt the process to meet the needs of the group. Participant L thought that it was an opportunity to share their worldviews and analysis but was not yet really thought provoking.

*Our group started off following the quadrant but we ended up processing in a more natural way of conversation and discussion and slowly identifying issues not just about disability but also related to the ethno-cultural context. Perhaps a Friday night we were a bit tired and I felt that while the discussion was interesting among ourselves it was not yet thought provoking. In fact it was more like an opportunity for our group to share our worldview and analysis. Perhaps this suits the formation of group and its process. (L)*

#### **9.6.2. Timelines Activity**

Assistant Purple considered that cross-disciplinary understanding started to develop during the Timelines activity. Assistant Blue and Participant R confirmed this observation. Assistant Blue noted that deep levels of sharing occurred during this activity, while Participant R considered that people were still expressing opinions from their own perspective.

*I think cross-paradigmatic opened some eyes. I noticed it in the Timelines exercise and it seemed to cement from there. Remarkably high level of co-operation remembering, doing together inspired better recollection – people giving triggers which allowed deeper memory penetration. Considerable uncertainty at start vaporised later – some surprised folk.... Range from matter of fact to passionate. (Purple)*

*'Lots of laughter and camaraderie'. Respectful. There were some aha moments as people shared their experiences. After 25mins into the exercise I started to hear people sharing more deeply. A quiet descended on the room and I heard people clarifying things with each other – cross disciplines as well. (Light Blue)*

*There was definitely some cross-disciplinary dialogue going on through the shared exercise as people discussed existing post-its but people still on the whole, worked individually. One group chose to move together and put all their initials on each sheet – an example of group work I guess. Overall, it seemed to be a brainstorming activity. (R)*

Participant L, on the other hand, obviously became aware of the great wealth of knowledge held by the different participants during the Timelines activity but was unsure whether or not the dialogue was cross-disciplinary.

*However, as a whole group exercise it was impressive to see the multiple layers of information generated from different people from different disciplines. This is a good knowledge and comprehension exercise. I am not really sure it sparked the interdisciplinary dialogue whilst it was good to see that people have remembered key dates, events and context. But it seemed it was down to committing them on paper (as a stand alone activity). The engagement can be minimal unless you asked questions. (L)*

Assistant Light Blue also agreed that people were still working in their disciplines but that they were beginning to come together. Assistant Brown also agreed that the participants were coming from their own perspectives but that they were willing to listen to each other. Assistant Blue agreed and considered that the participants were also supporting each other well.

*Everyone comes from own discipline ideas ... willing to listen to each other, want to have their own voice heard. (Brown)*

*There were attempts of people coming together sharing ideas/still in their disciplines but good sharing. (Light Blue)*

*Respectful and attentive listening by all, of all. UNITED by a personal story but still from their own perspectives. High energy level in reporting back – supporting one another. (Blue)*

Participant J considered that the Timelines activity was responsible for extending her understanding and encouraging her to consider the broader context of the issue and that she had learnt from others. Participants A and G agreed and considered they learnt a great deal from others and how people view things differently.

*I found it very interesting to hear the similarities between groups. Maybe left me thinking more about broader context of theory development: that is how it fits with broader social and historical events. Enjoyed the activity and learned from others. (J)*

*Valuable experience in itself as it provides a rich historical context.... Feels like I am getting more than I am giving. (A)*

*Refreshed knowledge previously forgotten and also provided insight into how others think, know – made me aware that in some areas I have a lot to learn.... Great experience as people read and discussed what was on post-it notes – also people had similar idea but expressed in very different ways. (G)*

Participant K also considered that they had learnt a great deal and that the Timelines activity was a good way of stimulating cross-disciplinary dialogue.

*Very interesting, yes – I made connections with events and fields outside my knowledge and experience ... reading people's postits created 'cross-disciplinary' dialogue in my 'head'... all contributing from our own areas of knowledge and experience to make a greater 'whole' synergy.... it was informative and enjoyable. This is perhaps a good warm up for dialogue between and across disciplines. (K)*

Participant M found that the Timelines activity highlighted some of the similarities between the disciplines, which drew on similar theorists.

*Interesting and enjoyable exercise. While disciplinary it was interesting to see how Health, Sociology and Disability Studies draw more or less on same theorists. (M)*

Participant M also noted that it was interesting to see how people consider events differently. Participant H, Assistant Blue and Participant L also agreed.

*We all thought the same but different. Useful to see varied ways of thinking e.g. people working in head injury contributed from that perspective rather than activist perspective.... Yes it shows similarity of thinking. And it's important to have the lived experience perspective to balance book knowledge of disability. (M)*

*I was interested in the way we all connected with certain events but from different perspectives – so for example I talked to someone about the personal impact of the 1989 Education Act on me as a student with autism and they presented me with a different perspective as someone working in support services. (H)*

*Everyone saying the same thing but through different perspectives/lenses. (Blue)*

*At one point when someone put down global – death of Princess Diana some people made comments on what was the relevance. It wasn't until another person said P. Diana had done a lot of work in human rights, disabilities, children etc. that it put things into context on the impact she has made, whether before she was a bit of a celebrity or that people really respected her and her work.... The dialogue was quite good, because it put things in context rather than trying madly to write down key events, dates, trends or movements. (L)*

Participant K considered that the Timelines activity also helped the participants consider the intersections and differences between the different disciplines. Participant

O and Assistant Brown agreed that the exercise helped the participants make links between the different disciplines.

*We had a mixture of Disability Studies and Education and Health studies in our group so we talked about the trends as they related to our own fields – we learnt about the intersections, nuances and differences between the disciplines.... It was great I moved over to the national group for a while who were more focussed and that was good to engage with as well. (K)*

*[Cross-disciplinary dialogue] yes, through what other people stickered on the paper and through talking about the different stickers with people ... drew on different disciplines, linked humanities, health sciences, social sciences, integrated different perspectives on the paper. (O)*

*There was some interdisciplinarity emerging in that there was some harmonisation and making links across disciplines. (Brown)*

### **9.6.3. Timelines and Typology**

The findings in chapter eight identified that the tension between the perspectives and the different types of knowledge, theoretical versus practical, were evidenced most strongly during the Timelines and Typology activity. This demonstrated that cross-disciplinary collaboration was occurring. This was also confirmed by Participant L.

*Interesting to see how each discipline interacted with the timeline almost parallel to the context. I really think this was a worthwhile exercise because there was more interdisciplinary and transdisciplinary conversation/discussion. In addition, people were able to choose which group they could go for discussion. Whilst all groups identified similar trends and movements, it was great to see the presentation which strengthened the multi, inter, transdisciplinarity. (L)*

### **9.6.4. Future Search Activity**

Many of the participants and assistants considered that it was the *Future Search* activity where the cross-disciplinary/cross-paradigmatic dialogue and understanding occurred. For example, Participants H and L believed that the cross-disciplinary dialogue seemed to facilitate cross-disciplinary understanding of the different perspectives.

*It was more cross-paradigm discussion rather than disciplinary dialogue in my view, which was Okay. I suspect this was interdisciplinarity because we tried to make cohesive wholes but also in some ways cohesive critiques. (H)*

*Two sociologists and two health science/social background really sparked multi, inter and transdisciplinarity discussion ... how our paradigms shift from different context. (L)*

During the *Future Search* activity, Participants H, C, J, Q, K and N gained greater clarity about the paradigms and Participant L gained a better understanding of

constructionism, while for Participant G's group it helped them study the paradigms at a deeper level.

*I think this exercise showed that we 'got' the typologies as a group at their basic level – which I suspect was the object of the exercise! ☺ (H)*

*Brought the respective disciplinary perspectives into clearer focus. The typologies themselves appear to come from a sociological discipline and the people in the group are essentially a homogenous group in respect of typology so I feel open discursive dialogue is the approach that has been demonstrated in the exercise. (C)*

*This helped me clarify some of the differences within the typology chart. Helped me, and maybe others, think about other positions. Enjoyed the activity as it allowed diverse viewpoints and ways of depicting differences. (J)*

*I found it useful to talk in the group about different typologies. I was in the Individual Idealist group where it was easy to come up with how that typology would 'look to others' but harder to then argue against some of the 'other' typologies when they were presented. (Q)*

*It made me more aware of the stances and lenses of each paradigm and the similarities/connections and differences/divergences and gaping chasms! Very interesting and informative. (K)*

*The makeup of this group provided great discussion around the Individual Idealist model and included some balance in the perspectives. (N)*

*More exposed to constructionism this exercise will give something to think about the body politics literature – felt connected and empowered. Good for understanding challenge to the medical model and the dominant ideologies. Different theoretical underpinnings. (L)*

*The group I was in fitted well with my thinking where you can be what you want (Individual Idealist). Views were expressed that we are more than our disability and in fact it only needs to be considered if I want it to be. All group members embraced this typology. Each member expressed their views and interestingly enough were able to build on each other's experiences. This allowed the group to explore other's views at a greater level. Not sure how the groups were identified but this group all engaged in the role well and obviously have this as their way of thinking. (G)*

This understanding of the paradigms was confirmed by the observations of Assistants Blue, Brown, Purple and Light Blue, who also thought that the groups were working across the disciplines and that they were relaxed, felt safe and enjoyed the activity.

*All groups 'got' the typology and were able to characterise them well but the three with personal stories were more powerful and communicated real understanding. (Blue)*

*All the groups managed to put themselves in role of the paradigm. At least two of them were perhaps in the form of a parody – medical model and cultural model ... laughter during the presentation seemed to be warm, recognising themselves or the situation – rather than uncomfortable laughter of someone taking offense. (Brown)*

*Very creative but highly cynical. Full buy in from groups. All seemed to participate without animosity. No apparent 'disciplinary' divisions. No comments rule interesting – surprisingly well accepted. (Purple)*

*That was a great session in terms of clearly identifying the issues. Great flow through with the exercises building blocks, excellent, showed that cross-disciplinary dialogue could happen when there is safety and trust. People left feeling positive. (Light Blue)*

Being forced to take a stance in the role-play was also found to help cross-disciplinary understanding as stated by Participants A and E. Participant R believed it also provided a good opportunity to visually understand the different paradigms.

*Being forced into a role to make a point found a different way of thinking and the need to 'stand up and take a position'. This forced a clarification of the position in my thinking, an excellent challenging activity ... the sharing and establishing of positions often outside our comfort zone ... a task orientated activity. Time frame forced concentration and strong task focus. (A)*

*This exercise was great as it made us all take a position – stance within a position albeit how uncomfortable the stance was. This task allows for presumptions in a particular typology – whether they are valid is unknown. (E)*

*Being able to role-play provided a good visual representation of the typology. (R)*

Participant D and Assistant Brown considered that the *Future Search* activity helped the participants to operate at a different level of thinking and consciousness, which helped to further develop the cross-disciplinary understanding.

*I enjoyed the encouragement to be creative in how we presented our ideas to the whole group – perhaps this helped to break down any disciplinary boundaries such as they were? (D)*

*Particular response, humour and 'aha's to the feedback from the medical model group – they were provocative in their role-play. One person at the end asked Julia 'it will help me let go of the role play if I know how I was placed in the role play group – so I can let go of my anger.' I thought this interesting – it displayed that although on the surface it appeared that most were still operating at the thinking level, there is engagement now also at the emotional level. So I think back to the laughter of recognition of the parody and with it personal rejection of what the paradigm stands for. (Brown)*



The cross-disciplinary understanding that occurred during the *Future Search* activity also seemed to initiate some deep questions about the nature of the typology and the different perspectives, as expressed by Participant P.

*Struggling to cope with the set typological position – shared ideas helpful – but thinking not really changed. Cross-disciplinary dialogue revealed some shared confusion about the exercise itself. Uncertain about the value of this exercise but found it challenging and thought provoking. (P)*

Other participants, during the *Future Search* activity, also questioned the polarised nature of the typology and how the different paradigms might overlap and that some perspectives might not fit within the typology. Participant A considered that the task of representing the polarised perspectives was hard, whilst still feeling safe and able to contribute.

*Again much discussion around the melding of the typologies and the difficulty of fitting or even being in just one and is it socially/politically/financially correct/advantageous/disadvantageous to be in one or another of the squares. (G)*

*Typology chart/quadrants doesn't necessarily fit with all positions and this was a very useful insight for me. (J)*

*Found this hard. Difficult to express polarised position. But felt very 'safe' working and reporting. (A)*

Participant O considered that while there was good cross-disciplinary dialogue and understanding, no integration of perspectives was yet occurring. However, the disciplinary tensions were still productive.

*We have lots of inter-disciplinary debates re left and right wing politics. No real integration of perspectives – lots of different opinions – not sure I want an integrated homogenous view. Disciplinary tensions are productive. (O)*

Participant R also considered that the *Future Search* activity helped the participants not only explore the different paradigms but also consider how all of them can work to the benefit of those who experience disability.

*The ensuing discussion further muddies the waters about where disability fits in the great national scheme of things. Clearly there are elements of all typologies alive and well depending on the individual, the context and the other players. Some movement is apparent from the medical to the social model but clearly elements of all models are beneficial for individuals and groups in specific circumstances. Working with two persons who are particularly active but realistic about the potential for change was enlightening but also good to know there are such articulate people working for the greater good of the disabled community. (R)*

#### **9.6.5. Appreciative Inquiry Discover Activity**

Cross-disciplinary dialogue and understanding continued during the *Appreciative Inquiry* Discover activity as expressed by Participants P, E and G. Participant J agreed and considered that viewing the topic through the lens of people's stories helped them understand the topic in a different way.

*Cross-disciplinary? Yes useful debate. (P)*

*It was a very open and supportive discussion.... No this activity wasn't so much about disciplines – so then again may be it actually is transdisciplinary as disciplines were irrelevant. (E)*

*[Cross-disciplinary] Definitely as we came together from the different professional bases yet were able to gain an understanding of what was happening and how the person felt at the time. (G)*

*Pleased got to hear real stories and were inspired by them. This allowed different ways of seeing/understanding situations. (J)*

Assistant Orange and Participant R agreed that the *Appreciative Inquiry* Discover activity helped to promote cross-disciplinary collaboration. Assistant Orange considered that it helped move people out of their comfort zones, while Participant R noted that the activity helped with the cross-fertilisation of ideas and the consensus of the group.

*More transdisciplinary with people coming together out of their comfort zones. (Orange)*

*It was great to have a one-to-one discussion with S who was able to provide a simple personal experience of inclusivity from a disabled person's experience i.e. being employed for ability. As a non-disabled person it was challenging to determine one example but I settled on the example of nursing students' placements in a special needs class where the teacher exemplified 'inclusivity' in practice.... The activity in bringing the pairs together did encourage cross-fertilisation of ideas and a need to reach a consensus on values and wishes. (R)*

#### **9.6.6. Appreciative Inquiry Dream Activity**

The *Appreciative Inquiry* Dream activity helped to further enhance cross-disciplinary understanding as it allowed people to think differently, share their ideas, worldviews and disciplinary knowledge at the same time as having fun. For example, Participant E considered that it was as people relaxed and got to know each other that they felt free to share their ideas.

*People brought thinking from their disciplines into the discussion. It certainly allowed for different worldviews and perspectives to be expressed in discussion.... Great way for people to demonstrate their concepts so yes it did*



*allow people to think differently. The discussion prior to demonstration allowed a lot of different views to be expressed. (J)*

#### **9.6.7. Appreciative Inquiry Design Activity**

The *Appreciative Inquiry* Design activity continued to expand the participants' thinking and stimulated cross-disciplinary dialogue amongst Group SNARQK, as expressed by Participants A and K.

*Yes definitely expanded my thinking/views. The futuristic nature of this task led to challenging thinking and debate.... Great activity – promoted creative activities and discussion. (A)*

*We probably had more debates and differences of emphasis and perspectives in this discussion and activity and these led me to think more widely about the issues we discussed. There was cross-disciplinary and cross-experiential dialogue through addressing a shared/common kaupapa from our different biographies, experiences, work situations and disciplines. (K)*

#### **9.6.8. Summary of Developing Cross-disciplinary Understanding**

The findings relating to this phase of the approach indicate cross-disciplinary dialogue was initiated, tension did increase especially during the Timelines and Typology activity, and cross-disciplinary understanding developed. Participants were also open to learning from others, considered other perspectives, discovered the strengths and weakness of the different perspectives and the similarities and intersections between them, broadened their perspectives, engaged in intergroup learning, considered that more than one solution was possible and discovered how the different perspectives could work together. The Movie activity including both the use of the typology as a meta-perspective and the case study, the Timelines, Timelines and Typology, *Future Search*, and the *Appreciative Inquiry* activities all helped to facilitate this phase of the approach.

### **9.7 Phase Six: Redirecting Tension**

The evaluative criterion for phase six was that the group moved towards transformation and change. The aim of this phase was to help individuals focus on positive experiences of resolutions to the issue, start identifying the causal mechanisms that relate to the complex real-world issue, and redirect the tension between perspectives. There were no specific secondary indicators that related to this phase.

Participant N considered that the appreciative stories in the *Appreciative Inquiry* Discover activity were the turning point in the process of the weekend where the tension relating to the theoretical typology that had generated cross-disciplinary

understanding shifted to the positive focused stories that generated a move to operationalising resolutions.

*Way people worked – changed when Dream exercise but the appreciative stories were the link between the more difficult typology exploration and the application of the whole workshop to the dream/fishbone operationalisation. (N)*

Participants N and B confirmed this shift and liked the positive approach of *Appreciative Inquiry*. In particular, they identified that the *Appreciative Inquiry* Discover activity was uplifting and hopeful for the future.

*Was more uplifting than previous exercises! I would have liked earlier. (N)*

*Loved the positive approach. One idea emerged in our didactic – we must be appreciative toward individuals who make things happen. We were both reminded of the ‘Power of One’ and how specific, powerful, hardworking individuals made policies and practices inclusive and enabling, and how vulnerable we are as a society when we let individuals disappear who have passed on their institutional and other knowledge. (B)*

Participant D agreed and considered that the positive approach helped to highlight things that could be used in the future. Participant T thought that it brought a more authentic voice to the dialogue.

*Enjoyed hearing my partner’s story so much! Telling our stories we both commented on how we were taken back to the events/time; and we were mindful of individuals who had supported/made possible/facilitated the experience (and wanting to re-connect to thank those people!). My partner commented that she hadn’t drawn on her previous knowledge/practice as a teacher in a long time – but thought there might be useful things to draw on – in her ‘new’ position as a parent. (D)*

*Dialogue was along personal experience. In the counseling ‘trade’ it was around ‘transference’ even. Interesting when experiencing disability is put into the mix similar to addictions where folk in recovery bring what they consider to be a more authentic voice to the dialogue. The discussion was on the notion of social justice. (T)*

Assistant Brown observed that this shift in tension continued on through the *Appreciative Inquiry* Dream activity.

*Laughs, connection to Happy Feet really great ... it was very clever, especially to tie in the Happy Feet theme. It brought a warm spontaneous response. (Brown)*

The findings that relate to this phase indicate that the shift to the positive focus and the re-telling of personal stories was the turning point at the weekend that redirected the tension between perspectives generated by the previous phase and helped the

participants move towards transformation and change. The *Appreciative Inquiry* Discover activity, in particular, helped to facilitate this redirection.

## **9.8 Phase Seven: Building Collective Constructions and Identity**

The evaluative criterion for phase seven was that collective constructions and identities were developed. The aim of phase seven of the approach was to help the cross-disciplinary group integrate knowledge into a collective construction and develop a collective identity.

The findings recorded in chapter eight suggest that while the large group developed no knowledge products, some level of collective identity did develop. In particular, it is interesting to note the comments of Participant I who, having returned to the large group after having been sick for the majority of the weekend, considered that the large group was working as a cohesive whole. This would seem to indicate that a large group identity was beginning to form.

The findings in chapter eight also identify that Groups SNARQK and LEGJ developed collective constructions and collective identities during the *Appreciative Inquiry* Dream and Design activities. Other bonding of groups was also found to occur at other times during the weekend. For example, the groups that worked together during the *Future Search* activity, as noted by Assistant Red, also developed a level of collectivity.

*It was clear when I walked into one of the rooms that they did not want anyone else in the room. For me I am surprised at how they made it obvious without saying a word, I was not surprised when Julia said they didn't want people popping in and out.... There was good energy coming from all the groups, it was obvious they had worked well together. (Red)*

Six of the participants also found that the group cohesion increased as the weekend progressed, in particular, during the *Appreciative Inquiry* activities. The small group work helped the individuals deal with conflict and start sharing and developing ideas, as expressed by the participants below.

*More cohesion as weekend progressed – more comfort and communication took place. (Q)*

*I think the groups worked really well together. (O)*

*Trust grew within the group over the weekend, particularly once we started working in small groups on Saturday and shared meals. (K)*

*The focused nature of the activities required a strong focus. A very diverse group with the need to get moving quickly. It took some time to get a base level of understanding. The stabilising of group membership in Saturday pm surely led to a good on-going dynamic. (A)*

*Being together for this time allowed 'baggage' to be dealt with – facilitated better discussion. Most apparent with last exercises on Saturday evening. (R)*

*Good to stay with group at this stage as too much down time assimilating (yet I want to know other's ideas). (N)*

The collective constructions and identity were, however, most evident in the small groups during the *Appreciative Inquiry* Dream and Design activities

#### **9.8.1. Group SNARQK Collective Construction and Identity**

Participants N considered that the *Happy Feet* metaphor helped to consolidate the group's vision during the *Appreciative Inquiry* Dream activity.

*Yes very freeing – needed both phases as after brainstorming what the future looked like it still didn't seem possible but the song/limerick pulled us together and the vision of a Happy Feet based metaphor capped it off. (N)*

Participant A agreed and wondered where it would go until the creative use of the metaphor brought the group dream together and helped them to have a future orientated focus. Participant A also considered that the creativity of the activity helped to facilitate the development of the group vision.

*I had some difficulty seeing how we arrived at the place to go forward ... but it was all systems go with the activity. Good discussion and brainstorming. The creative side was a good experience and generated a lot of creative ideas. Looking ahead without consequence was kind of fun. Very often limited due to pragmatic demands (task focus).... It certainly focused me on a forward thinking mode. (A)*

Participant R also considered that the *Appreciative Inquiry* Dream activity initiated the joint vision and that this was then carried forward during the *Appreciative Inquiry* Design activity. Participant R also thought that this activity helped the group integrate the knowledge from the different group members, which helped to build the collective identity as considered in chapter eight.

*Following on from the previous discussion, the ideas just flowed and we felt were well captured in our fish chart. The passion developed as the ideas evolved and the idea of a conference to start the ball rolling gelled. We were able to utilise the expertise of the various group members in the process. (R)*

#### **9.8.2. Group LEGJ Collective Construction and Identity**

From the findings reported in chapter eight it can be seen that Group LEGJ did develop a collective identity during the *Appreciative Inquiry* Dream activity and collective

constructions that integrated ideas from the group members in both the *Appreciative Inquiry* Dream and Design. Participants G and E confirmed these findings, considering that Group LEGJ did generate an integrated cognitive product and that all voices were heard and consensus developed during the *Appreciative Inquiry* Design activity.

*Though we all came from different backgrounds, knowledge and experience we collectively embraced the thought of an information portal responsive to the individual, guided by and for the individual. Each person's response elicited more buy in from the rest and momentum was evident. No gatekeeping was evident and people stayed with the picture rather than the script. (G)*

*Interdisciplinary. Trying to make into a coherent whole. (E)*

Participant L, however, considered that no new ideas were generated and that the resolutions/knowledge products were not new and thought that the exercise had been too rushed. They also considered that they had not fully contributed to the exercise, that the group had not fully explored the nuances of the different perspectives and that what had appeared to be consensus was just a rushed outcome. This would seem to indicate that although Participant L's idea of citizenship was one of the main ideas in the Group LEGJ's *Appreciative Inquiry* Design, the collective identity that had been evident in the *Appreciative Inquiry* Dream was not evident in the *Appreciative Inquiry* Design.

*Whilst the three groups presented some really useful information, there was a bit of tendency to rehash what's been there. This is not to say that the outcomes were not good but I am wondering whether we have rushed into something that was extremely complex in such a short period of time, without having enough time to digest. I didn't think I was able to participate fully in this exercise because I felt that the four of us started off from different grounds but as soon as we knew time was running out, I felt that we were just trying to come out with some sort of outcome. I would have liked to unpack some of the issues further (L)*

### **9.8.3. Group PHOTBD Collective Construction and Identity**

It was presented in chapter eight that the *Appreciative Inquiry* Dream of Group PHOTBD was a juxtaposition of ideas rather than an integrated dream, which is confirmed by Participants P and T.

*Group worked in a very democratic fashion. Share dream, but is it really? (P)*

*Difficult to come up with ONE DREAM – all contributions were accepted. Would have been interesting to see how a common dream could have been reached. The contributions were equally between our professions and our personal passions. (T)*

Assistant Brown also confirmed the lack of integration of Group PHOTBD's dream.

*Activity of getting people to read slogans and quotes was met quite reflectively, for the most part people listened, there were murmurings and recognition and assent and occasionally a laugh. However, it was much less clear what the dream consisted of (at least to me) and perhaps that led to spontaneous response (this might also have been due to the much less clear close to the presentation). (Brown)*

This lack of coherence appears to have continued into the *Appreciative Inquiry* Design activity. For example, Participant O considered that Group PHOTBD was not cohesive.

*Interdisciplinary – a sort of shared vision but lots of different opinions about how to get there – focus at different levels individual, disciplinary, structural. (O)*

#### **9.8.4. Summary of Building Collective Constructions and Identity**

The findings from this phase confirm the findings in chapter eight. For example, while Group PHOTBD struggled to move from juxtaposing ideas, Groups SNARQK and LEGJ were able to use the tension generated by the different perspectives to integrate knowledge and build a collective construction. Group SNARQK was also able to build a collective identity in both the *Appreciative Inquiry* Dream and Design and Group LEGJ in the *Appreciative Inquiry* Dream activity. Working in the consistent small groups, the use of creativity and metaphors during the *Appreciative Inquiry* activities helped to facilitate this phase. It also highlights that while no collective constructions were developed, some level of collective identity was evidenced in the large group.

### **9.9 Phase Eight: Preparing for Collective Action**

The evaluative criterion in phase eight was that collective action was planned. The main aim of this phase was to develop integrated resolutions to the complex real-world issue leading to collective action. There were no specific secondary indicators that related to this phase.

Assistant Blue considered that collective action was generated at the weekend as a result of the cross-disciplinary process.

*Helped collective action. Final presentations showed that action can result from cross-disciplinary discourse. (Blue)*

The move towards collective action seems to have been initiated in the *Appreciative Inquiry* Dream activity as expressed by Participant B and K. Participant B renewed their desire to be involved in action and Participant K commented on the sense of collectivity and desire for collective action that was generated by the work of Group SNARQK.

*Great, this really helped to solidify ideas for me. 'do the good that presents itself to be done' Frederick Ozanam is the quote that most speaks to me. I want to be involved in action. (B)*



*A sense of hopefulness through sharing the same vision and commitment to do something collectively about it. It was more of a change in feeling than a change of thinking, I think! I feel isolated and hyper-responsible in and for my daughter's life and feeling like and experiencing that there are other people who will share that responsibility and make a difference to her world is very important to my ability to keep positive and hopeful. (K)*

Participant Q considered that this continued in the *Appreciative Inquiry* Design activity and that the Ishikawa (Fishbone) diagram helped to organise the design generation and helped identify how the different action points could build towards a resolution.

*This exercise seemed to work well in the group setting recording the organisation of a strategy – a 'how might this happen' approach... The 'fishbone' framing helped put components of smaller goals into an organised form so that the bigger pictures could be viewed. (Q)*

As was identified in chapter eight, the *Appreciative Inquiry* Design activity did help to facilitate the development of integrated resolutions and action points and a desire for collective action. For example, Group SNARQK decided to jointly organise a 'Fair-Go' conference. Assistant Red considered that this planned collective action was a significant contribution to the field and made the work of the weekend worthwhile.

*I love their dream or actual thing they were going to [have a conference] just great – that must make everything from the weekend worthwhile. (Red)*

The *Appreciative Inquiry* Design activity also initiated some thinking on how the process could be used to further generate collective action in other situations as expressed by Participants K, J and E.

*I am thinking about how I, and others, could use these processes of envisioning and planning for dreams with primary and secondary school students. Soon my family are going to engage in a PATH process with our daughter and some of her classmates from school and the whole process has made me think about and understand the purpose and process of creating and working towards dreams in a broader way. (K)*

*Changed thinking – yes it offered people the chance to talk about the process of change. Great opportunity to consider positive futures and how to enable them. I think some very good ideas were put forward. (J)*

*It is a positive activity to conclude with as it gave direction and purpose. Can be easy to get bogged down with negatives but this is something 'small' ish which is achievable. (E)*

Overall, the findings from this phase of the approach indicate that there was a move for some groups towards developing integrated resolutions that could lead to collective action. There was also a move towards considering other collective action with others

in the future. This phase was facilitated by the *Appreciative Inquiry* activities, in particular the *Appreciative Inquiry* Design activity.

## **9.10 Section Summary**

This section of the thesis has presented the findings from the research undertaken in this study at the weekend event. Chapter eight presented the findings relating to whether or not the research was cross-disciplinary in nature by considering the different disciplines and paradigms of the participants at the weekend. Chapter eight also considered whether or not cross-disciplinary collaboration had occurred and what factors hindered or had the potential to hinder it. Chapter nine then presented the findings that related to the different phases of the approach in relation to the evaluative criteria, the aims of the phases and the factors that helped to promote them. The next section includes the discussion and conclusion.





## SECTION FOUR

### Discussion and Conclusion

*We are each of us angels with only one wing  
and we can only fly by embracing each other.*  
Comte de Bussy Rabotin

This section includes two chapters. Chapter ten discusses the findings in light of the literature and the research questions. It discusses the nature of cross-disciplinary and cross-paradigmatic activity, what cross-disciplinary/paradigmatic collaboration is, what factors including the approach promoted and hindered cross-disciplinary collaboration in this study, and how the effectiveness of the approach was evaluated. Chapter eleven considers the rigour of the study, draws conclusions from the study that answer the research questions, considers the implications and limitations of the study, makes recommendations, and identifies areas for further research.



## **Chapter 10: Discussion**

### **10.1 Introduction**

This chapter discusses the literature reviewed in chapters one two and three and the findings of the research undertaken at the weekend event in relation to the research questions posed in chapter one. Due to the highly integrated nature of the research questions, and to increase the robustness of the discussion and avoid repetition, this chapter will not consider each research question separately but will discuss the findings from the study, the literature and all the research questions together.

### **10.2 Cross-disciplinary or Cross-paradigmatic**

It was stated in the introduction that in order to develop resolutions to complex real-world issues, cross-disciplinary approaches are needed (Russell et al., 2008) that use the multiple perspectives of the group to generate a multidimensional understanding of the issue (Conklin, 2005). Alroe and Noe (2010) and Wall and Shankar (2008) state that for an activity to be considered cross-disciplinary participants need to come from different academic disciplines. Academic disciplines have been described as social systems (Weingart & Stehr, 2000) that form around branches of knowledge, fields of study, areas of instruction, teaching, activity or learning (Choi & Pak, 2006) that have their own ontologies, epistemologies (P. Klein, 2005), methodologies (Weingart, 2000) and paradigms (Burrell & Morgan, 1980). These social systems interact and generate productive tension that allows the group to develop a collective construction and identity (Hardy, 2005; Lichtenstein et al., 2006; Mingers, 2004a). The questions are, however, whether this description of academic disciplines as social systems is accurate and if not what impact does this have on the understanding of what is described as a cross-disciplinary activity? This study has highlighted some issues around these definitions and descriptions as discussed below.

The literature in chapter three suggests that the definition of a discipline as a tightly boundaried social system with its own paradigm is not accurate, at least in the field of disability. For example, some disciplines such as education or psychology do not adhere to one paradigm, but include members that hold a range of paradigmatic perspectives on disability. The question then becomes, is the discipline the social system that forms around a field of study, or are the groups within the discipline that hold the same paradigm the social systems or are they both social systems operating

as systems within systems? Other knowledge bases such as disability studies have members who come from a range of different disciplines but adhere to similar paradigmatic perspectives. This then poses the question are the individual disciplines the social systems, or are the groups that adhere to the same paradigm the social systems? This seems to indicate, at least in the disability field, that groupings or social systems around paradigms that occur either within or across the disciplines are as important as the academic disciplines when studying complex real-world issues. As a consequence this may mean that rather than the approaches needing to be cross-disciplinary, they also need to be cross-paradigmatic. This means that when drawing together a group to study complex real-world issues it would be necessary to invite those from the major disciplines and paradigms that study aspects of the complex issue rather than just focusing on the disciplines alone. Therefore, in this study, rather than the group just needing to be cross-disciplinary it also needed to be cross-paradigmatic if the diversity of perspectives on disability and inclusion were to be included.

As documented in chapter eight the disciplines involved in this study came from the disciplines/knowledge bases of Nursing, Physiotherapy, Disability Studies, Rehabilitation, Education, Sociology, and Social Work. Therefore, although disciplines/knowledge bases such as Medical Rehabilitation, Rehabilitation Ergonomics, Occupational Therapy, Special Education, Cultural Studies and Political Studies were not represented, the study can be considered cross-disciplinary since it did involve participants from a number of different disciplines that study the topic of disability either as a major or minor part of their studies. The three small groups who came together for the *Appreciative Inquiry* activities can also be considered to be cross-disciplinary. For instance, Group SNARQK had members from Nursing, Physiotherapy, Disability Studies, Rehabilitation and Education, Group PHOTBD had members from Rehabilitation, Sociology, Education and Physiotherapy, and Group LEGJ had members from Nursing, Physiotherapy and Social Work. It can be seen, therefore, that at the large and small group levels the research can be said to be cross-disciplinary in nature. The question is, however, were the large and small groups also cross-paradigmatic?

The findings in chapter eight confirm that all four of the paradigms of disability represented by Priestley's (1998) typology were present at the weekend. The findings also show that Group PHOTBD had all four paradigms represented and Groups SNARQK and LEGJ had the social materialist, social idealist and individual idealist

paradigms represented. It can, therefore, be seen that as well as being cross-disciplinary the large and small groups can also be considered to be cross-paradigmatic. In this way it can be stated that the large and small groups had the potential diversity to be considered suitable to develop a multidimensional understanding of, and resolutions to, a complex real-world issue from the disability field.

This study also, however, identifies that the suggestion of including both cross-disciplinary and cross-paradigmatic perspectives in a group drawn together to study complex real-world issues is not as straightforward as it might seem. For example, in this study over half the participants, Participants B, E, G, N, M, P, K, Q and L, were shown, either in their Worldview and Paradigm of Disability activities or their on-going reflections, to have perspectives that Participant K described as *transdisciplinary worldviews* or perhaps what could be more accurately described as transparadigmatic worldviews that bridged two or more paradigms. Participant Q also noted that while they considered their discipline, nursing, adhered to one paradigm, the individual materialist, they did not adhere to this paradigm alone but moved between all four. This discussion confirms Annan and Mentis' (2013) assertion that individuals bring unique, multiple perspectives to studies of complex issues. The presence of these transparadigmatic worldviews means that when trying to bring a group together from the different paradigms it may be difficult to identify potential participants that represent the different paradigms especially if, as in this study, they are not fully cognisant of how their perspectives relate to the different paradigms prior to the group work.

The above discussion then leaves us with two dilemmas when considering the study of complex real-world issues. Firstly, how do we describe the groups drawn together to study complex issues and secondly, how do we ensure that a broad range of perspectives are included within these groups? Based on the discussion above, there are a number of terms that could be used to describe these groups, including cross-disciplinary/paradigmatic, cross-disciplinary and cross-paradigmatic, or cross-perspectival. Which term is most suitable is indeed a matter for further debate that is beyond the scope of this study. In order to avoid confusion in this thesis, the term cross-disciplinary has continued to be used with the understanding that these groups are also cross-paradigmatic. In terms of how to ensure that a broad range of perspectives is included, it is suggested that when the cross-disciplinary activity is being planned that not only the disciplinary areas but also the paradigms that relate to the object of study are also identified and then individuals invited from as many of

these areas as possible. Having stated that, however, it needs to be realised that whatever group is brought together to study a complex real-world issue it will never encompass all the perspectives on the issue since individuals will always bring their own unique multiple perspectives of the issue to the group discussions, which may or may not represent their discipline or be unique to one paradigm.

### **10.3 What is Cross-disciplinary Collaboration?**

This study confirms the confusion relating to the nature of cross-disciplinary collaboration (Easen et al., 2000) and the different types of cross-disciplinarity (Choi & Pak, 2006; Rosenfield, 1992; Wall & Shankar, 2008). For example, even though definitions were given to the participants about the different types of cross-disciplinarity there was still confusion relating to the terms, especially when they tried to discuss how they were working. This confusion was particularly evident when trying to explain the difference between interdisciplinarity and transdisciplinarity. For example, Participant G stated, *some words were used that myself and others had difficulty understanding ... discipline (multi, trans, inter – good examples of this)*. This confusion may also be influenced by the lack of clarity around the definition of the term discipline discussed in the previous section. As well as confirming this confusion, however, this study has also shed some light on this topic as discussed below.

In chapter one, it was suggested that in a similar way to other social systems, cross-disciplinary systems develop from multidisciplinary, where disciplinary boundaries are maintained (P. Clarke, 1993), through interdisciplinarity, where disciplinary boundaries are blurred (Nolan, 1995), to transdisciplinarity where the disciplinary boundaries are transcended (Flinterman et al., 2001; J. Klein, 2010; Moeller, 2011; Rosenfield, 1992; Soskolne, 2000). The move from multidisciplinary to interdisciplinarity or cross-disciplinary collaboration is considered to occur when participants actively engage in the inter-individual process (J. Klein, 2010) and seek to integrate the different perspectives (Flinterman et al., 2001; J. Klein, 1990; V. Wilson & Pirrie, 2000) by building on a common frame of reference to develop what can be considered to be cross-disciplinary understanding (Bromme, 2000). This cross-disciplinary understanding then develops into a collective construction and identity as the group moves towards transdisciplinarity (Hardy, 2005; Lichtenstein et al., 2006). Because this is a process of integrating perspectives rather than having a focus on the disciplines, this type of developmental process could also be said to occur when the social systems form around paradigms rather than disciplines. It can, therefore, be concluded that this developmental process would also pertain to a cross-paradigmatic process.

The approach used in this study was designed to help groups move through the developmental process of a social system that moves from one type of cross-disciplinary to another as outlined by Moeller (2011) and as shown in Table 10.1.

Table 10-1. *Activities Designed to Promote the Different Phases of the Approach.*

	Worldviews and Paradigms of Disability	Concept Map	Ground rules	Movie	Timelines	Timelines and typology	Future Search	AI Discover	AI Dream	AI Design
Phase One										
Phase Two										
Phase Three										
Phase Four										
Phase Five										
Phase Six										
Phase Seven										
Phase Eight										

For example, Phase One, Building the Environment; Phase Two, Initiating the Intra-Individual Process; and Phase Three, Preparing to Build a Common Goal and Vision were designed to help the participants engage in the inter-individual process and move from multidisciplinary to interdisciplinary ways of working. These phases involved the Ground Rules, Worldview and Paradigms of Disability, and Concept Map activities. Phase Seven, Redirecting Tension involving the *Appreciative Inquiry* Discover activity, on the other hand, was designed to move the group towards developing a collective construction and identity as they move towards transdisciplinary ways of working. The question then is, did the approach, designed in this study, help to facilitate this progression and promote cross-disciplinary collaboration?

#### 10.4 Was Cross-disciplinary Collaboration Promoted?

Two primary indicators were identified in the literature that could be used to determine whether or not cross-disciplinary collaboration had been promoted. One of the primary indicators relates to the collective construction and the integration of knowledge where the knowledge product, emanates from the group dialogue rather than from one individual (Fiore et al., 2010). In terms of this study, the large group did not develop any collective knowledge products, due to a lack of time. The three small groups that came together for the *Appreciative Inquiry* activities, however, did develop group knowledge products. The findings presented in chapter eight show that Group SNARQK developed two integrated knowledge products or collective constructions in



the *Appreciative Inquiry* Dream and Design activities. Group SNARQK used ideas from their own group members, the wider group, and the activities undertaken at the weekend that reflected three of the four paradigms of disability. From the Flow of Ideas map and some of the participants' reflections it was considered that Group LEGJ also developed an integrated knowledge product or collective construction in the *Appreciative Inquiry* Dream and Design activities that reflected three of the four paradigms of disability. Group LEGJ used ideas from the participants, activities and the other groups. Group PHOTBD, on the other hand, while using ideas from the group members, only juxtaposed the ideas in the *Appreciative Inquiry* Dream and had a knowledge product in the *Appreciative Inquiry* Design activity that did not include any ideas from two of the participants as well as only representing one of the paradigms of disability.

The other primary indicator identified in the literature that demonstrates if cross-disciplinary collaboration has been promoted relates to the level of cooperation (Defila & DiGiulio, 1999) and integration achieved (Spaapen et al., 2007) and/or the development of a collective identity (Hardy, 2005). The findings in chapter eight show that one assistant and three of the participants considered that a level of collective identity was built within the large group. One participant in particular, who had been taken ill the first morning considered on her return during the last activity that the large group *appeared to be very together and a whole group level of together* had been achieved. The study also found that five of the six members that submitted journals in Group SNARQK expressed collectivity and three of the four participants in Group LEGJ considered that they had achieved a collective identity. Group PHOTBD, however, expressed no level of collectivity.

A consideration of these findings suggests, therefore, that cross-disciplinary collaboration was promoted in this study, particularly within Groups SNARQK and LEGJ and to a certain extent in the large group. These findings were further reinforced by the findings relating to the general secondary indicators of cross-disciplinary collaboration that did not relate to a specific phase of the approach. For example, this study found Participants L, A and G enjoyed the opportunity to network and Participant N considered they had been enriched by the experience, which supports the literature that states that participants enjoy the opportunity to network (Buchbinder et al., 2005) and build relationships (Bruusgaard et al., 2010) when cross-disciplinary collaboration has been promoted. In line with Vyt's (2008) research that states that participants' experience high levels of work satisfaction when cross-disciplinary collaboration has

been promoted, Participants D and K thought that the weekend had reignited their passion and commitment to the field and sparked increased levels of optimism about their work.

While this study could not confirm that being involved in the cross-disciplinary study meant that participants explored methods or methodologies as suggested by Ryser et al. (2009) or adopt methodological pluralism as suggested by Bruusgaard et al. (2010), it did show that two of the participants wanted to explore some of the methods used in the approach. For example, Participant L stated, *I am very keen to explore this further by looking at more research and literature about AI*, and Participant J stated, *I will look to find out more about Appreciative Inquiry*.

One interesting finding from this study is that three participants considered that the work undertaken at the weekend could have a significant impact on the New Zealand disability field, or as Participant Q said, *Fantastic project – changing the face of disabilities*. This finding suggests that another secondary indicator of whether or not cross-disciplinary collaboration has been achieved is that those involved in the process consider that the work undertaken could have an impact in the relevant fields of study and could potentially lead to the development of resolutions to the complex real-world issue that is the object of the study. These findings then also pose the question, what promoted and hindered cross-disciplinarity at the weekend event?

## **10.5 What Promoted and Hindered Cross-disciplinary Collaboration?**

As was shown earlier in Table 10.1, the approach used at the weekend event, based on the literature reviewed, was designed to help the group transition through the different cross-disciplinary ways of working in a linear fashion. As can be seen in Table 10.2, the research conducted at the weekend event demonstrates that the participants did move through the cross-disciplinary ways of working as designed. However, Table 10.2 also shows that rather than a clear progression from one way of working to the next, groups moved backwards and forwards through different types of cross-disciplinary activity. For instance, while the activities designed to promote certain phases did help participants achieve the aims of the phase, participants also found other activities helped to promote the various phases. For example, it can be seen in Table 10.2 that the Worldview and Paradigm of Disability activities were designed to promote the intra-individual process but the *Future Search* activity was also identified as an activity that helped to promote it. Similarly, the activities designed to promote

cross-disciplinary understanding in the approach were the Timelines, Timelines and Typology, and the *Future Search* activities, whereas in Table 10.2 it can be seen that the Movie and the *Appreciative Inquiry* activities also helped to promote cross-disciplinary understanding.

Table 10-2. *The Activities that Promoted the Different Phases.*

	Worldview and Paradigms of Disability	Concept Map	Ground rules	Movie	Timelines	Timelines and Typology	Future Search	AI Discover	AI Dream	AI Design
Phase One										
Phase Two										
Phase Three										
Phase Four										
Phase Five										
Phase Six										
Phase Seven										
Phase Eight										

These findings indicate that while each of the phases are important in their own right, they are highly interconnected and contribute towards the overall aim of promoting cross-disciplinary collaboration. These findings also suggest that rather than there being a smooth trajectory through the phases of the approach, the move from multidisciplinary ways of working through interdisciplinary to transdisciplinary ways of working involves a movement to and fro across the different phases, with many of the activities helping to promote a number of different phases. An understanding of the development of the cross-disciplinary system will be important to consider when developing approaches to help promote cross-disciplinary collaboration when studying complex real-world issues. A further consideration of how these activities helped to promote cross-disciplinary collaboration and the development of collective constructions and identities in this study is, therefore, important not only to inform future approaches but also to answer the fifth research question as to how the approach helped to promote cross-disciplinary collaboration.

#### 10.5.1. Phase One: Building the Environment

This study supports J. Klein's (2010) ascertainment that in order to move from multidisciplinary to interdisciplinarity and, therefore, cross-disciplinary collaboration, individuals need to actively engage in the inter-individual process. For example, this study found that the participants did actively engage in the activities, which helped to develop cross-disciplinary collaboration as expressed by Assistant Light Blue who stated, *there is a synergy/people are connecting* and quickly seem to understand the

task ... they are engaged! This engagement was enhanced as people shared their personal understandings and experiences as expressed by Participant G about the *Appreciative Inquiry Discover* activity, *transdisciplinary as no judgment was placed on people's stories or interpretation and embraced what was happening for that person at this time*. This finding confirms Hardy's (2005) assertion that cross-disciplinary collaboration occurs as people share their personal constructions of the object of study.

This study also found that participants considered that meeting face-to-face was valuable and that the physical environment and layout of the venue helped to promote the work at the weekend. For example, Participant H considered that *the face-to-face connections and conversations were incredibly valuable as it allowed for depth of conversation*. Participant A stated that *the location was most appropriate and facilitated the work*, and Participant K liked *how the rooms and meeting place were close together*. These findings support the literature that indicates that in order for participants to engage in the inter-individual process it is important that face-to-face meetings (Giacomini, 2004; Hinrichs, 2008; Rhoten, 2003; Ryser et al., 2009) are undertaken in a conducive environment (Hollingsworth & Hollingsworth, 2000; Loi & Dillon, 2006; Pennington, 2008; Wall & Shankar, 2008) where the participants are in close proximity to each other (Stokols et al., 2008).

This study supports the literature that states that a safe environment encourages participants to take the risks necessary to explore new ways of thinking, consider new approaches, cross paradigmatic and disciplinary boundaries, interpret disciplinary languages (Bruusgaard et al., 2010; Scerri, 2000), learn and gain clarity about other perspectives (Wall & Shankar, 2008), dispel stereotypes (McCallin, 2004), and thus engage in cross-disciplinary collaboration (Bruusgaard et al., 2010; Loi & Dillon, 2006; Russell et al., 2008; Scerri, 2000; Stokols et al., 2008; Wall & Shankar, 2008). For example, Participant A considered that *overall it was a positive experience, which pushed me out of my comfort zone ... however, I felt safe and my opinion respected ... [which] led to a really positive and exciting dialogue ... I learnt from the experience and ... attained a wider perspective on disability issues*. Participants Q, E, J and K agreed. Participant Q considered that the safe environment helped them to engage stating, *[the] atmosphere was relaxed and friendly... and helped people to express both beliefs and experiences*. Participant E considered that it was as *people began to relax more [that] more positive work evolved*, which Participant J considered helped people to take risks, share and challenge others, and Participant K thought that helped to dispel the stereotypes they had for those in some of the disciplines. Assistant Brown also

confirmed that the safe environment allowed people to cross boundaries saying, *[in] safe and trusting environments [the participants] were able to move across boundaries.*

Disciplinary/paradigmatic imperialism, which has been found to generate territorialism and rivalry, close down conversations and generate interpersonal conflict (Hinrichs, 2008; Hulme & Toye, 2006; Lowe & Phillipson, 2009; Maasen, 2000; Wall & Shankar, 2008), was evidenced at the weekend event during the Ground Rules activity. During this activity one of the participants stated that they did not want voices that they considered wrong, being heard. This issue was resolved by the group discussion and the ground rules that were developed stressed the importance of all voices being heard. Assistant Blue also supported the importance of ground rules, considering that the activity helped to establish respectful listening. These findings would seem to suggest that the Ground Rules activity did allow the group to face the issue of disciplinary/paradigmatic imperialism at the outset, which helped to reduce its impact as well as contributed to the development of a safe relational space. These findings confirm the literature that states that in order to develop safe relational spaces participants need to be encouraged to have respect, tolerance, and non-judgmental attitudes and that the development of ground rules can help to facilitate this environment and promote cross-disciplinary collaboration (Bromme, 2000; Bruusgaard et al., 2010; Choi and Pak, 2007; P. Clark, 2011; Graybill et al., 2006; Weaver 2008) .

The findings at the weekend event support the literature that states that good hospitality and quality facilitation help to develop a safe environment which empowers people, fosters their diverse strengths, and helps them to feel valued and secure, which in turn facilitates engagement in the inter-individual process (Branson, 2002; Choi & Pak, 2007; Hollingsworth & Hollingsworth, 2000; Loisel, 2005; Marzano et al., 2006; Scerri, 2000; Stokols et al., 2008). For example, Participant D considered that *the hospitality and welcoming vibe was amazing [and] the whole team made us feel comfortable and valued.* Participant O considered that the facilitation provided an organised structure to the weekend. Participant Q thought that this helped to promote group interaction, and Assistant Brown considered that it helped to provide a safe environment. Assistant Brown also identified that it had been important to be flexible in terms of facilitation and to balance the needs of the participants with the purpose of the process. This observation confirms one of the freedoms identified in chapter five that considered that the approach needed to be flexible to allow for changes and adaptations to occur during the process and indicates that this freedom will be important in other iterations of research on the approach.

Times to informally interact were found to be important in the development of a safe relational space. For example, Participant K considered that the informal times helped to build relationships, while Participant Q thought they helped to facilitate the deep thinking necessary for engagement in cross-disciplinary collaboration. Participant K also considered that the relationships strengthened when the groups remained constant during the *Appreciative Inquiry* activities, which further helped to build trust. Participant R agreed and considered that the consistency of the small groups during the *Appreciative Inquiry* activities *facilitated better discussion*. These findings support the studies that consider that developing safe relational spaces through the building of strong group cohesion and a sense of community where participants share stories and pool ideas helps to promote cross-disciplinary collaboration (Bruusgaard et al., 2010; Choi & Pak, 2007; Giacomini, 2004; Marzano et al., 2006; Norman, 2009; Petts et al., 2008; Ryser et al., 2009; Weaver, 2008).

Other factors that were identified at the weekend event that were considered by some to help promote cross-disciplinary collaboration were the attitudes, knowledge, skills and motivations of the participants. For example, Assistant Light Blue considered that participants were open to sharing their *creativity, skills and knowledge* with others, which supports Loisel's (2005) findings that participants need to listen and respect each other's perspectives and be prepared to share and learn from one another if cross-disciplinary collaboration is to be promoted. Scerri (2000) and Wall and Shankar (2008) identified that curiosity, which Arnone et al. (2011) considers is sparked by a perceived information gap, helps to promote engagement in cross-disciplinary collaboration. While curiosity is not actually identified by participants or assistants at the weekend as a contributing factor to engagement in the process, Participant K identified that she thought that many of the participants had a *transdisciplinary worldview* that made them willing and open to learn and cross boundaries. Participant D, who identified that many of the participants brought multiple identities to the weekend, thought that these multiple identities helped them to be open to engage in the process. These findings from the weekend would seem to indicate that further investigation into the impact of transdisciplinary worldviews might be warranted and this is considered later in the chapter.

The findings in chapter nine identified that as well as the environmental factors, the Movie, Timelines, *Future Search*, *Appreciative Inquiry* Discover and *Appreciative Inquiry* Dream activities also helped the participants to engage in the process. For

example, Assistant Brown considered that the Movie activity helped to initiate engagement, while Assistant Red considered that the interaction during the Timelines activity *was amazing*. Participants A, C and B all considered that the creative activities such as the *Future Search* and the *Appreciative Inquiry* Dream activities also helped them to engage in the inter-individual process, and Participants E, H and G considered that the *Appreciative Inquiry* Discover helped them to relax and engage, which Participant H considered was due to the nature of *Appreciative Inquiry*. This would seem to support the literature by Loi and Dillon (2006), Pennington (2008), Russell et al. (2008) and Stokols et al. (2008), who contend that the cross-disciplinary process is highly influenced by the activities as well as the collaborative environment.

Overall, it can be seen that the research at the weekend supports the notion in the literature that the physical environment; face to face events; the development of a tolerant, non-judgemental safe environment; the establishment of ground rules; hospitality; flexible facilitation; and informal times help participants to engage in the inter-individual process. This study also found that activities such as the Movie, Timelines, *Future Search*, *Appreciative Inquiry* Discover and *Appreciative Inquiry* Dream activities also helped to promote interaction and engagement in the inter-individual process, which in turn helped to promote cross-disciplinary collaboration. This research also suggests that the transdisciplinary or transparadigmatic worldviews of the participants and motivation of participants to learn may also have an impact on participants' engagement in the inter-individual process, which requires further investigation. This research also confirms that facilitation needs to be flexible to balance the purpose of the project with the needs of the participants.

#### **10.5.2. Phase Two: Initiating the Intra-Individual Process**

The intra-individual process is considered to occur between the individual's determinant self and their social self (Archer, 2003). This intra-individual process is important as it helps to build the individual's personal construction of the issue from information gained during conversations that occur during cross-disciplinary collaboration. The intra-individual process also provides the resources for the inter-individual process and the development of the collective construction by the cross-disciplinary group (Hardy, 2005). A number of secondary indicators were identified in chapter two that can be used to determine if the intra-individual process has been promoted. These will be discussed in light of the findings from the weekend event.



Participant H and G both found that the weekend helped them to reflect on their own assumptions and how they positioned themselves in terms of their understanding of disability. Participant B was even surprised by their assumptions stating *I am gobsmacked ... disability has such positive connotations for me*. These findings would seem to support Tartas and Muller-Mirza's (2007) research that found that when the intra-individual process has been promoted individuals are more open and able to reflect on their perspectives.

The findings of this study also found that participants were surprised and challenged by other people's perspectives. For example, Participant Q was very surprised by the negative attitudes of their partner during the *Appreciative Inquiry* Discover activity. Participant M, on the other hand, was surprised at the similarities in perspectives that were expressed during the Timelines activity. These findings support the research of Buchbinder et al. (2005) who consider that when the intra-individual process has been promoted participants are surprised or challenged as they explore outside of their own spheres and learn about other professionals' roles and knowledge.

As planned in the approach and in line with the research that states that critical self-reflection is promoted through journaling and reflective questioning (Brown, 2005; Gray, 2007; Riley-Doucet & Wilson, 1997) the activities that helped with self-reflection in this study included the Worldview and Paradigm of Disability activities. These activities helped participants to recognise their own worldviews and paradigms of disability and how they had been shaped by their familial, educational, religious and personal life experiences. For example, Participant R considered their attitude to disability was related to their childhood experience of having a cousin who was the smallest dwarf in Australasia. Participants O and M stated that their perspectives had been shaped by their education and certain theorists, Participant J could align much of their worldview with their Judeo-Christian heritage, and Participant D could see how their experience in rape crisis had influenced their worldview. These findings also align with the literature on worldviews that states that these factors and cultural influences all shape an individual's view of the world (Banks & McGee, 2009; Weingart & Stehr, 2000). It is interesting to note, however, that none of the participants specifically mentioned how their ethnic group or culture had influenced their worldviews. Participant R did, however, state that their experiences in nursing had given them a greater understanding of the culture of Indian registered nurses, indicating that while not acknowledging or mentioning the impact of their own culture they could identify that culture did have an impact on worldviews. The question is why, when Weingart and



Stehr (2000), and Banks and McGee (2009) identify culture as a significant influencer of worldviews and paradigms, was there so little mention of its influence in this study?

One possible reason for the lack of mention of the ethnic group or culture is that the participants predominately came from a white middle class background that forms the dominant culture in New Zealand. As part of the dominant culture they may not have been so aware of the influence their culture has had on their worldviews or paradigms of disability, considering that their cultural perspective is the norm. Had there been representatives from Māori, Pasifika or Asian cultures, that are some of the main minority cultures in New Zealand, there may well have been reference to how their culture shaped their worldviews and paradigms of disability. This lack of cultural diversity at the weekend event was also mentioned by Participant T who stated, *is Kaupapa Māori a discipline ... if so there was no such voice at our weekend*. These findings, as well as showing the lack of consideration of culture, also identifies that cultural diversity within the cross-disciplinary group is a significant limitation of this study. In order to truly provide a multidimensional understanding of disability and the issue of inclusion in New Zealand, the group drawn together should have included a diversity of cultures. While some attempt had been made to achieve this cultural diversity with invitations being sent to Māori groups who study disability, this diversity was not achieved. The result of this lack of ethnic cultural diversity, therefore, needs to be considered when reading the findings from this study and when considering how these findings may inform future approaches to promote cross-disciplinary collaboration. For example, it may mean that further research is needed to consider how cultural diversity impacts the cross-disciplinary process and what activities may need to be included to help promote it with these groups.

The data gathered at the weekend also demonstrated how the process of critical self-reflection continued throughout the study. Participant K and Assistant Red considered that the interaction with others helped to promote critical self-reflection. Participants T and P found that the Timelines activity helped to stimulate their thinking and reflection on certain aspects of disability, while Participants T, D, H, B, N and C considered that the *Future Search* activity helped them to reflect on the different paradigms, their influence in New Zealand and how their paradigms related to other people's paradigms. It was also during the *Future Search* activity that Participants Q and K reflected that their paradigms were complex and did not fit neatly into the typology given. Participant Q also found that the on-going reflection times after each activity helped them to close off issues and move on to other activities, which would seem to

indicate that the reflection times may have helped to prevent the participants becoming locked onto one issue, which could have hampered the cross-disciplinary process.

It can, therefore, be seen that the findings from the weekend event align with the literature and confirm that the approach designed in this study helped to promote the intra-individual process, which in turn helped the participants to engage in the inter-individual process. The activities in the approach that particularly helped to promote the intra-individual process included the Worldviews and Paradigms of Disability activities, which helped participants reflect on their own assumptions and how they developed; the Timelines and *Future Search* activities that helped to stimulate and deepen their thinking on the paradigms of disability and their impact in New Zealand and come to an understanding that their own paradigms of disability were composite ones that bridged a number of the disciplines; and the on-going reflections after each activity that helped the participants to have closure on issues and move on to the next activity. These findings will also be important to inform the development of other approaches to cross-disciplinary approaches.

#### **10.5.3. Phase Three: Preparing to Build a Common Goal and Vision**

Phase three of the approach was designed to help consolidate the participants' knowledge of the complex real-world issue, which was found to build confidence and competence in their disciplinary knowledge allowing them to express their deep disciplinary knowledge and preparing them to engage in cross-disciplinary collaboration (P. Clark, 2011; Fiore et al., 2010; Petts et al., 2008; Wall & Shankar, 2008). In their final reflections Participants N, Q and P expressed that the weekend had helped them to consolidate their knowledge and confirm their worldview and understandings of the complex real-world issue. While not attributing this consolidation of knowledge to any particular activity, the reflections do demonstrate that consolidation of knowledge did occur during the weekend and helped to build these participants' confidence and ability to engage in the process.

No participant reflections were planned or recorded after the Concept Map activity, which was designed to be the activity to promote the consolidation of knowledge. It is, therefore, difficult to ascertain the direct impact of the Concept Map activity as expressed by the participants. A consideration of the artefacts developed by the participants in this activity, however, does demonstrate that sixteen of the participants were able to express their knowledge of the complex issue in a positive way in the form of a concept map or list of key factors. These findings support the literature that states

that concept maps help participants reflect and consolidate their understanding of the complex real-world issue (Gray, 2007; Pennington, 2008). No direct evidence, however, can be provided to show that concept maps provide a framework for the development of new knowledge and help individuals explore the complexity of objects of study and how other concepts are related (Novak & Canas, 2008). This is not to say that the Concept Map activity did not help to facilitate these activities, which did occur later in the weekend, but that no specific references link these activities to the Concept Map activity.

Participant H identified that the *Appreciative Inquiry* activities helped to consolidate their thinking and reminded them to keep a broad perspective on the issue of inclusion and when and where positive resolutions can occur. This finding again supports the notion that the consolidation of the individual's knowledge initiated in the Concept Map activity continues to develop throughout the cross-disciplinary process. It is also interesting to note, however, that Participant H highlights that this consolidation of knowledge occurred during the *Appreciative Inquiry* activities when the positive vision of inclusion was reintroduced. This suggests that the positive focus of inclusion introduced during the Concept Map activity and reintroduced during the *Appreciative Inquiry* activities, might have been the factor that helped Participant H consolidate their knowledge and understanding of the complex real-world issue.

Participants P, K and N found that having the clearly articulated common goals and vision of inclusion and improvement for people with disability, and aiding with the doctoral research helped to facilitate their work at the weekend. These findings align with the literature that states that having non-ambiguous common goals and vision helps to facilitate the integration of knowledge and promote the cross-disciplinary process (Loi & Dillon, 2006; Stokols, 2006). This would seem to indicate that the focus on inclusion initiated in this phase did help to provide the basis for the common goals and vision developed by the participants at the weekend. This finding is further supported by the consistency of the vision of inclusion that formed the basis of the shared dreams and resolutions developed by Groups SNARQK and LEGJ later in the process.

Overall, it can be seen that, as designed and in line with the literature, the Concept Map activity did help the participants consolidate their knowledge and have the confidence and ability to engage in the inter-individual process. The positive focus of the concept map also helped to provide the basis for a common goal and vision during

the *Appreciative Inquiry* activities. It can be seen, therefore, that this phase of the approach is important to the promotion of cross-disciplinary collaboration and that when the Concept Map is aligned with a positive focus that it not only helps participants consolidate their knowledge but also provides a platform for developing a positive common goal and vision on which to build, which will be important to consider when developing other cross-disciplinary approaches.

#### **10.5.4. Phase Four: Building a Common Frame of Reference**

It is considered that the different frames of reference and languages used by participants means that participants struggle to either express their own views or understand the perspectives of others, which leads to frustration and conflict that can hinder cross-disciplinary collaboration (Choi & Pak, 2007; Hinrichs, 2008; Marzano et al., 2006). As was stated in chapter eight, this study found that miscommunication occurred due to a lack of clarity around the different types of cross-disciplinarity, the concepts of worldview and disability, the language of the typology, and academic jargon. This miscommunication was found to hinder the cross-disciplinary and cross-paradigmatic collaborative process over the course of the weekend event. In many respects, a lack of clarity concerning the different types of cross-disciplinarity was to be expected since there is considerable confusion in the literature surrounding these terms (Easen et al., 2000) as discussed earlier. It is also not surprising that there was confusion around the concept of disability and the terminology of the typology since the different paradigms of disability, as discussed in chapter three, have different definitions of disability. Indeed it is these differences that cause the tension needed to stimulate cross-disciplinary understanding (Hardy, 2005).

Schramm (1954) considers that the development of a common frame of reference helps to overcome miscommunication that can occur between perspectives, which is then used as the basis for future communication (Dewulf et al., 2007). This is further supported by literature that states that one of the outcomes of cross-disciplinary collaboration is that participants develop a common frame of reference and new conceptual languages, frameworks (Weaver, 2008) and practices (Holmes et al., 2008). Dewulf et al. (2007) and Hardy (2005) found that a common frame of reference and language develop as individuals explore each other's frames of reference, acknowledge the differences between them, reframe the perspectives and incorporate them into their own frame of reference, deepen their understanding by collectively exploring the similarities and differences between the perspectives, and then combine their different understandings.

This study found that despite some miscommunication that occurred due to differences in definitions, having the common goal and vision of building an inclusive society helped participants develop a common frame of reference, which they used as a basis for their communication. The Movie activity, as planned, was also considered by Participant H to be pivotal to the process of developing a common frame of reference as it gave people a focus and an opportunity to share common experiences. The importance of the Movie activity to provide a common frame of reference was further confirmed by the use of the *Happy Feet* metaphor by Group SNARQK.

This study also found, however, that the common frame of reference was continually being built during the different activities. For example, Participant E considered *common ground* was developed as people reflected on the same events in the Timelines activity. Assistant Purple also considered that people came onto a *common footing* and were not *caught up in personal perspectives* during the rebuttal session of the *Future Search* activity, which allowed people to develop a common understanding of the issue. Others found that commonality was built during the *Appreciative Inquiry* Discover activity, such as Participant N who considered that it helped the small group find *common ground for expressing structures, values etc.* Others considered that it was the *Appreciative Inquiry* Dream activity that helped the participants to develop a common language (Participant H) and a level of harmony around common dreams for the future (Assistants Brown and Purple). It would, therefore, seem that all of these activities helped to provide the basis of the resolutions and designs for a common dream developed in the *Appreciative Inquiry* Design activity. This experience would seem to be particularly true for Group SNARQK. For example, Participant N considered that their small group was focused on a common task and Participant Q considered that during the *Appreciative Inquiry* Design activity there was a *common goal of working and living in an inclusive society*.

It can, therefore, be seen that the common frame of reference, while being initiated in the Movie activity, was informed by the positive common goal of inclusion from phase three, and was continually built over the course of the weekend. These findings demonstrate the highly interrelated nature of the different phases of the approach that build on each other and all contribute to the promotion of cross-disciplinary collaboration. It will be important to be aware of the importance of the common frame of reference to the process and the interrelated nature of the phases when developing future cross-disciplinary approaches.

#### 10.5.5. Phase Five: Developing Cross-Disciplinary Understanding

In this study, Participants E and B considered that at the weekend they consolidated their own understanding as well as recognising that there was more than one way to view the issue, Participants K and A learnt a great deal from others, and Participant K considered that the weekend helped them identify the strengths and weaknesses of the different paradigms as well as dispel stereotypes. Assistants Red, Blue and Orange considered that the weekend helped to broaden the participants' understanding and helped them consider other perspectives, which Assistant Light Blue thought *sparked changes in thinking* and Assistant Purple considered helped participants let go of their own perspectives and see similarities between the paradigms. These findings align with the literature that states that intergroup learning increases (Endberg, 2007) and groups broaden their conceptual approach to the object of study as cross-disciplinary understanding develops (Bruusgaard et al., 2010). There were a number of strategies used throughout the weekend that were designed to help facilitate cross-disciplinary dialogue and promote cross-disciplinary understanding based on the literature reviewed in chapter two. These will be discussed below.

It is considered that the adoption of an overarching 'pedagogy of connection' (Loi & Dillon, 2006) and the use of a meta-perspective (Buchbinder et al., 2005; Pregernig, 2006; Russell et al., 2008) based on a real-constructivist philosophy (Schmidt, 2010) helps to provide a framework to encourage the development of cross-disciplinary understanding. This study adopted a 'pedagogy of connection' based on critical realism as described in chapter four, and used this understanding to provide a meta-perspective that underpinned a number of the activities. These activities included the use of Priestley's (1998) typology in the Movie, Timelines and Typology and *Future Search* activities, and the use of the different levels and scales of the critical realist understanding of reality in the *Appreciative Inquiry* Design activity. It was found that the typology, although considered controversial by Participant T, did help participants explore the different perspectives in the Movie activity. Participants H, J and Q also considered that the *Future Search* activities also helped them explore the different perspectives, which was confirmed by Assistant Blue.

This research used a case study in the Movie activity, which Participant H found helped to stimulate cross-disciplinary dialogue and Participant K thought *emphasised that there are different/multiple ways of interpreting a phenomenon (in this case a narrative from a film) and that applying particular lenses/questions/ways of seeing can bring new insights and make the 'familiar strange'*. Participant R also found it helped broaden the

participants' understanding, while Assistant Blue considered it helped them explore the paradigms. This would seem to align with the literature which states that facilitated dialogue (Bammer, 2006; D. McDonald et al., 2009) in the form of a case study (Buchbinder et al., 2005) helps to build cross-disciplinary understanding.

Real-life experiences were used in this study during the *Appreciative Inquiry* Discover activity as they had been found to develop cross-disciplinary understanding, open up the potential for new perspectives and resolutions to be dreamed and designed (Loi & Dillon, 2006; Nissley, 2004), help to create new joint understandings (Nissley, 2004), and ground the dialogue in past reality that builds strength and resilience to the resolutions (Gergen et al., 2004). This activity was found in this study to help participants consider the issue of inclusion in a different way as they focussed on understanding the stories and experiences of others (Participant G) and moved people out of their comfort zones (Assistant Orange), which Participant R considered helped to promote the cross-fertilisation of issues and moved the group towards consensus.

This study found that the use of international, national and disciplinary timelines in both the Timelines and the Timelines and Typology activities helped to contextualise knowledge in line with Nissley's (2004) recommendation. For example, Participant L considered that the Timelines activity helped to generate *multiple layers of information*, which Participants J and A considered helped them understand the broader theoretical and historical context of the issue. Participants G and K also considered that the Timelines activity helped them to learn a great deal from one another. Participant M found it helped to highlight the similarities between the disciplines, Participants H, L, and M and Assistant Blue found it was useful to see how people viewed the same events differently. Participants K and O and Assistant Brown found that the Timelines activity also helped participants make connections between the disciplines. Assistants Purple and Light Blue and Participants R and K, thought that the Timelines also started to spark cross-disciplinary dialogue. Participant L considered that this cross-disciplinary dialogue continued on into the Timelines and Typology activity and found that the presentations also demonstrated the cross-disciplinary nature of the activity.

The Timelines and Timelines and Typology activities also generated some tension between the perspectives. For example, disciplinary/paradigmatic parochialism that has been found to generate tension in the form of territorialism and rivalry, closing down of conversations and generation of interpersonal conflict (Hinrichs, 2008; Hulme & Toye, 2006; Lowe & Phillipson, 2009; Maasen, 2000; Wall & Shankar, 2008) was



evidenced during the Timelines activity. One of the participants recorded that during this activity a participant commented that *health and nursing have nothing to do with disability*. However, health and nursing timelines were still developed, which would seem to demonstrate that this disciplinary/paradigmatic parochialism, while present, did not seriously impact the engagement or sharing within the group. P. Clark (2000), Petts et al. (2008) and Wall and Shankar (2008) would suggest that this might have been due to the fact that participants are more able to share their own deep disciplinary knowledge when they feel confident and competent in themselves and their disciplinary knowledge. This confidence may have already been present for this participant or may have been reinforced through the previous Concept Map activity.

Participants R, P, D and T found that power differentials hindered cross-disciplinary collaboration during the Timelines and Typology activity. Participant M also recognised that there were power differentials between the theoretical and practical voices during this activity saying they had had enough of *academic wanking*. Participant D considered that Participant M's comment seriously impacted their engagement in the activity. These findings confirm the literature that states that power differentials between different types of knowledge, including different disciplines or knowledge areas as well as between academic, practical or personal experience can lead to some voices dominating discussions and some being silenced, (Choi & Pak, 2007; Kochan et al., 2002; MacMynowski, 2007; Pregernig, 2006; Schoenberger, 2001). Perhaps what helped to diffuse this situation at the weekend was the reflection time after the activity, which as previously stated, helped the participants close off from one issue and move on to the next. Despite these potential hindrances, the overall findings from the weekend event seem to indicate that as well as providing context to the issue, the use of timelines developed positive tension, which helped participants to share and learn from one another, broaden their understanding of the disciplines, find the similarities, differences and interconnections, and spark cross-disciplinary dialogue and understanding.

There is some debate surrounding the use of in-depth teaching or experiencing of the paradigms. Some researchers consider that because worldviews are so ingrained, no matter how much participants are exposed to the ideas of other paradigms it is not possible to fully understand another perspective (Deetz, 1996; Jackson & Carter, 1991; M. Parker & McHugh, 1991). Other researchers such as Hassard (1993) and McCallin (2004), however, disagree and consider that as long as participants are prepared to critically self-reflect on their own and others' perspectives, it is possible to gain an in-



depth understanding of the different paradigms. Holman et al. (2007) considers that *Future Search* that allows an in-depth study of paradigms not only helps to develop cross-disciplinary collaboration but also helps participants find agreement and consensus by building common ground between groups with divergent views and paradigms. This study did encourage critical self-reflection and the use of *Future Search* to promote an in-depth exploration of the different paradigms and found that participants developed a deeper understanding of the paradigms. For example, Participant H stated that this activity *showed that we 'got' the typologies as a group at their basic level*, Participant C considered it *brought the respective disciplinary perspectives into clearer focus*, and Participant J stated it *helped to clarify some of the differences within the typology*. Assistant Brown also observed that this activity helped the participants move to a different level of thinking, stating, *there is engagement now at the emotional level*, which initiated some deep levels of reflection. These deep levels of reflection led Participants G, J and A to question the polarised nature of the typology and that they were not necessarily in just one paradigm. It also led Participant R to consider that all the paradigms were present in society and had something to offer in terms of finding solutions to the complex real-world issue of inclusion. In these ways, this activity clearly involved cross-disciplinary or, as Participant H considered, cross-paradigmatic dialogue and understanding. These findings seem to support the argument that an in-depth study of the paradigms, such as occurs during *Future Search*, is a good way of helping to stimulate cross-disciplinary dialogue and understanding.

Studies show that creativity, generated through the use of the imagination (Dirkx, 2006) or other modes of consciousness that can also occur during sleep (Palmer et al., 2007; Perkins, 2000) helps to enhance the interaction between the people, processes and the environment; generates transformation and change in the individual and the environment; facilitates the analysis, sharing and creation of shared knowledge (Loi & Dillon, 2006); and stimulates the breakthrough thinking needed to develop new innovative outcomes (Buchbinder et al., 2005; Hollingsworth & Hollingsworth, 2000; Trungpa, 1984). This study involved two overnight stays and encouraged creativity in a number of ways including the role-plays in the *Future Search* activity, the creative expression of dreams in the *Appreciative Inquiry* Dream activity, and the reflection table. Although there is no evidence at the weekend event that the participants engaged in different levels of consciousness because of the overnight stays, Participants N, T, H, J, and D did state that the overnight stays helped to deepen the level of discussion and allowed them to focus on the topic. Participant J, in particular,

thought that the participants worked better together towards the end of the weekend. The creative activities such as the *Future Search* and *Appreciative Inquiry* Dream were found to help participants engage at a deep emotional level and helped them to broaden their understanding of the paradigms, as stated earlier. In particular, Participant B considered that the creative activities brought people together, while Participant A considered it helped move people out of their comfort zones. No actual journal reflections commented on the reflection table, but many of the participants did explore the table over the course of the weekend and Group PHOTBD used one of the exhibits from the reflection table as the centrepiece or metaphor for their *Appreciative Inquiry* Dream activity.

Overall, the findings from this phase of the approach seem to indicate that cross-disciplinary dialogue and understanding were promoted by the approach designed in this study. In particular, the use of a 'pedagogy of connection' and meta-perspective based on a real-constructivist understanding of reality such as Priestley's (1998) typology, case studies such as the Movie, real-life experiences as shared during the *Appreciative Inquiry* Discover activity, timelines such as in the Timelines and Timelines and Typology activities, in-depth experience of the paradigms such as in *Future Search*, creative activities, and overnight stays all helped the participants explore the different paradigms and build a multidimensional understanding of the complex real-world issue that could then be used by the group to build a collective construction. It can, therefore, be seen that this phase of the approach and these activities all contributed to the promotion of cross-disciplinary collaboration and also need to inform the development of further cross-disciplinary approaches.

#### **10.5.6. Phase Six: Re-directing the Tension**

As stated earlier, the tension that can arise between perspectives as individuals share their personal constructions (Hardy, 2005; Lichtenstein et al., 2006) was particularly evidenced in this study during the Timelines and Timelines and Typology activities. The literature indicates that when this tension reaches a certain threshold it has the potential to lead to the breakdown in the system or lead to innovation and adaptive change as individuals resonate, accommodate and align their own perspectives to the information shared (Lichtenstein et al., 2006). The approach was, therefore, designed to not only build the tension in the Building Cross-disciplinary Understanding phase as described in the previous section but also to redirect the tension and move it towards transformation and change using *Appreciative Inquiry*. In the literature it was indicated that *Appreciative Inquiry* helps to facilitate the move towards transformation and

change (Adams et al., 2004) and allows participants to hold the different perspectives in tension (Holman et al., 2007). The sharing of real-life experiences encourages all voices to be heard thus bringing academic theory, practice and experience together (Finegold et al., 2002). This study supports this literature and found that the *Appreciative Inquiry* Discover phase did redirect the tension. For example, Participant N considered that the *Appreciative Inquiry* Discover activity was critical for the change in the way people worked during the *Appreciative Inquiry* Dream activity and moved the dialogue away from the theoretical typology to the positive life experiences of the participants, which Participant T considered brought a more authentic voice to the discussions. The participants also considered that the positive approach helped them to refocus on a common vision and goal for the future, which then carried on to the *Appreciative Inquiry* Design activity. It can, therefore, be seen that the move to the personal positive stories in the *Appreciative Inquiry* Discover phase did indeed re-direct the tension, generated by the exploration of the paradigms, towards transformation and change. Since this transformation of the tension is such a crucial phase of the cross-disciplinary process it would seem that the use of reintroducing a positive focus and the use of personal stories such as is undertaken in *Appreciative Inquiry* is a good method to use to promote this phase of the process and would be useful in similar cross-disciplinary approaches.

#### **10.5.7. Phase Seven: Building Collective Constructions and Identities**

This study used *Appreciative Inquiry* to help participants productively use the tension that occurs as people share their personal constructions to develop a collective construction in line with Hardy's (2005) understanding. *Appreciative Inquiry* was also used as it has been found to develop positive resolutions and a new preferred vision for the future (Holman et al., 2007) as well as assist engagement in higher levels of innovation (Whitney, 2004). This study found that the use of the *Appreciative Inquiry* Dream activity led to Groups SNARQK and LEGJ developing an integrated understanding of the issue. It also found that a positive vision for the future was developed during the *Appreciative Inquiry* Dream activity and positive integrated resolutions were formulated during the *Appreciative Inquiry* Design activity. As Participant R described, *following on from the previous discussion [the Appreciative Inquiry Dream] the ideas just flowed and we felt were well captured in our fish chart ... the passion developed as the ideas evolved ... we were able to use the expertise of the various group members in the process.* Likewise, Participant G stated, *though we all came from different backgrounds, knowledge and experience we collectively*

*embraced the thought of an information portal.* Group PHOTBD, however, did not develop a collective construction but merely juxtaposed ideas.

Lichtenstein et al. (2006) consider that as groups wrestle with tensions and develop collective constructions, they also develop a collective identity, which Augustine et al. (2005) consider is greater than the sum of the parts. In this study, neither Group PHOTBD nor Group LEGJ developed consistent collective identities. Group SNARQK, however, did develop a collective identity as they wrestled with the tension and built their collective construction. For example, Participant R describes that, *there were no boundaries in the discussion – all participated fully with no debate ... some participants who have previously shown strongly held often opposing perspectives ... were open and accepting and we were all on the same track in pursuit of this vision.* Participant K considered that the group's process was *transcendental*. Innes and Booher (1999) consider that this collective identity demonstrates greater intelligence, capacity to learn, and ability to innovate and adapt than its individual parts. It is unclear in this study, however, whether or not the collective identity was greater than the sum of its parts, demonstrated greater intelligence or was more innovative than the constituent participants. Nevertheless, it can be argued that the presence of the collective identity for Group SNARQK also accompanied the development of the most robust of the collective constructions developed at the weekend, which could intimate that the development of a collective identity may be significant to the depth and breadth of the collective construction that is developed by groups. If this is the case then it will be important for approaches, such as the one designed in this study, to include activities that further promote the development of collective identities.

This study found, in line with the research of Graybill et al. (2006), Marzano et al. (2006), and Stokols et al. (2008), that a collective identity did occur as participants developed relationships, a sense of belonging, and ownership of the task. This sense of group cohesion started to develop during the *Future Search* activity but became much stronger when the consistent small groups came together during the *Appreciative Inquiry* activities. This finding also aligns with the literature that states that *Appreciative Inquiry* helps to build group consciousness and commitment to the group (Holman et al., 2007). This would seem to indicate that *Appreciative Inquiry* is a good method to use to promote cross-disciplinary collaboration and the development of collective constructions and identities in future cross-disciplinary studies.

What a consideration of the findings of this study also reveals is that there were significant differences between the three small groups when it came to developing collective constructions and identities. In order to further understand the process and factors that impact the development of these collective constructions and identities a consideration of these group differences has been undertaken.

Bromme (2000), Hollingsworth and Hollingsworth (2000) and Loi and Dillon (2006) all suggest that group functioning is highly context dependent, which, according to Loi & Dillon (2006), Loisel (2005), Pennington (2008), Russell et al. (2008) and Stokols et al. (2008), relates to environmental factors and the processes or activities in which the participants are engaged. In the research at the weekend event, however, the three small groups all achieved different levels of cross-disciplinary activity and yet the environment and activities were the same. What then caused the differences between the groups? A consideration of these groups reveals some interesting findings as discussed below.

Group PHOTBD, who was the only group at the weekend to have all four paradigms of disability represented, was also the only group not to develop a collective construction or identity and to remain at the multidisciplinary level of operation, juxtaposing their ideas. The question is, why was this the case? Lichtenstein et al. (2006) would argue that this might be the result of the tension between the perspectives. The question remains, however, what caused the tension between the perspectives to not be used productively to develop a collective construction and collective identity?

An examination of Group PHOTBD's final knowledge product reveals that it was uniparadigmatic in nature, representing only the social materialist paradigm. In one respect this can be explained by the fact that Group PHOTBD did have a predominance of participants identifying with the social materialist paradigm. It does not explain, however, why the other paradigms that were present within the group were not represented in the final resolution. In particular, it does not explain why Participants P and B, who were the only ones who identified with the individual materialist paradigm, had none of their ideas represented in the final resolution. These findings would seem to indicate that the other paradigmatic voices, in particular the individual materialist voice, was silenced. This assertion is also confirmed by Participant B who felt excluded by the group and stated that *I have heard over and over again this weekend 'I don't' believe in rehab' ... and yet no one asked what rehab is, or does.* As was discussed earlier, the silencing of the individual materialist voice at the weekend

was also confirmed by Participant R who stated that she was told that *nursing ... has nothing to do with disability*. These findings would seem to suggest that the silencing of voices within this group, in particular the individual materialist voice, seriously hampered the development of a collective construction and collective identity by Group PHOTBD.

As an aside it is also interesting to note that as well as being silenced the individual materialist was also the paradigm under-represented at the weekend event. This under-representation is surprising since there were at least three knowledge bases/disciplines present who would traditionally be representative of the individual materialist paradigm: Physiotherapy, Nursing, and Social and Vocational Rehabilitation. This would seem to indicate, as previously posited, that the link between disciplines/knowledge bases and certain paradigms is weakening, particularly in the field of disability. These findings also raise the question of whether or not the individual materialist paradigm is weakening and becoming less prevalent within the disability field in New Zealand.

Easen et al. (2000) considers that the voices/paradigms that have most power are often those reflected in international and national policies and legislation. As was discussed in chapter three, the New Zealand Disability Strategy (2001) and the United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2006) that guide New Zealand's policies on disability, are firmly based in the social materialist paradigm. If Easen et al. (2000) are correct, then the predominant paradigm in New Zealand would be the social materialist one. It would be fascinating to investigate the influence the policies in New Zealand are having on the paradigms held by those working and studying in the field of disability as this could have a significant impact on cross-disciplinary studies in this field. It also raises the question that if the incidence of the individual materialist paradigm is declining, or if it is being silenced as occurred in Group PHOTBD, what impact does that have on resolutions that are developed and what aspects of the complex issue of disability and inclusion are not being considered?

Moving back to the group differences it would seem that, as well as the silencing of some of the paradigmatic voices, there was also tension between the theoretical and practical perspectives within Group PHOTBD, which also impacted the group's functioning. For example, Participant B considered that the group was highly focused on the theoretical aspects of the complex real-world issue, which they personally did not engage with, stating *I was lost in the theoretical discussions and would have fared*

*better in a group, which had some action in mind.* Assistant Brown confirms this assertion, observing that, *not sure how much [name] buys into the political change 'hegemony of the neo-liberal approach' ... he was effectively an observer.* This would seem to indicate that those with a more service orientated perspective also had their voices silenced in Group PHOTBD and meant that they remained disengaged from the discussions and their views were not integrated into the final knowledge product.

It can, therefore, be seen from a consideration of Group PHOTBD that the silencing of the individual materialist and service orientated voices in Group PHOTBD may have led to the lack of development of a collective identity or a move towards collective action, meaning that only a uniparadigmatic knowledge product was developed. This would seem to confirm the findings of Kochan et al. (2002) who found that the silencing of voices was often due to power differentials between perspectives. It also supports the findings of Choi and Pak (2007), MacMynowski (2007) and Pregernig (2006) that power differentials, such as the dominance of certain voices, can cause a breakdown in the formation of a group and hinder collaboration. The question then becomes why did the social materialist and theoretical voice become the dominant ones?

As was stated in chapter three, the social materialist paradigm seeks to eliminate disability through political action (Shakespeare, 2006) while the social idealist paradigm seeks to challenge societal attitudes that stigmatise those with impairments (Mitchell & Snyder, 1997). It could be argued that because those who adhere to the social materialist paradigm use political action to effect societal change, it is the very nature of the paradigm that makes it seek dominance and that this characteristic of the paradigm may have led to it become the dominant voice in Group PHOTBD. This assertion is also supported by Participant O's comments that *I think rehab/disability studies and the students/practitioners that they teach need to be political/politicized*, which would seem to indicate that this participant considers that others need to adopt the social materialist paradigm. Participants M and I also confirmed the strength of the social materialist paradigm. For example, Participant M stated *critical realism, which allows for the body and impairment makes the most theoretical sense BUT must not abandon the social model because the non-disabling society is a more important goal.* Likewise, Participant I stated, *an observation from one of your participants ... one can operate from a comfortable paradigm but see that another paradigm is a good platform for political change ... I have come to agree.* The strength of this paradigm alongside the predominance of it in Group PHTOBD may have been the reason why it became so dominant and silenced the other paradigmatic voices. These findings imply that those



who are designing and facilitating approaches such as the one designed in this study need to be aware of the characteristics of the different paradigms and where possible ensure that there is a balance of paradigms across the small groups.

In terms of the dominance of the theoretical voice, this might be due to the fact that, as Pregernig (2006) states, although there is a growing awareness of the importance of practical knowledge and experience, academic or theoretical knowledge is still the one that holds the most power. The dominance of the theoretical voice may also be related to the dominance of the social materialist paradigm since this paradigm is theoretical rather than practically based. What is interesting, however, is that while the dominance of the theoretical voice did seem to impact the functioning of Group PHOTBD, this was not seen in the other groups. In fact the importance of the theoretical voice was indeed questioned at the weekend with the *academic wanking* incident, discussed earlier, being a perfect example. This would, therefore, suggest that there might well be a link between the predominance of the social materialist paradigm and the dominance of the theoretical voice in Group PHOTBD. If this is the case then when planning the composition of small groups it may be important to be aware of the nature of the different paradigms as well as ensuring that there is a balance between academics, service providers and service users.

An examination of Group LEGJ, on the other hand, identifies some different factors that impacted its functioning. For example, the final knowledge product developed by Group LEGJ appears to demonstrate that the group did integrate the three paradigms represented in the group and used ideas from all of the participants to develop the final resolution. It also appears that during the *Appreciative Inquiry* Dream activity that a high level of collectivity occurred in their unspoken circle activity. Participants G and E also thought that this collectivity continued into the *Appreciative Inquiry* Design activity and the final resolution. For example, Participant G stated, *though we all came from different backgrounds, knowledge and experience we collectively embraced the thought of an information portal*, while Participant E considered that they worked in *interdisciplinary ways trying to make into a coherent whole*. However, it would appear from Participant L's comments that they did not consider that there was a consensus or level of collectivity. Participant L considered that, despite having their idea of citizenship being one of the major ideas in the final knowledge product, they had not fully contributed to the final activity. These findings seem to suggest that having one's ideas integrated into a collective construction does not necessarily make one feel part



of the collective. This then raises the question as to how someone can have a major contribution to a group but still feel that they have not contributed?

Participant L stated that the reason they thought that they had not contributed fully was because there was not enough time to really explore the issues and the other perspectives in more depth, and so the group rushed the process. It is, however, interesting to note that Participant L was also feeling frustrated by the *Appreciative Inquiry* process and wanted to spend more time exploring the processes that were being used. Participant L also noted that during the *Appreciative Inquiry* Discover activity that she had been focused on trying to understand the process of *Appreciative Inquiry* rather than engaging in the activity. This focus on the processes rather than the activities may have added to her sense of not having contributed, which in turn impacted the level of collectivity she experienced. It may be important, therefore, when implementing approaches that use new methods or processes, such as *Appreciative Inquiry* that some may not be familiar with, that some prior information or training be given so that participants can concentrate on engaging in the activities rather than focusing on understanding the processes.

Another interesting factor about Group LEGJ's functioning is that they did develop a collective construction and identity during the *Appreciative Inquiry* Dream activity but when they moved onto the *Appreciative Inquiry* Design activity, according to Participant L, this was lost. In her reflections, Participant L considered that this was due to the different theories, discourses and causal mechanisms that each participant held, which impacted the group's ability to agree on a resolution. One reason for this may have been because during the *Appreciative Inquiry* Dream activity the conception of an inclusive society was at a more abstract level, whereas during the *Appreciative Inquiry* Design activity the group would have needed to discuss the topic in more concrete terms. This assertion is backed up in principle by participants' experiences during the Timelines and Timelines and Typology activities. During these activities it was those considering the global and national timelines that were examining the broader issues who developed greatest commonality. For example, during the Timelines activity Participant H stated *wherever we came from we agreed on general themes ... I think my main learning was KISS, keep it simple stupid, works well when dealing with a diverse range of people*. In the approach designed in this study, the Synthesis and Specialisation activity that used the critical realist levels and scales of reality was designed to help the group explore how the different disciplines and paradigms could operate at the different levels and scales of reality when they moved to a more detailed

discussion of the resolutions. Unfortunately, this activity was dropped due to time pressures, although the levels and scales chart was given out and briefly explained to the groups. Group LEGJ, however, did not use the levels and scales chart. It would be interesting to see if the use of the Synthesis and Specialisation activity in further iterations of this research helps groups maintain productive tension when discussing the details of resolutions.

An examination of Group SNARQK, who did develop a collective construction and identity, sheds more light on what factors helped this group to use the tension between perspectives productively. As was stated earlier, this group, although having a predominance of the social idealist paradigm, did manage to develop an integrated knowledge product that represented three of the paradigms of disability. It was also stated earlier that this could have been due to the less politically motivated nature of the social idealist paradigm. It could also, however, have been due to the nature of the composite worldviews and paradigms of the participants in this group. For example, although not identified in their worldviews or paradigms of disability, Participants N, Q and K all reflected later, as they explored the paradigms more fully, that they did not adhere to only one paradigm but several. For example, Participant N realised that they were *not just in one box – but ... in 3*, Participant Q stated *I as a nurse would move around all/many of the typologies in practice*, and Participant K stated *I tend to draw from a lot of them (except for the med mod)*. This means that over half the participants in this group held composite paradigms in what Participant K described as a *transdisciplinary worldview*, or as discussed earlier, a transparadigmatic worldview. It is also interesting to note that these composite worldviews also represented the three paradigms of the final knowledge product. It is interesting to speculate whether or not this is why Group SNARQK were not only able to develop a collective construction but also a collective identity around these three paradigms. It is also interesting to consider that Group LEGJ, who had three participants, E, G and L, who identified as having transparadigmatic worldviews, also developed a final resolution that represented the three paradigms present in their worldviews. Group PHOTBD, on the other hand, only had two participants that identified with transparadigmatic worldviews, both of which included the individual materialist, which, as discussed previously was silenced. It is also interesting to consider that if more individuals are developing these transparadigmatic worldviews, as Participant K posits, and if they do have a significant impact on the development of collective constructions and identities, then this might have a very positive impact on the future of cross-disciplinary studies. It would be

interesting, therefore, to further explore the nature, incidence and impact of these transparadigmatic worldviews and how they develop.

Another factor that may have contributed to the ability of Group SNARQK to develop a collective construction and identity is the participants' motivation to attend. Wall and Shankar (2008) found that a participant's desire to broaden their perspective and be prepared to work and/or cross disciplinary and/or paradigmatic boundaries allows them to be more open to learn and reduces the fear to engage in the process. From the research at the weekend it is interesting to note that all three of the participants that stated that they had come with the motivation to learn, broaden their perspective and/or cross-boundaries all came from Group SNARQK. This is not to say that others did not also come with the motivation to learn but that these three saw that it was a significant factor that needed mentioning in their journals. This is also not to say that there was no negative tension within the group. Participants Q and R, for instance, commented on the fact that individual bias did influence how participants' contributions were interpreted and recorded in the *Appreciative Inquiry* Discover activity. It would appear, however, to support Wall and Shankar's (2008) research that found that motivation does impact not only the engagement but also the ability for the group to use the tension between the perspectives productively.

Another interesting difference between Group SNARQK and the other two groups is the breadth of ideas drawn from a range of sources. For instance, a comparison of the Flow of Ideas maps for the three groups reveals that Group SNARQK utilised ideas from a whole range of sources including the actual process (*Happy Feet* metaphor), four Timeline activity groups, two Timelines and Typology groups, and Group PHTOBD's concept of *Fair-go*, while Group LEGJ utilised ideas from one Timeline and Typology group and ideas from Group SNARQK and Group PHOTBD. Group PHTOBD, on the other hand, only drew on one Timelines group. This would seem to indicate that there might be a relationship between the range of sources used and the ability to develop collective constructions and identities. For example, the group that utilised ideas from the largest range of sources was able to build a collective construction and identity, the group that drew on other groups' work was able to build a collective construction and the group drawing on the fewest sources was unable to develop a collective construction or identity. Although this is merely a speculation, it does highlight another area for further research.

Another speculation relates to the development and use of metaphors. In line with Bromme (2000) and Koskinen (2005) this study found that the development of metaphors helps to structure the dialogical process and aids the exploration of perspectives and the development of mutual understanding. For example, Group SNARQK used the metaphor *Happy Feet* and developed the metaphor of a village, and Group LEGJ used the metaphor of a circle to structure their presentation and help them to articulate a shared understanding. Participant N stated that *the song/limerick pulled us together and the vision of a Happy Feet based metaphor capped it all off*. What is interesting is that it was the two groups that used metaphors to structure their presentations that were the ones who developed collective constructions. It would be interesting to further explore the relationship of the use of metaphors and the development of a collective construction.

Overall, it would seem from an examination of the findings that the approach designed in this study did indeed help to promote cross-disciplinary collaboration in two of the small groups that led to the development of collective constructions by them and a consistent collective identity for one of them. These findings from the weekend event also highlight that there are a number of other factors apart from the environment and activities that might impact the functioning of cross-disciplinary groups. From this research factors identified include the balance of paradigms, nature of paradigms, transparadigmatic worldviews, unfamiliarity with processes and activities, degree of detail required in the collective construction, the motivation to learn and cross disciplinary/paradigmatic boundaries, the breadth of the source of ideas used, and the use of metaphors. It is also speculated that other factors not evident in the research might have impacted on the functioning of the cross-disciplinary groups, for example, the mix of personalities within each group. All these factors might well be important to inform the development of further approaches to promote cross-disciplinary/paradigmatic collaboration and also provide areas for further investigation.

#### **10.5.8. Phase Eight: Preparing for Collective Action**

The findings from the weekend event support the literature that states that as well as helping to develop commitment to the group, *Appreciative Inquiry* also helps to develop commitment to the task (Holman et al., 2007). For example, Group SNARQK identified that they were going to organise a *Fair-Go* Conference, while Group LEGJ stated they were wanting to set up an information portal but would need help with the website. Assistant Blue also states, *helped collective action – final presentations showed that action can result from cross-disciplinary discourse*. This study also found that the

collectivity of the group, the commitment to the shared vision, the achievability of the agreed action steps, and the positive framing of the issue achieved during the *Appreciative Inquiry* activities all helped to move the groups towards collective action. Assistant Red also thought that it was encouraging to see the groups move towards collective action, saying, *I love their dream or the actual thing they were going to do (have a conference) just great – that must make everything from the weekend worthwhile.*

As well as inspiring collective action within the groups at the weekend the approach also inspired others to take action. For example, Participant B stated, *I want to be involved in action*, and Participant K commented that, *I am thinking about how I, and others, could use these processes of envisioning and planning for dreams with primary school students.*

In terms of the use of *Appreciative Inquiry* overall, the research indicates that the use of positive approaches such as *Appreciative Inquiry* on their own can lead to superficiality and an inability to deal with the deeper issues (M. Miller et al., 2005; Reed et al., 2002). It is, therefore, recommended by Khalsa and Kaczmariski (2006) that a combination of methods is used that includes methods that help to explore the different paradigms in detail and others that help integrate the perspectives. For these reasons the approach designed and implemented in this research used a case study; Priestley's (1998) typology as a meta-perspective; global, national and disciplinary timelines; and *Future Search* to help explore the different perspectives as described in the Developing Cross-Disciplinary Understanding phase, and *Appreciative Inquiry* to help integrate the perspectives and lead to collective action as described in the Building Collective Constructions and Identities and Preparing for Collective Action phases of the approach. The findings from this research support Khalsa and Kaczmariski's (2006) findings and found, as has been described in this section and the previous ones, that the mix of these methods did generate the tension needed to build the cross-disciplinary understanding and then helped the group to use this tension to integrate their cross-disciplinary understanding into a collective construction and identity. These findings would, therefore, suggest that it is important to use a mix of methods including ones that help to explore the different paradigms in detail and others that help integrate the perspectives when developing approaches to promote cross-disciplinary collaboration.

## **10.6 Evaluation of Cross-disciplinary Collaboration**

It was suggested in chapter two that new methods of evaluation that recognise the unique interactive nature of cross-disciplinary studies and their outcomes should be developed and used to determine the effectiveness of these studies (Spaapen et al., 2007). This study developed an evaluation process that recognised the uniqueness of cross-disciplinary studies. This evaluation process was based on the understanding that the effectiveness of the approach should not only be determined by the final outcomes but also the outcomes of both the intra-individual and the inter-individual processes. This evaluation process developed evaluative criteria informed by the aims of the different phases of the approach detailed in chapter five and the primary and secondary indicators identified in chapter two. A consideration of these methods is discussed below.

### ***10.6.1.1. Participatory Methods***

It was stated that evaluative methods needed to be participatory and include participants perspectives (Huutoniemi, 2010). This study found that the participants' journals not only allowed the evaluation to include participants' perspectives but also to evaluate the different phases on the cross-disciplinary process. This would seem to indicate that the use of journals was a suitable method for evaluating the unique nature of cross-disciplinary studies.

### ***10.6.1.2. Tracking of Ideas Method***

The tracking of ideas method designed in this study was used to determine if the knowledge products developed in the Building a Collective Construction and Identity, and Preparing for Collective Action phases of the approach fulfilled the aims of the phases and met the criteria of one of the primary indicators. The aim of this phase was to help groups to develop a collective construction and identity. One of the primary indicators was that if cross-disciplinary collaboration had been achieved, the collective construction would be the product of the cross-disciplinary dialogue and not originate from one individual (Fiore et al., 2010). This tracking of ideas method was based on meme-tracking (Leskovec et al., 2009) and the mobility of ideas methods (Allen-Robertson & Beer, 2010). In this study, this method proved useful for tracking the ideas from the individual participants and the activities through to the final knowledge products developed by the three small groups that came together for the *Appreciative Inquiry* activities. The tracking of ideas method was able to determine if an integration of perspectives had been achieved and if the knowledge products were the result of the cross-disciplinary dialogue and did not originate from just one individual. In

particular, the tracking of ideas method was able to demonstrate which voices were silenced, which paradigms dominated and which sources of ideas were utilised. It also helped to raise the question as to whether or not there was a relationship between the number and range of sources used in the final resolution and the development of a collective construction and/or identity.

Overall, therefore, it would seem to indicate that this tracking of ideas method was a useful way to determine the effectiveness of the approach and could be a useful tool for evaluating whether or not other approaches achieved cross-disciplinary collaboration. These findings also show that using the primary indicator that the collective construction of the group should emerge from the group dialogue and not just originate from one person, is an effective means of determining if cross-disciplinary collaboration has been achieved that fits with the unique, interactive nature of these studies.

#### ***10.6.1.3. Content and Thematic Analysis***

This study used content and thematic analyses to examine the journal reflections, the observations, and individual and group artefacts (knowledge products generated by either the individual or the group) from the weekend event. Ezzy (2000) considers that content analysis draws on themes taken from the literature while thematic analysis allows the themes to emerge from the data. These methods were chosen as they fitted well with design-based research since they allow research to build on existing, as well as add to, theory. In this study, it was found that these methods did allow the research to not only confirm and build on existing research but also to identify new understandings and areas for further research. For example, these methods were utilised to determine if the aim of building a collective identity in the Building a Collective Construction and Identity phase was achieved in line with another of the primary indicators that states that if cross-disciplinary collaboration has been promoted then a collective identity may have been developed. The use of content analysis was found to be useful to determine the 'we-ness' and collectivity of the groups. Therefore, it can be seen that content analysis and thematic analysis could be useful methods of determining if cross-disciplinary collaboration and/or transdisciplinary ways of working had been achieved.

Content and thematic analyses were also used to determine if the aims of the other phases of the approach and the secondary indicators were achieved. In this study this approach to the analysis, while not directly proving that cross-disciplinary collaboration



had been promoted, did help to demonstrate if the intra-individual and inter-individual processes had been promoted, the aims of the phases had been achieved, and whether or not the secondary indicators had been evidenced. The use of thematic analysis also allowed for other factors, such as the feeling by the participants that their work would have an on-going impact, to be considered as a secondary indicator. These findings suggest that using a combination of content and thematic analysis may also be a useful method for evaluating the phases of other cross-disciplinary studies.

#### ***10.6.1.4. Triangulation***

The literature considers that triangulation helps to provide validity of the findings (Willis, 2007), allows all the different perspectives on the study to be considered (Eisenhardt, 1989; Sobh & Perry, 2006) and mitigates the presence of the researcher (McKenney & Reeves, 2012). In this study triangulation of the data from the participants' journals and the assistants' observations and the artefacts developed was found to provide a confirmation of findings, which not only helped to provide validity to the study but also allowed the different perspectives to inform the study thus increasing knowledge about the complex phenomenon of cross-disciplinary collaboration and mitigating the presence of the researcher.

#### ***10.6.1.5. Researcher's Reflections***

The final method used to determine the effectiveness of the approach was the researcher's reflections. Literature states that researcher's reflections help to consider unanticipated factors that might influence the process, consider a particular moment in time and reflect on why things are occurring as they are, consider how the different methods used to collect and analyse the data have addressed the research questions, and consider what could be changed to improve the evaluation (McKenney & Reeves, 2012). In this study these reflections were used to consider moments in time, for example, the 'academic wanking' incident, and consider how individuals were responding to the incident and how it influenced engagement in the activity. Researcher's reflections were also used to consider how the differences in the three groups impacted the building of collective constructions and identities. These reflections were also used to consider the data collection and analysis methods, how useful they were at evaluating the effectiveness of the cross-disciplinary approach, and how they might be improved. From this study it can be seen that researcher's reflections added another useful dimension to the evaluation of the approach and may be a useful method to use when evaluating other approaches.



The next chapter will draw conclusions from this discussion as they relate to the research questions, make recommendations, identify areas for future research and consider the limitations of the study.

## **Chapter 11: Conclusion**

### **11.1 Introduction**

This chapter first considers the rigour of the study and then addresses the seven research questions. It briefly summaries where the results of research questions one to four can be found in the thesis and how the answers to the first two research questions helped to inform the development of the approach and the evaluation process in response to the third and fourth research questions. The chapter then continues by discussing the conclusions and recommendations in terms of the fifth research question, in what ways does the approach designed in this study help to promote cross-disciplinary collaboration when studying a complex real-world issue and what hinders it? It then considers the sixth research question, what changes could be made to the design of the approach to further promote cross-disciplinary collaboration? The chapter then considers the seventh research question, what contributions to the further understanding of cross-disciplinary collaboration has this study made that could be used to inform other cross-disciplinary studies? Finally, the chapter highlights areas for further research and considers the limitations of the study.

### **11.2 Evaluating the Rigour of the Study**

In chapter four, it was stated that traditional methods for evaluating the rigour of studies is not applicable for those undertaken within a critical realist paradigm and that new criteria are needed (Healy & Perry, 2000). A number of criteria were identified in the literature that could be used to demonstrate the rigour of a study using a critical realist philosophy (Healy & Perry, 2000). These will be used in this section to determine the rigour of this study.

One criterion relates to whether or not the research deals with a complex phenomenon and reflective people (Healy & Perry, 2000). This study explored the complex phenomenon of cross-disciplinary collaboration and encouraged participants to reflect on their understanding of the complex real-world issue of inclusion as well as the cross-disciplinary process in which they were engaged.

Another criterion considers whether the research takes account of the openness of systems and the causal mechanisms that give rise to the phenomenon (Healy & Perry, 2000). This study recognised that the cross-disciplinary system was open and used

qualitative methods to explore it. This study also recognised the interrelated nature of the intra-individual and inter-individual process and identified a number of different causal mechanisms that influenced the cross-disciplinary process, such as the context, activities, facilitation, hospitality, the participants' motivations and perspectives, and the guiding policies on disability in New Zealand.

Whether or not the study is value-conscious and takes account of the multiple perceptions of those involved is another criterion (Healy & Perry, 2000). This study was aware that the researcher's presence could impact the findings and sought to mitigate the effect through triangulation of data collection and analysis. The triangulation of the data also helped to take into account the multiple perceptions of the different participants and observers.

Trustworthiness of the research was another criterion (Healy & Perry, 2000). This study has undertaken to provide participants with a summary of findings and access to the final report to ensure the validity of the data.

Healy and Perry (2000) consider that another important criterion is that the research should be involved in theory building rather than theory testing. Although this study was involved in evaluation, this was not for the purpose of theory testing but to enhance further iterations of the approach. In line with design-based research, this study aims to help add to the growing understanding of cross-disciplinary collaboration and how it can be evaluated and is thus involved in theory building.

Yet another criterion considers the construct validity of the research (Healy & Perry, 2000). This criterion involves considering whether or not any theories generated are fallible, whether theoretical questions have been used to confront the data, and whether contextual issues have been considered (Healy & Perry, 2000; Mingers, 2004b; Modell, 2009). This study has been involved in exploring the contextual nature of cross-disciplinary collaboration as well as the impact of participants' motivations and the activities. No general theories have been proposed but recommendations of factors that could help to inform the future design and evaluation of approaches have been made. Theoretical questions have also been posed, which identified areas for further research.

Overall, it can be seen that this study does meet the criteria for rigour suggested for this research paradigm. These findings not only demonstrate that rigour was achieved

in this study, but that these criteria may prove to be a useful way of evaluating studies undertaken within a critical realist paradigm. Based on the rigour of this study the following conclusions and recommendations are made in light of the research questions.

### **11.3 Research Questions One to Four**

The first and second research questions, what factors in the literature have been found to promote or hinder cross-disciplinary collaboration when studying complex real-world issues? and what methods are suggested in the literature to evaluate cross-disciplinary collaboration? were answered in chapter two? The findings from the literature review presented in chapter two were then used to inform the design of the approach to promote cross-disciplinary collaboration as detailed in chapter five and the development of the evaluation process as detailed in chapter seven. The development of the approach and evaluation process answered the third and fourth research questions, what approach to cross-disciplinary collaboration incorporates the factors identified in the literature that promote cross-disciplinary collaboration? and what evaluation process is suitable to use to evaluate the designed approach? No further conclusions or recommendations are made in this section in relation to these questions as it is considered that they are covered in the chapters identified above.

### **11.4 Research Question Five**

The cross-disciplinary approach was implemented as detailed in chapter six and considered using the evaluation process detailed in chapter seven to answer the fifth research question, in what ways does the approach designed in this study help to promote cross-disciplinary collaboration when studying a complex real-world issue and what hinders it? This section considers the conclusions and recommendations drawn from the findings that were reported in chapters eight and nine and discussed in chapter ten. As outlined in chapter seven, a number of sub-questions are involved in answering this question and will be used to structure the discussion.

#### **11.4.1. Was the Study Cross-disciplinary in Nature?**

In order to provide the diversity of perspectives needed to study complex real-world issues, this study highlights that rather than groups being cross-disciplinary they need to be cross-disciplinary and cross-paradigmatic. The findings discussed in chapter ten show that the large and small groups at the weekend event were both cross-disciplinary and cross-paradigmatic.

#### **11.4.2. Was Cross-disciplinary Collaboration Promoted?**

This study used primary and secondary indicators, as discussed in the previous section, to determine whether or not cross-disciplinary collaboration was promoted. The findings in this study show that cross-disciplinary collaboration was achieved by two of the groups who came together for the *Appreciative Inquiry* activities. Both of these groups developed collective constructions. One of the groups developed a consensus that a collective identity had been built, while only some in the other group considered that a collective identity had been developed. The third small group did not develop a collective construction or identity but merely juxtaposed ideas and developed a uniparadigmatic knowledge product. The large group did not attempt to develop a collective construction due to a lack of time but some considered that the large group had achieved a degree of collectivity. It can, therefore, be concluded that the approach did promote cross-disciplinary collaboration when studying a complex real-world issue.

#### **11.4.3. What Ways did the Approach Promote Cross-disciplinary/Paradigmatic Collaboration and What Hindered it?**

In order to promote cross-disciplinary collaboration it is necessary to promote the intra-individual and inter-individual processes through the different phases of the approach. This study found that the approach did help to promote the intra-individual and inter-individual processes through the different phases of the approach, which for two of the small groups resulted in cross-disciplinary collaboration as considered below.

The approach helped to promote the intra-individual process through critical self-reflection, on-going reflective journaling and interaction with others in the Worldview, Paradigm of Disability, Timelines, *Future Search* and on-going reflection activities. These activities helped participants reflect on their own and others' assumptions, consider how their worldviews and paradigms had developed, and deepened their thinking on the paradigms and the understanding of the complexity of their perspectives, which in turn helped the participants engage in the inter-individual process.

The approach also helped to promote engagement in the inter-individual process through the provision of a face-to-face event; a conducive, physical environment; establishment of ground rules; provision of good hospitality, quality facilitation and opportunities for informal times; and development of relationships. These factors all helped to build a safe, trusting, non-judgmental environment that helped participants take risks, encouraged all voices to be valued and heard, and helped to dispel

stereotypes. It was found that the Movie, Timelines, *Future Search* and *Appreciative Inquiry* activities also helped to initiate engagement in the inter-individual process.

A positive focused concept map was found to not only consolidate the individuals' knowledge of the complex real-world issue in an intra-individual process but also provided the basis for a common goal and vision. This positive focus helped to provide a common frame of reference on which participants could base their future communication. It was found that the use of a case study, timelines, in-depth study of the paradigms and real-life stories also helped to develop this common ground and helped the group develop a common language, which helped to overcome the miscommunication caused by differences in understanding relating to the concepts of worldview and disability, the language of the typology, and the academic jargon.

The approach designed in this study used a mixture of methods, which helped generate tension between the perspectives that enabled two of the small groups to develop a collective construction. The meta-perspective in the form of Priestley's (1998) typology, a case study in the form of the movie *Happy Feet*, timelines, creative activities, and the in-depth exploration of the perspectives in the *Future Search* activity helped participants to explore the perspectives and increased the tension between the perspectives. A meta-perspective in the form of the critical realist levels and scales, the *Appreciative Inquiry* activities and the use of metaphors helped the participants to use the tension generated by the perspectives to develop collective constructions. The *Appreciative Inquiry* Discover activity that used positive real-life experiences and reiterated the positive focused common goal and vision was found to be the activity that redirected the tension and helped groups to develop their collective constructions.

The approach also helped one group develop a collective identity and move towards transdisciplinary ways of working. This collective identity was achieved through the development of relationships and the provision of a creative activity in the *Appreciative Inquiry* Dream activity. The move towards collective action was also promoted in two of the groups through the *Appreciative Inquiry* Design activity.

The factors that were found to hinder cross-disciplinary collaboration were the dominance of the theoretical voice and the politically motivated social materialist paradigm, which closed down conversations and excluded some from participating in the collective constructions; the degree of detail needed in the collective construction; and a focus on the process rather than the activity.

Overall, therefore, it can be concluded that the approach designed in this study did promote cross-disciplinary collaboration with two of the groups when they came together to study the complex real-world issue of inclusion. This would seem to indicate that the approach designed in this study is a useful approach to use when drawing together a cross-disciplinary group to study complex real-world issues. Therefore, this approach may well be a useful tool for using with other groups who come together for medium to long-term cross-disciplinary studies to study complex real-world issues.

## **11.5 Research Question Six**

This section considers what changes could be made to the design of the approach to further promote cross-disciplinary collaboration in line with research question six.

### **11.5.1. Better Instructions**

One area for improvement relates to the quality of instruction provided. While some of the findings from the weekend suggest that the instructions for the activities were good, other findings suggest that the overall introduction and the *Appreciative Inquiry* Discover and Design activities could have been explained more clearly. This lack of clarity of instruction not only hindered interaction and engagement in activities, but could also have been responsible for Group LEGJ not achieving a collective identity. Therefore, it would be important to review all the instructions for the activities and ensure that they are all clear before gamma testing is undertaken. In particular, in order to help participants focus on the activity rather than how the process works, it is recommended that more detailed descriptions of the main tools such as *Appreciative Inquiry* and *Future Search* are provided either prior or at the beginning of the face-to-face event.

### **11.5.2. Sufficient Time**

A number of the participants commented on the lack of time provided for a number of the activities and for getting to know each other. Time was also a factor in the dropping of the Synthesis and Specialisation activity, which could have helped groups maintain the collective identity when dealing with the higher levels of detail in their resolutions. Therefore, while it is important not to overburden the participants with a hugely increased time commitment, the approach, if undertaken in a similar manner, could be undertaken in three full days as opposed to two days but still only involve two nights. This extra day would give more time for building relationships, allow for the missed activity to be undertaken and provide more time for some of the other activities.

### **11.5.3. Large Group Knowledge Products**

The extended period of time mentioned above would also allow for large group knowledge products to be developed. It had been planned that there would be final feedback sessions after the *Appreciative Inquiry* activities where the large group could develop collective knowledge products, but this was cancelled due to time restrictions. While it was good to compare and contrast the differences between the small groups, which led to a greater understanding of the cross-disciplinary process, it would also have been good to see if the large group was able to develop a collective construction over the course of the weekend as planned.

### **11.5.4. Tiredness**

Two of the participants and three assistants also noted that cross-disciplinary collaboration had been hindered on the Saturday night due to tiredness. Again a readjustment of the timeframe for implementation of the approach could help to alleviate this issue and lead to better engagement in the activities. Therefore, it is recommended that when gamma testing of the approach is undertaken that activities finish earlier in the evenings, which should be possible if the longer time period suggested in the previous recommendation be implemented.

## **11.6 Research Question Seven**

This section considers research question seven what contributions to the further understanding of cross-disciplinary collaboration has this study made that could be used to inform other cross-disciplinary studies? It is divided into four sections factors that could inform the research process factors; that could inform the design process; factors that could inform the evaluation process and; factors that could inform the implementation of the approach.

### **11.6.1. Factors to Inform the Research Process**

Design-based research was found to be a useful methodology in this study as, unlike other methodologies that mainly focus on the data collection and analysis aspects of research, it provided an overarching structure for the design as well. The use of design-based research meant that the approach was based on a strong theoretical and research base at each stage of the design process from initial design propositions to a fully operational approach, which resulted in a robust final design. The linking of the design and evaluation phases within the same methodology also meant that evaluative criteria could be drawn from the literature base that was used to design the approach, which led to the development of a multidimensional evaluation process. Overall, therefore, it can be concluded that design-based research was a suitable methodology



for designing and evaluating this cross-disciplinary approach and may be a suitable methodology for use with other studies that seek to design and evaluate cross-disciplinary approaches.

Critical realism was also found to be a good epistemological basis for the research as it not only provided a philosophical understanding of the nature of knowledge that guided the evaluation process, but also helped to provide an understanding of the co-construction process that occurs in cross-disciplinary collaboration that helped to guide the design process. Critical realism also provided the basis for the meta-perspective used for many of the activities. In these ways, critical realism helped to provide a consistent perspective at all levels of the project that also fitted well with the epistemologically neutral design-based research. It can, therefore, be seen that the use of design-based research underpinned by critical realism provided a good methodological base for this cross-disciplinary study and could be used with other cross-disciplinary studies.

#### **11.6.2. Factors to Inform the Design of Cross-disciplinary/Paradigmatic Approaches**

It was identified in chapter three and supported in the research at the weekend that rather than just forming around academic disciplines, social systems also form around paradigms that may exist either within or across traditional academic boundaries. In order to provide the diversity of perspectives needed to develop a multidimensional understanding of, and resolutions to, complex real-world issues, therefore, groups need to be cross-disciplinary and cross-paradigmatic instead of just cross-disciplinary. In order to draw together these cross-disciplinary and cross-paradigmatic groups it is recommended that researchers identify and invite participants from the major paradigms as well as disciplines that work in the area of study. Inviting individuals from the different paradigms, however, may not be as straightforward as it may appear since this study shows that individuals often hold transparadigmatic worldviews that may or may not be representative of their disciplines. In order to achieve paradigmatic diversity, therefore, it may be necessary to first identify the different paradigmatic perspectives on the object of study and then include a questionnaire for completion with the invitation to participate, perhaps based on the Worldviews and Paradigms of Disability activities in this study. It also needs to be accepted that no group can represent all the perspectives on a topic and that the multidimensional understandings of, and resolutions to, complex real-world issues can only ever be partial. Although

they may be partial, however, they still bring very useful perspectives that can be used to help resolve complex real-world issues.

In terms of the nature of cross-disciplinary collaboration, this study supports the literature that cross-disciplinary collaboration is a process that involves the interaction of intra-individual and inter-individual processes, as shown in the model of a cross-disciplinary system in Figure 5.1. These processes occur when participants critically self-reflect on their assumptions, consolidate their knowledge, actively engage with others, and seek to integrate their perspectives by building a common frame of reference and language, which leads to the development of a collective construction and possibly a collective identity. Cross-disciplinary collaboration can involve either interdisciplinary or transdisciplinary ways of working. The difference between the different types of cross-disciplinary collaboration is that both interdisciplinary and transdisciplinary ways of working develop collective constructions but collective identities are only developed in transdisciplinary activities.

This study found that in a similar way to other social systems, groups move from multidisciplinary through interdisciplinary to transdisciplinary ways of working as the cross-disciplinary system is developed. As shown in Figure 5.1 and Table 10.2, the development of this system was not found to be a linear progression since groups transitioned backwards and forwards between activities and different cross-disciplinary ways of working. This model of the cross-disciplinary system can, therefore, be seen to provide a good understanding of the cross-disciplinary process, which could be used to structure other cross-disciplinary approaches. This also indicates that an understanding of the ways in which the approach promoted cross-disciplinary collaboration will be important to consider when designing future cross-disciplinary approaches. These will be outlined in the section that relates to the second research question in this chapter.

As well as the approach to cross-disciplinary collaboration designed in this study the research at the weekend also found that the presence of the transparadigmatic worldviews and participants' motivation to learn from others and cross boundaries helped to promote cross-disciplinary collaboration. These findings indicate that cross-disciplinary collaboration is dependent on the context within which the cross-disciplinary study takes place, the cross-disciplinary approach and activities implemented, and the make-up of the cross-disciplinary group. It is, therefore,

recommended that all these factors be considered when designing approaches to promote cross-disciplinary collaboration when studying complex real-world issues.

### **11.6.3. Factors to Inform the Evaluation of Cross-Disciplinary/Paradigmatic Approaches**

This study used evaluative criteria based on the aims of the phases of the approach as detailed in chapter five and the primary and secondary indicators drawn from the literature to determine if the approach promoted cross-disciplinary collaboration. Two primary indicators were used. The first primary indicator considered if the collective constructions that were developed emanated from the group dialogue rather than from one person. The second primary indicator considered if a collective identity developed. What is interesting from an evaluation perspective is that this study found that while collective identities may develop at the same time as the collective constructions, as indicated in the literature, it is not always the case and groups can develop a collective construction but not a collective identity. It was found that even if these collectives did form at the same time the collective identity could dissipate later if the task was more detailed or if one or more of the participants did not consider they had contributed to the group. It can, therefore, be seen that the use of these two primary indicators meant that it was not only possible to use two different findings to confirm that cross-disciplinary collaboration had been achieved, but these findings also helped to identify a possible difference between interdisciplinary and transdisciplinary ways of working and where they occurred in the process.

Two types of secondary indicator were used in this study to help evaluate the approach. The first type were general secondary indicators that included participants enjoying the opportunity to network and build relationships, experiencing high levels of work satisfaction, reigniting their passion and commitment to the field of study, increasing optimism for their work, and being more keen to explore other methods. These indicators were used to help support the primary indicators in demonstrating whether or not cross-disciplinary collaboration had been achieved. The second type of secondary indicators determined if different phases of the approach had been achieved. These indicators included whether or not individuals were able to critically self-reflect, explore other perspectives, develop a common frame of reference, develop a multidimensional understanding of the complex real-world issue, and develop skills of working together. These secondary indicators were found to be useful to determine the effectiveness of the different phases of the approach in this study. The use of a combination of these indicators meant that it was possible to evaluate whether or not

the different phases of the approach had been achieved as well as determine if cross-disciplinary collaboration had been promoted and if so which type. It can, therefore, be seen that these primary and secondary indicators are useful for inclusion in an evaluation process of other cross-disciplinary studies and approaches.

Critical realism, the underpinning philosophy of this study, states that although there is an objective reality it can only ever be understood subjectively. For this reason qualitative methods were used in this study to consider the evaluative criteria. The use of participants' journals, assistants' observations and the artefacts developed by the individuals and groups provided a broad range of data that could be used to support each other in a triangulation process, which helped to increase the validity of the findings. The use of content analysis (deductive) and thematic analysis (inductive) were found to be useful to consider how the approach performed in terms of its design, based on the previous literature, as well as identify other factors that may be important to inform the design of cross-disciplinary approaches. Analysis methods were also triangulated in this study with the use of content and thematic analyses, and researcher's reflections. The use of the tracking of ideas method, developed in this study, was useful to determine the level of integration of ideas and where those ideas were generated. It also highlighted differences between the groups and identified a number of other factors that might impact cross-disciplinary collaboration that need further investigation. It can, therefore, be seen that this range of both data collection and data analysis methods provided a robust means of evaluation of this multifaceted phenomenon. In light of the need to identify new methods for evaluating cross-disciplinary studies, discussed in chapter two, it is suggested that the evaluation process developed in this study may be a useful means for evaluating cross-disciplinary studies and approaches.

#### **11.6.4. Factors to Inform the Implementation of the Approach**

The activities that were chosen in this study to implement the approach are just some of many that could have been selected. For example, as stated in chapter two, there are over sixty Whole Systems Change methods that could have been used instead of *Appreciative Inquiry* and *Future Search*. This means that the approach is highly flexible and that rather than a rigid re-creation of the exact activities, a flexible approach is possible that would allow for other activities to be chosen that were more suited to the object of study or situation.

The approach designed in this study was intended for use with medium to long-term research groups where cross-disciplinary groups would be working together for extended periods of time. However, by returning to the principles of the approach encased in the model of the cross-disciplinary system in Figure 5.1 and the final design specification outlined in Table 5.2, it is possible to consider how these principles can be used to help structure approaches for shorter events such as Individual Education Plan meetings. For example, the understanding of the model of cross-disciplinary system could be used to help structure the activity using the phases of the approach. This would mean that a consideration of the environment would be necessary, including where the meeting or event is to take place, the level of hospitality required, and how a safe relational environment could be developed. There would also need to be a consideration of how the intra-individual process could be promoted, perhaps through critical self-reflection and consolidation of understanding prior to the event. There would also need to be planning around how the meeting would be conducted. For example there would need to be the provision of a positive, solution focused goal that could act as a basis for the development of a common frame of reference and a common goal for any resolutions that are developed; methods such as *Appreciative Inquiry* and *Future Search* would need to be used to help explore and integrate the perspectives; and a meta-perspective should be used to help hold the different perspectives in tension.

It can, therefore, be seen that this study not only provides an approach that could be used with medium or long-term research studies, but the principles on which it is based could be used in a wide range of settings and situations. This would seem to indicate that this approach and the principles on which it is based would also be useful within the new and emerging discipline of Integration and Implementation Science mentioned in chapter one.

## **11.7 Further Research**

Like all research projects this study has raised a number of questions and areas for further research. These are detailed below.

### **11.7.1. Collective Constructions and Identities**

This study confirms the literature that states that the tension between perspectives can lead to the development of a collective construction and a collective identity. However, neither the literature nor this study really identified how the tension between the perspectives is used to develop the collective construction and/or collective identity,

how collective constructions and identities develop separately, how participants can have their ideas integrated into collective constructions but still not think that they have contributed or what factors cause collective identities to disintegrate. Since this is a crucial phase of cross-disciplinary collaboration it would seem important to investigate this further.

Leading on from the discussion above, this study also found that it was not clear as to whether or not the collective identities were greater than the sum of the parts or demonstrated greater intelligence or innovation than the individual parts. In order to understand these collective identities and their importance to the development of resolutions to complex real-world issues, it would be important to consider how to evaluate whether or not these collective identities are greater than the sum of the parts and have a greater intelligence and/or ability to innovate than the constituent parts. In order to evaluate these aspects of collective identities, new methods would be needed.

#### **11.7.2. The Impact of National Policies and Guidelines**

Another area for further research that emerged from this study relates to the impact of national policies or guidelines on what knowledge is considered to be socially valued, which in turn may influence which voices are dominant. This study found that the individual materialist voice was under-represented, except as part of composite paradigmatic worldviews, and that the social materialist paradigm was one of the dominant voices. This posed the question as to whether this might be due to the fact that national guidelines and policies in New Zealand are based in the social materialist paradigm. It would, therefore, be interesting to consider if there is a predominance of the social materialist paradigm within the wider disability field in New Zealand and to compare this with countries that have different guidelines and/or legislation.

#### **11.7.3. Paradigms and Cross-disciplinary Collaboration**

This study raised two interesting questions in relation to the impact of paradigms on cross-disciplinary collaboration. As stated above, the social materialist paradigm became a very dominant voice in one of the small groups at the weekend, which led to the closing down of other paradigmatic voices and resulted in the development of a uniparadigmatic knowledge product. It was suggested that this might be because it is a highly political paradigm that seeks to eliminate disability through political action. This would seem to indicate that the nature of paradigms could have a significant role on cross-disciplinary collaboration. If this is so, the impact that the nature of different paradigms has on cross-disciplinary collaboration needs further investigation.

Another aspect related to the impact of paradigms on cross-disciplinary collaboration is the presence of transparadigmatic worldviews that bridge a number of paradigms held by participants in the cross-disciplinary group. It was suggested that the presence of these transparadigmatic worldviews helped one small group develop a resolution based on the paradigms present within their transparadigmatic worldviews. It was also suggested that those holding these transparadigmatic worldviews were also more open to learn and cross disciplinary boundaries. This would seem to indicate that the presence of these transparadigmatic worldviews might have a significant impact on engagement in the cross-disciplinary process and the ability to integrate perspectives, which in turn could impact cross-disciplinary collaboration. It would, therefore, seem important to further explore their impact on engagement in the cross-disciplinary process and the ability of the group to integrate ideas.

#### **11.7.4. The Role of Motivation on Engagement**

The literature that was reviewed in this study considered that cross-disciplinary collaboration is context dependent. This study showed that as well as being context dependent it may also have been influenced by the articulated motivations of the participants to be open and willing to cross boundaries. Further research is needed to consider the significance of this finding and how being open and willing to learn can influence cross-disciplinary/paradigmatic collaboration as well as what motivates people to want to cross boundaries.

#### **11.7.5. Evaluation Process and Use of Tracking of Ideas Method**

This study developed an evaluation process to examine the approach designed in this study that used evaluative criteria based on the primary and secondary indicators identified in chapter two and the aims of the phases of the approach detailed in chapter five. While it was found useful in this study to evaluate the cross-disciplinary approach, it would be interesting to see whether or not it is a useful method to use with other similar studies.

Since no specific methods were found to track ideas through individual and group artefacts, a new method was used based on meme-tracking and mobility of ideas. This method was found to be useful to determine the level of integration and the type and origin of the ideas that formed collective constructions in this study. It was also useful to determine the type of cross-disciplinary activity achieved by the group. This would seem to demonstrate that this is a useful tool to evaluate cross-disciplinary studies and, therefore, requires further investigation.

#### **11.7.6. How the Approach Works in Other Studies**

Design-based research is a method that involves multiple iterations of research where the approach is continually evaluated and refined. Therefore, in order to further refine and improve the approach to promote cross-disciplinary collaboration, further research cycles are needed. These iterations could be with other cross-disciplinary groups from the New Zealand disability field, other national or international disability groups, or those from other disciplines studying other complex real-world issues.

#### **11.7.7. Cultural Diversity**

As was stated in chapter ten, the group brought together in this study lacked cultural diversity and so it was not possible to determine how the approach designed in this study would perform when used with culturally diverse groups. Other research is, therefore, necessary to consider the impact of cultural diversity on cross-disciplinary collaboration and how that might influence the design and evaluation of cross-disciplinary approaches.

#### **11.7.8. Use of the Approach's Principles**

It was stated earlier that the principles behind the approach might also be useful to help structure short-term events such as Individual Education Plan meetings. It would, therefore, be interesting to undertake more research to determine the usefulness of these principles to promote cross-disciplinary collaboration particularly with these types of short-term events.

#### **11.7.9. Use of the Data on Disabilities and Inclusion**

While the focus of this study was on the process of cross-disciplinary collaboration, data was collected on understandings of disability and the complex real-world issue of inclusion. It would, therefore, be interesting to study this data further and consider how it might add to the literature on disability and inclusion. It would also be interesting to follow up on the participants and consider if the action points identified by the groups were implemented and/or if participation in the weekend had impacted their thinking and/or practice.

### **11.8 Limitations of the Study**

Like all studies there are a number of limitations that need to be considered. These are discussed below.

#### **11.8.1. Only One Iteration**

Design-based research usually involves a number of iterations. Being limited by time and resources, attributable to doctoral research, this study only involved one beta cycle



of evaluation. While this one cycle does mean that improvements can be made to further refine the approach in a gamma testing cycle, and some expansion of the understanding of cross-disciplinary collaboration has been possible, it has restricted the study's ability to add substantively to the field of cross-disciplinary collaboration.

#### **11.8.2. Diversity of the Group**

The group drawn together only involved nineteen participants, which while producing some interesting results that are applicable to this group, means that the study may not be representative of either the wider disability field in New Zealand or elsewhere, or other cross-disciplinary groups brought together to study complex real-world issues. Also, as was stated in chapter ten, some of the disciplines were missing and some paradigms were under-represented, which may have biased the findings. Another significant limitation of the study was the limited cultural diversity of the group. If this cultural diversity had been present then the findings may have been different or the approach may have needed to be adapted to accommodate this diversity.

#### **11.8.3. No Large Group Knowledge Products**

As was stated earlier, due to time restrictions no large group knowledge products were developed. This lack of large group knowledge products means that it has been difficult to ascertain whether or not the large group in this study developed a collective construction or identity.

#### **11.8.4. No Record of On-going Impact**

While this study did track the on-going reflections of the participants during the weekend event, it did not follow up to consider whether or not the collective action planned had taken place or if the individual outcomes had influenced the participants' on-going perspectives or work. If this had been undertaken a consideration of the on-going impact of the cross-disciplinary collaboration could have been better evaluated.

### **11.9 Final Summary**

This study used design-based research methodology to design, implement and evaluate an approach to promote cross-disciplinary collaboration when studying complex real-world issues. This study has shown that design-based research underpinned by critical realism is a suitable methodology for designing and evaluating cross-disciplinary approaches. This study has also contributed to the understanding of the nature and types of cross-disciplinary activities and how they form cross-disciplinary systems. It has shown that despite some limitations, the approach did promote cross-disciplinary collaboration for two of the small groups and confirmed the

importance of the different phases of the approach. It made recommendations that the approach could be further enhanced by providing better instructions and explanations of the process and providing more time and space to eliminate tiredness, develop large group knowledge products and include the Synthesis and Specialisation activity. It also suggested that the principles of the approach could be used for short-term events and could make a contribution to the new and emerging discipline of Integration and Implementation Science.

This study also developed an evaluation process and identified new methods for evaluating cross-disciplinary studies using evaluative criteria based on the primary and secondary indicators identified in chapter two and the aims of the phases of the approach detailed in chapter five. This evaluation process used multiple data sources and analysis methods that recognised the unique interactive nature of cross-disciplinary studies. Valuable questions were raised that could lead to further research, including how collective constructions and identities develop, the nature of collective identities, the influence of national legislation on which knowledge is most socially valuable and the impact that this could have on cross-disciplinary studies, the impact of the nature of paradigms and transparadigmatic worldviews on the collaborative process, the role of motivation on engagement, the effectiveness of the evaluative process and the tracking of ideas method, and how the approach works in different contexts and with different groups. It also identified that while the study focused on the cross-disciplinary process it also gathered data on disability and the complex real-world issue of inclusion that warrants further analysis that could add to the literature in the field.

Overall, it can be seen that the approach designed in this study did help the cross-disciplinary group explore the 'elephant' of building an inclusive society for all New Zealanders in a way that allowed the different perspectives to enhance and enrich each other and some to be integrated into a multidimensional understanding. In other words, there was a recognition that we are each of us angels with only one wing and that we can only really fly and understand complex real-world issues as we embrace each other and each others' perspectives.



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# Appendix A

## Ethics Application

### Human Ethics Application

#### FOR APPROVAL OF PROPOSED RESEARCH/TEACHING/EVALUATION INVOLVING HUMAN PARTICIPANTS

*(All applications are to be typed and presented using language that is free from jargon and  
comprehensible to lay people)*

#### SECTION A

1. **Project Title** We are each of us angels with only one wing: A 'Whole System Change' approach to cross-disciplinary paradigm shifting as in the case of Rehabilitation and Disability Studies

Projected start date for data collection October 31st 2008 Projected end date October 31st 2009

In no case will approval be given if recruitment and/or data collection has already begun.

2. **Applicant Details** *(Select the appropriate box and complete details)*

#### ACADEMIC STAFF APPLICATION (excluding staff who are also students)

Full Name of Staff Applicant/s

School/Department/Institute

Campus *(mark one only)*

Albany ☐

Palmerston North ☐

Wellington ☐

Telephone

Email Address

#### STUDENT APPLICATION

Full Name of Student Applicant Rev Julia Mary Budd.

Employer (if applicable) Massey University and Anglican Diocese of Wellington.

Telephone 06 3549574

Email Address J.M.Budd@massey.ac.nz

Postal Address 7A Koromiko Ave, Palmerston North.

Full Name of Supervisor(s) Professor Steven La Grow and Professor [REDACTED]

School/Department/Institute School of Health and Social Services.

Campus *(mark one only)*

Albany ☐

Palmerston North ☒

Wellington ☐

Telephone Ext.2248 &  
Ext 2825

Email Address [S.J.LaGrow@massey.ac.nz](mailto:S.J.LaGrow@massey.ac.nz)  
[REDACTED]

#### GENERAL STAFF APPLICATION

Section

Campus *(mark one only)*

Albany ☐

Palmerston North ☐

Wellington ☐

Telephone

Email Address

Full Name of Line Manager .....

Section .....

Telephone .....

Email Address .....

**3 Type of Project** (*mark one only*)

.

Staff Research/Evaluation:	<input type="checkbox"/>	Student Research:	<input checked="" type="checkbox"/>	If other, please specify:
Academic Staff	<input type="checkbox"/>	Qualification	PhD	
General Staff	<input type="checkbox"/>	Credits Value of Research	120	

**4 Summary of Project**

- . Please outline in no more than 200 words in lay language why you have chosen this project, what you intend to do and the methods you will use.

(Note: all the information provided in the application is potentially available if a request is made under the Official Information Act. In the event that a request is made, the University, in the first instance, would endeavour to satisfy that request by providing this summary. Please ensure that the language used is comprehensible to all)

We live in a world where there is a growing awareness of the complexity and interconnectedness of our human and social systems. In the past, research would have been reductionist and undertaken within disciplinary and paradigmatic boundaries, now there is a growing need for a holistic systems approach to research. This is necessitating an increase in cross-disciplinary studies which often brings disciplinary paradigms into conflict. There is, therefore, a growing need to find ways that help to assist disciplines to find new paradigms that accept paradoxes rather than dualisms and so facilitate joint research.

This project seeks, through the use of a 'Whole System Change' conference, to provide an opportunity for academics working in the related but diverse fields of Rehabilitation and Disability Studies, to undertake a collaborative effort of 'meaning making' around the subject of disability. Through a process of discovery of global and national trends, grounded in personal experiences around the best examples of what people value about themselves, their discipline and paradigm and the special gifts all that offers to our understanding of the area of disability, a platform of common ground will be built. This platform may well enhance a paradigm shift that combines the best of all the paradigms present and leads to a holistic way forward for studying issues surrounding disability.

5. **List the Attachments to your Application**, e.g. Completed "Screening Questionnaire to Determine the Approval Procedure" (compulsory), Information Sheet/s (*indicate how many*), Translated copies of Information Sheet/s, Consent Form/s (*indicate of how many*), Translated copies of Consent Form/s, Transcriber Confidentiality Agreement, Confidentiality Agreement (*for persons other than the researcher / participants who have access to project data*), Authority for Release of Tape Transcripts, Advertisement, Health Checklist, Questionnaire, Interview Schedule, Evidence of Consultation, Letter requesting access to an institution, Letter requesting approval for use of database, Other (*please specify*).

Attachments: Completed "Screening Questionnaire", Information sheet, Confidentiality Agreements and Consent Forms.

**Applications that are incomplete or lacking the appropriate signatures will not be processed. This will mean delays for the project.**

**Please refer to the Human Ethics website (<http://humanethics.massey.ac.nz>) for details of where to submit your application and the number of copies required.**



## SECTION B: PROJECT INFORMATION

### GENERAL

- 6 I/we wish the protocol to be heard in a closed meeting (Part II). Yes ☐ No ☒  
(If yes, state the reason in a covering letter)
- 
- 7 Does this project have any links to other MUHEC or HDEC application/s? Yes ☐ No ☒  
If yes, list the MUHEC or HDEC application number/s (if assigned) and relationship/s.
- 
- 8 Is approval from other Ethics Committees being sought for the project? Yes ☐ No ☒  
If yes, list the other Ethics Committees.
- 
- 9 For staff research, is the applicant the only researcher? Yes ☒ No ☐  
N/A  
If no, list the names and addresses of all members of the research team.

### PROJECT DETAILS

- 10 State concisely the aims of the project.  
The aims of the project are to test whether paradigm shifting and the development of a meta-paradigm will provide a dialogical platform that aids cross-disciplinary theory building and whether or not a 'Whole System Change' approach can achieve this. The disciplines of Rehabilitation and Disability Studies will be used as a case study to test this assumption.
- 
- 11 Give a brief background to the project to place it in perspective and to allow the project's significance to be assessed. (No more than 200 words in lay language)  
Rehabilitation, as an area of service provision, evolved during the mid nineteenth century as a pragmatic, technique driven discipline, based on the medical model and a positivist paradigm. It developed initially to assist injured soldiers back into the workforce but later expanded to include all those with disabilities regardless of cause and age at onset. Rehabilitation practice came under critique during the time of the Civil Rights Movements from which the discipline of Disability Studies emerged. This discipline is grounded in a social constructivist paradigm which focuses on consumer driven services and advocacy for societal change.  
  
Over time Rehabilitation and Disability Studies have held dichotomous views in respect to the underlying causes of and needed interventions to alleviate disability. The International Classification of Functioning (ICF), developed in 2001 by the World Health Organization is a biopsychosocial model designed to reflect the concerns and practices of both disciplines. As people from the disciplines review and use the model, however, they do so from the perspective of their own disciplinary paradigms rather than through a multi-paradigmatic lens. If progress is to be made in improving dialogue and fostering understanding across the two disciplines then it will be necessary for the disciplines to engage in cross-disciplinary theory building from a met-paradigmatic perspective. A 'Whole System Change' conference could provide the dialogical platform on which this paradigm shift could occur.
- 
- 12 Outline the research procedures to be used, including approach/procedures for collecting data. Use a flow chart if necessary.



Firstly, a literature review will be carried out to determine how a 'Whole System Change' approach can be developed to assist participants to undergo a paradigm shift to facilitate cross-disciplinary theory building. Research will also need to be undertaken into the current paradigms and theory building endeavours of the two disciplines that will be used in the case study, namely, Rehabilitation and Disability Studies, as well as into alternative paradigms that may provide a 'paradoxical bridge' between the paradigms.

Secondly, a 'Whole System Change' conference will be held over a weekend where academics teaching or researching in, or into, the disciplines of Rehabilitation and Disability Studies will come together. Letters will be sent to the participants prior to the conference where they will be asked to initiate a workbook journal that they will use to record their reflections and answers throughout the process. Initially they will be asked to reflect on their worldview and their paradigm of disability' as well as reflect and record their best experience of an 'inclusive society' in line with the following quote from the New Zealand Disability Strategy, "New Zealand will be inclusive when people with impairments can say they live in: A society that highly values our lives and continually enhances our full participation". They will be asked to come prepared to share these ideas and stories at the conference.

At the conference the activities will be as follows.

- The first activity involves watching the film "Happy Feet" as a discussion starter, to raise issues and to stimulate personal reflection on the topic of difference and disability in light of their personal worldviews and paradigms of disability. Participants will be divided into groups to share their reflections and record the main themes on large sheets of butcher paper.
- The next day will start with an introduction to the 'Whole System Change' approach and the format of the weekend.
- The next session will involve developing time lines that encompass the main themes and developments that have occurred over the last 50 years in Rehabilitation and Disability Studies. It will be split into global and national timeframe periods. This will be a whole group activity that they all contribute and participate in as they feel able and comfortable.
- The participants are then asked to place their own stories they have prepared on the timeline and to further reflect on how possibly the emergent themes, both globally and locally may have impacted their story.
- The participants then share in pairs their pre-prepared stories and reflections on the 'best experience' as outlined above. Participants are then divided into small (randomly picked) groups of about 8 people and the themes shared and collated. These are then fed back into the whole group and combined with the other groups' data.
- Participants will then return to their groups and use the information from the big group feedback to 'dream' how an "'inclusive New Zealand" might look in the future.
- The small groups will present their dreams in a creative way of their choice to the whole group. These sessions will be video taped.
- The groups will reconvene the next day to discuss and reflect on all the presentations. They will then be asked to consider what sort of paradigm and worldview may facilitate the 'dream' to become a reality. These will be recorded and then fed back into the main group.
- The large group will then seek to combine these reflections and work on a possible meta-paradigm for disability.
- A wrap up session will then be held for people to reflect on the process and any changes that may have occurred in their, and the wider group's, thinking.

Thirdly, the workbook journals, the group discussion sheets and any other outcomes from the weekend will be analysed to see if, when and where shifts occurred in individual's paradigms of disability and/or worldviews and whether or not the shifts resulted in further shifts or discussions for the wider group. Analysis will also be undertaken to see which activities or discussions facilitated any change. The findings will be circulated to participants. Any new paradigms or theoretical frameworks that are developed will then be analysed in light of the literature on the topic areas of Rehabilitation and Disability Studies to see whether or not they might be able to inform, the on-going process of cross disciplinary theory building, practice, research and/or policy development endeavours. Finally, The researcher will also reflect on her own journey through the process and analyse when, where and why her own changes in worldview or paradigm occurred.

---

**13      Where will the project be conducted? Include information about the physical location/setting.**

Elm Court, El Rancho Camp, Waikanae. This is a camp set in a rural setting. It is fully catered and has shared accommodation in rooms of two or three. Separate accommodation in these rooms is possible. The accommodation is also wheelchair accessible. It is ideal as it has a number of small lounge areas for group work as well as a larger conference type room.

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**14      If the study is based overseas, specify which countries are involved. Outline how local requirements (if any) have been complied with.**

N/A

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- 15 **Describe the experience of the researcher and/or supervisor to undertake this type of project?**  
The researcher is familiar with conducting Appreciative Inquiry (AI) conferences and weekends. AI is one of the major techniques being employed by the 'Whole System Change' approach' used in this study. In the past this experience has been using AI as a facilitation tool for change management whereas for this study AI will be used as a research methodology. This type of research uses a number of different techniques that [REDACTED] is familiar with. Both Supervisors have considerable research and supervision experience. Professor Steven La Grow comes from the area of Rehabilitation and has considerable research experience. [REDACTED] has had significant input in the area of Disability Studies. The combination of these two supervisors will give a balance to the project.
- 16 **Describe the peer review process used in assessing the ethical issues present in this project.**  
I have reviewed this project with both of my supervisors and other staff members in the School of Health and Social Services.

## PARTICIPANTS

- 17 **Describe the intended participants.**  
Academics representing the related but diverse fields of Rehabilitation and Disability Studies
- 18 **How many participants will be involved?**  
From between 30 -40 people
- What is the reason for selecting this number?**  
(Where relevant, attach a copy of the Statistical Justification to the application form)  
This number will ensure a good cross section of views and experiences from both paradigms and disciplines. This number is also recommended to give data saturation in qualitative research and will also constitute a significant proportion of academics researching and teaching in or into the disciplines of Rehabilitation and Disability Studies in New Zealand
- 19 **Describe how potential participants will be identified and recruited?**  
The participants will be invited by written invitation to participate. The participants will be identified through discussion with known experts in the field and their active participation in the disciplines of Rehabilitation and Disability Studies.
- 20 **Does the project involve recruitment through advertising?** Yes ☐ No ☒  
(If yes, attach a copy of the advertisement to the application form)
- 21 **Does the project require permission of an organisation (e.g. an educational institution, an academic unit of Massey University or a business) to access participants or information?** Yes ☐ No ☒  
**If yes, list the organisation(s).**  
(Attach a copy of the request letter(s), e.g. letter to Board of Trustees, PVC, HoD/I/S, CEO etc to the application form. Include this in your list of attachments (Q5). Note that some educational institutions may require the researcher to submit a Police Security Clearance)
- 22 **Who will make the initial approach to potential participants?**  
The researcher.
- 23 **Describe criteria (if used) to select participants from the pool of potential participants.**  
  - Academics working in the disciplines of Rehabilitation and Disability Studies in New Zealand.
  - Academics from related disciplines teaching or researching into the disciplines of Rehabilitation and/or Disability Studies
- 24 **How much time will participants have to give to the project?**

The participants will need to spend up to six hours in preparation for the weekend event. They will then be required to attend a weekend from about 6pm on a Friday evening until after lunch on Sunday.

## DATA COLLECTION

25 Does the project include the use of participant questionnaire/s? Yes ☒ No ☐

(If yes, attach a copy of the Questionnaire/s to the application form and include this in your list of attachments (Q5))

If yes: i) indicate whether the participants will be anonymous, Yes ☐ No ☒  
(i.e. their identity unknown to the researcher).

ii) describe how the questionnaire will be distributed and collected.

(If distributing electronically through Massey IT, attach a copy of the request letter to the Director, Information Technology Services to the application form. Include this in your list of attachments (Q5))

The participants will be encouraged to reflect on their worldview and their paradigm of disability as well as think of their story and use the questions to reflect on their experiences. They will then record their experiences in their workbook journals. Stories and reflections will be collected at the weekend. If participants want their contributions acknowledged then this will be done in the summary of findings and the thesis, if not the contributions will be aggregated.

26 Does the project involve observation of participants? If yes, please describe. Yes ☐ No ☐ ☒

27 Does the project include the use of focus group/s? Yes ☒ No ☐

(If yes, attach a copy of the Confidentiality Agreement for the focus group to the application form)

If yes, describe the location of the focus group and time length, including whether it will be in work time. (If the latter, ensure the researcher asks permission for this from the employer).

The participants will be working in groups during the weekend event. They will mostly be random groups. Participants will be able to self-select their focus groups if and when required.

28 Does the project include the use of participant interview/s? Yes ☒ No ☐

(If yes attach a copy of the Interview Questions/Schedule to the application form)

If yes, describe the location of the interview and time length, including whether it will be in work time. (If the latter, ensure the researcher asks permission for this from the employer).

Participants will interview each other during the weekend, using the questions sent out with the initial information.

29 Does the project involve audiotaping? Yes ☒ No ☐

30 Does the project involve videotaping? Yes ☒ No ☐

(If agreement for taping is optional for participation, ensure there is explicit consent on the Consent Form)

31 If taping is used, will the tape be transcribed? Yes ☒ No ☐

If yes, state who will do the transcribing. The researcher

(If not the researcher, a Transcriber's Confidentiality Agreement is required – attach a copy to the application form. Normally, transcripts of interviews should be provided to participants for editing, therefore an Authority For the Release of Tape Transcripts is required – attach a copy to the application form. However, if the researcher considers that the right of the participant to edit is inappropriate, a justification should be provided below)

32 Does the project require permission to access databases? Yes ☐ No ☒

(If yes, attach a copy of the request letter/s to the application form. Include this in your list of attachments (Q5))

*(Note: If you wish to access the Massey University student database, written permission from Director, National Student Relations should be attached).*

33 Who will carry out the data collection?

The researcher

## SECTION C: BENEFITS / RISK OF HARM (Refer Code Section 3, Para 10)

34 What are the possible benefits (if any) of the project to individual participants, groups, communities and institutions?

Because the participants will all be active teachers and/or researchers in their respective fields participation in this project could feed their own research and teaching as well as inform policy making or provide the basis for new ways of working together. The research could also provide a new methodological tool for research, bringing together people from disparate paradigms as well as providing new methods for cross-paradigmatic theory building.

35 What discomfort (physical, psychological, social), incapacity or other risk of harm are individual participants likely to experience as a result of participation?

Some of the activities may bring up personal issues relating to disability or other issues.

36 Describe the strategies you will use to deal with any of the situations identified in Q35.

Some of the discussions may raise points that are significant for some participants. For this reason there will be counsellors on hand at all times for people to talk to if necessary.

37 What is the risk of harm (if any) of the project to the researcher?

I see none apart from my choice of disclosure in relation to my own disability.

38 Describe the strategies you will use to deal with any of the situations identified in Q37.

Again, counsellors will be available if needed.

39 What discomfort (physical, psychological, social) incapacity or other risk of harm are groups/communities and institutions likely to experience as a result of this research?

I see none.

40 Describe the strategies you will use to deal with any of the situations identified in Q39.

N/A

41 Is ethnicity data being collected as part of the project?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

If yes: i) will the data be used as a basis for analysis?

ii) justify this use in terms of the number of participants.

(Note that harm can be done through an analysis based on insufficient numbers)

If no: i) justify this approach, given that in some research an analysis based on ethnicity may yield results of value to Māori and to other groups.

Ethnicity data will not be collected specifically but because the participants will come from a broad range of ethnicities all those voices will have an influence over the data.

42 If participants are children/students in a pre-school/school/tertiary setting, describe the arrangements you will make for children/students who are present but not taking part in the research.

(Note that no child/student should be disadvantaged through the research)

N/A

## SECTION D: INFORMED & VOLUNTARY CONSENT (Refer Code Section 3, Para 11)

43 By whom and how, will information about the research be given to potential participants?

The researcher will send out information to the participants when they are invited to be part of the project.

44 Will consent to participate be given in writing? Yes ☒ No ☐  
(Attach copies of Consent Form/s to the application form)  
If no, justify the use of oral consent.

45 Will participants include persons under the age of 16? Yes ☐ No ☒  
If yes: i) indicate the age group and competency for giving consent.  
ii) indicate if the researcher will be obtaining the consent of parent(s)/caregiver(s). Yes ☐ No ☐  
(Note that parental/caregiver consent for school-based research may be required by the school even when children are competent. Ensure Information Sheets and Consent Forms are in a style and language appropriate for the age group)

46 Will participants include persons whose capacity to give informed consent may be compromised? Yes ☐ No ☒  
If yes, describe the consent process you will use.

47 Will the participants be proficient in English? Yes ☒ No ☐  
If no, all documentation for participants (Information Sheets/Consent Forms/Questionnaire etc) must be translated into the participants' first-language.  
(Attach copies of the translated Information Sheet/Consent Form etc to the application form)

#### SECTION E: PRIVACY/CONFIDENTIALITY ISSUES (Refer Code Section 3, Para 12)

48 Will any information be obtained from any source other than the participant? Yes ☐ No ☒  
If yes, describe how and from whom.

49 Will any information that identifies participants be given to any person outside the research team? Yes ☐ No ☒  
If yes, indicate why and how.

50 Will the participants be anonymous (i.e. their identity unknown to the researcher?) Yes ☐ No ☒  
If no, explain how confidentiality of the participants' identities will be maintained in the treatment and use of the data.

Because this is a group exercise the participants will know who else is taking part in the research. Each participant will be able to choose whether or not they want their own contribution to be acknowledged. They will, however, be expected to sign a confidentiality clause in relation to other participants' contributions.

51 Will an institution (e.g. school) to which participants belong be named or be able to be identified? Yes ☐ No ☒  
If yes, explain how you have made the institution aware of this?

**52 Outline how and where:**

i) The data will be stored in locked files at Massey University for a minimum of five years after the completion of the research.

*(Pay particular attention to identifiable data, e.g. tapes, videos and images)*

ii) Consent Forms will be stored in a separate location from the data but also in locked files at the School of Health and Social Services Office, Massey University.

*(Note that Consent Forms should be stored separately from data)*

---

**53 i) Who will have access to the data/Consent Forms?**

The researcher and supervisors.

**ii) How will the data/Consent Forms be protected from unauthorised access?**

The keys will be kept by the Administration Assistant of the School of Health and Social Services.

---

**54 Describe arrangements you have made for the disposal of the data/Consent Forms when the five-year storage period (ten years for health-related research) is up?**

*(For student research the Massey University HOD Institute/School/Section / Supervisor / or nominee should be responsible for the eventual disposal of data)*

*(Note that although destruction is the most common form of disposal, at times, transfer of data to an official archive may be appropriate).*

Notification will be given to the Head of the School as to the appropriate time for disposal of data. It will be stated that any written data will be shredded by the University, in line with the guidelines for confidential material. The videotapes will be manually destroyed.

---

**SECTION F: DECEPTION (Refer Code Section 3, Para 13)**

**55 Is deception involved at any stage of the project?**

Yes ☐ No ☒

If yes, justify its use and describe the debriefing procedures.

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**SECTION G: CONFLICT OF ROLE/INTEREST (Refer Code Section 3, Para 14)**

**56 Is the project to be funded in any way from sources external to Massey University?**

Yes ☐ No ☒

If yes: i) state the source.

ii) does the source of the funding present any conflict of interest with regard to the research topic?

No.

---

**57 Does the researcher/s have a financial interest in the outcome of the project?**

Yes ☐ No ☒

If yes, explain how the conflict of interest situation will be dealt with.

---

**58 Describe any professional or other relationship between the researcher and the participants? (e.g. employer/employee, lecturer/student, practitioner/patient, researcher/family member). Indicate how any resulting conflict of role will be dealt with.**

Some of the participants may be colleagues within the rehabilitation field. I do not, however, foresee any conflicts of interest.

## SECTION H: COMPENSATION TO PARTICIPANTS (Refer Code Section 4, Para 23)

- 59 Will any payments or other compensation be given to participants? Yes ☐ No ☒

If yes, describe what, how and why.

*(Note that compensation (if provided) should be given to all participants and not constitute an inducement. Details of any compensation provided must be included in the Information Sheet)*

## SECTION I: TREATY OF WAITANGI (Refer Code Section 2)

- 60 Are Māori the primary focus of the project? Yes ☐ No ☒

If yes: Answer Q61 – 64

If no, outline: i) what Māori involvement there may be, and

ii) how this will be managed.

It is hoped that there will be a representation of Māori participants who are also active in the fields of Rehabilitation and Disability Studies.

- 61 Is the researcher competent in te reo Māori and tikanga Māori? Yes ☐ No ☒

If no, outline the processes in place for the provision of cultural advice.

Since all participants will be academics involved in teaching or research it will be assumed that they are also fully conversant with English. This will be stated in the information sheet.

- 62 Identify the group/s with whom consultation has taken place or is planned and describe the consultation process.

*(Where consultation has already taken place, attach a copy of the supporting documentation to the application form, e.g. a letter from an iwi authority)*

There is a whānau group within the School of Health and Social Services that can be contacted if needed, dependent on the demographics of participants. [REDACTED], one of my supervisors, has also had considerable experience working with cross-cultural strategies and has been consulted in relation to any issues that may arise.

- 63 Describe any ongoing involvement of the group/s consulted in the project.

Involvement will be as and when necessary dependent on the needs of the participants.

- 64 Describe how information resulting from the project will be shared with the group/s consulted?

If the group has been involved then a summary of findings will be made available to the group.

## SECTION J: CULTURAL ISSUES (Refer Code Section 3, Para 15)

- 65 Other than those issues covered in Section I, are there any aspects of the project that might raise specific cultural issues? Yes ☐ No ☒

If yes, explain. Otherwise, proceed to Section K.

- 66 What ethnic or social group/s (other than Māori) does the project involve?

Hopefully a wide range of all disciplinary cultures and ethnic backgrounds will be involved.

- 67 Does the researcher speak the language of the target population? Yes ☒ No ☐

If no, specify how communication with participants will be managed.

Because all will be academics teaching or researching in their respective disciplines it is assumed that they will be fully conversant in English and will use English during the research project.

- 68 Describe the cultural competence of the researcher for carrying out the project.



*(Note that where the researcher is not a member of the cultural group being researched, a cultural advisor may be necessary)*

The researcher has good experience working with a range of cultural groups and individuals, both within her work as a rehabilitation specialist as well as an Anglican Priest in her roles within Chaplaincy and various parishes.

**69 Identify the group/s with whom consultation has taken place or is planned.**

*(Where consultation has already taken place, attach a copy of the supporting documentation to the application form)*

██████████ has again had wide experience in cross cultural research and is available to give advice where necessary

**70 Describe any ongoing involvement of the group/s consulted in the project.**

N/A

**71 Describe how information resulting from the project will be shared with the group/s consulted.**

N/A

**72 If the research is to be conducted overseas, describe the arrangements you will make for local participants to express concerns regarding the research.**

N/A

**SECTION K: SHARING RESEARCH FINDINGS (Refer Code Section 4, Para 26)**

**73 Describe how information resulting from the project will be shared with participants.**

*(Note that receipt of a summary is one of the participant rights)*

A summary of findings will be made available to all the participants once the data collection and analysis has been done.

**SECTION L: INVASIVE PROCEDURES/PHYSIOLOGICAL TESTS (Refer Code Section 4, Para 21)**

**74 Does the project involve the collection of tissues, blood, other body fluids or physiological tests? Yes ☐ No ☒**

*(If yes, complete Section L, otherwise proceed to Section M)*

**75 Describe the material to be taken and the method used to obtain it. Include information about the training of those taking the samples and the safety of all persons involved. If blood is taken, specify the volume and number of collections.**

N/A

**76 Will the material be stored? N/A Yes ☐ No ☐**

**If yes, describe how, where and for how long.**

N/A

**77 Describe how the material will be disposed of (either after the research is completed or at the end of the storage period).**

*(Note that the wishes of relevant cultural groups must be taken into account)*

N/A

**78 Will material collected for another purpose (e.g. diagnostic use) be used? Yes ☐ No ☒**

N/A

**If yes, did the donors give permission for use of their samples in this project? (Attach evidence of this to the application form) Yes ☐ No ☐**

N/A



If no, describe how consent will be obtained. Where the samples have been anonymised and consent cannot be obtained, provide justification for the use of these samples.

N/A

79 Will any samples be imported into New Zealand? N/A Yes ☐ No ☐

If yes, provide evidence of permission of the donors for their material to be used in this research.

N/A

80 Will any samples go out of New Zealand? Yes ☐ No ☐

If yes, state where.

(Note this information must be included in the Information Sheet)

N/A

81 Describe any physiological tests/procedures that will be used.

N/A

82 Will participants be given a health-screening test prior to participation? Yes ☐ No ☒

(If yes, attach a copy of the health checklist) N/A

**Reminder: Attach the completed Screening Questionnaire and other attachments listed in Q5**

## **SECTION M: DECLARATION** *(Complete appropriate box)*

### **ACADEMIC STAFF RESEARCH**

#### **Declaration for Academic Staff Applicant**

I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. My Head of Department/School/Institute knows that I am undertaking this research. The information contained in this application is to the very best of my knowledge accurate and not misleading.

Staff Applicant's Signature .....

Date: .....

---

### **STUDENT RESEARCH**

#### **Declaration for Student Applicant**

I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and discussed the ethical analysis with my Supervisor. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants.

The information contained in this application is to the very best of my knowledge accurate and not misleading.

Student Applicant's Signature .....

Date: .....

#### **Declaration for Supervisor**

I have assisted the student in the ethical analysis of this project. As supervisor of this research I will ensure that the research is carried out according to the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants.

Supervisor's Signature .....

Date: .....

Print Name .....

---

### **GENERAL STAFF RESEARCH/EVALUATIONS**

#### **Declaration for General Staff Applicant**

I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and discussed the ethical analysis with my Line Manager. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. The information contained in this application is to the very best of my knowledge accurate and not misleading.

General Staff Applicant's Signature .....

Date: .....

#### **Declaration for Line Manager**

I declare that to the best of my knowledge, this application complies with the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and that I have approved its content and agreed that it can be submitted.

Line Manager's Signature .....

Date: .....

Print Name .....

---

### **TEACHING PROGRAMME**

#### **Declaration for Paper Controller**

I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. I understand my obligations and the rights of the participants. I agree to undertake the teaching programme as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. My Head of Department/School/Institute knows that I am undertaking this teaching programme. The information contained in this application is to the very best of my knowledge accurate and not misleading.

Paper Controller's Signature .....

Date: .....

#### **Declaration for Head of Department/School/Institute**

I declare that to the best of my knowledge, this application complies with the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and that I have approved its content and agreed that it can be submitted.

Head of Dept/School/Inst Signature .....

Date: .....

Print Name .....

## Appendix B

### Response to Questions from Ethics Committee

**From:** Broad, Patsy  
**Sent:** Friday, 19 September 2008 1:17 p.m.  
**To:** Budd, Julia  
**Cc:** LaGrow, Steve; [REDACTED]  
**Subject:** HEC: Southern B Application 08/43 - Outcome  
**Importance:** High

**08/43      We are each of us angels with only one wing: A “Whole System Change” approach to cross-disciplinary paradigm shifting as in the case of Rehabilitation and Disability Studies**

Rev Julia Budd (HEC: Southern B Application 08/43)

Department:      School of Health and Social Services

Supervisor:      Prof Steven La Grow and [REDACTED]

The Massey University Human Ethics Committee: Southern B considered the above application at their meeting held on Thursday 11 September 2008.

The application was provisionally approved, subject to the fulfilment of the conditions below to the satisfaction of Dr Karl Pajo (Chair).

Please note that the Committee is always willing to enter into dialogue with applicants over the points made. There may be information that has not been made available to the Committee, or aspects of the research may not have been fully understood.

#### **SECTION B**

##### **Q25**

- **Note:** The committee notes that the participants will not be anonymous to the researcher.

**25      Does the project include the use of participant questionnaire/s?**      Yes ☒ No ☐  
*(If yes, attach a copy of the Questionnaire/s to the application form and include this in your list of attachments (Q5))*

If yes: i)      indicate whether the participants will be anonymous,      Yes ☐ No ☒  
(i.e. their identity unknown to the researcher).

ii)      **describe how the questionnaire will be distributed and collected.**

*(If distributing electronically through Massey IT, attach a copy of the request letter to the Director, Information Technology Services to the application form. Include this in your list of attachments (Q5))*

The participants will be encouraged to reflect on their worldview and their paradigm of disability as well as think of their story and use the questions to reflect on their experiences. They will then record their experiences in their workbook journals. Stories and reflections will be collected at the weekend. If participants want their contributions acknowledged then this will be done in the summary of findings and in the thesis; if not the contributions will be aggregated so that the comments cannot be attributed to individuals.

#### **SECTION E**

##### **Q50**

- The committee were not sure where to raise the following issue but noted that the research utilises appreciative inquiry with an explicit aim to transform/develop worldviews and conceptions of the rehabilitation professionals taking part. In this context the use of a confidentiality agreement seems a little incongruous. However,

there does appear to be scope for 'intellectual property' issues to arise in the course of this research given the nature of the research participants and the goals of the project. Please comment.

50 Will the participants be anonymous (i.e. their identity unknown to the researcher?) Yes ☐ No ☒

If no, explain how confidentiality of the participants' identities will be maintained in the treatment and use of the data.

Because this is a group exercise the participants will know who else is taking part in the research. Each participant will be able to choose whether or not they want their own contribution to be acknowledged. They will, however, be expected to sign a confidentiality clause in relation to other participants' contributions.

Please find below a revised Confidentiality Agreement that I have written in response to your concerns. Participants will now keep confidential other participant's contributions. They will also be able to decide whether or not they want their contributions acknowledged.

### CONFIDENTIALITY AGREEMENT

I ..... (Full Name - printed)  
agree to keep confidential all information gleaned from other participants or group discussions concerning the project "*We are each of us angels with only one wing: A 'Whole System Change' approach to cross-disciplinary paradigm shifting as in the case of Rehabilitation and Disability Studies.*"

I ..... (Full Name - printed)  
I do/do not (please delete as appropriate) require any contribution I make either from my workbook journal or my contribution to discussions to be acknowledged as my thoughts.

I will not retain or copy any information from another participant or from group discussions involving the project.

Signature: .....

Date: .....

- If some participants wish to have their contributions acknowledged how would this be handled?

Please see the comment and confidentiality Agreement above.

### SECTION I/J

- One of the stated aims of the research is to solicit a broad cross-section of worldviews and the researcher is hoping to draw from a wide range of cultures. Accordingly, the committee would like to see further consideration and fuller responses to Sections I and J.

### SECTION I: TREATY OF WAITANGI (Refer Code Section 2)

60 Are Māori the primary focus of the project? Yes ☐ No ☒

If yes: Answer Q61 – 64

If no, outline:i) what Māori involvement there may be, and

ii) how this will be managed.

It is hoped that there will be a representation of Māori participants who are also active in the fields of Rehabilitation and Disability Studies.

- 61 Is the researcher competent in te reo Māori and tikanga Māori? Yes ☐ No ☒

If no, outline the processes in place for the provision of cultural advice.

Since all participants will be academics involved in teaching or research it will be assumed that they are also fully conversant with English. This will be stated in the information sheet.

- 62 Identify the group/s with whom consultation has taken place or is planned and describe the consultation process.

(Where consultation has already taken place, attach a copy of the supporting documentation to the application form, e.g. a letter from an iwi authority)

There is a whānau group within the School of Health and Social Services that can be contacted for advice as required. [REDACTED], one of my supervisors, has also had considerable experience working with cross cultural strategies and has been consulted in relation to any issues that may arise. She will be available for consultation throughout all stages of the data collection process.

- 63 Describe any ongoing involvement of the group/s consulted in the project.

Involvement will be as and when necessary dependent on the needs of the participants.

- 64 Describe how information resulting from the project will be shared with the group/s consulted?

If the group has been involved then a summary of findings will be made available to the group.

## SECTION J: CULTURAL ISSUES (Refer Code Section 3, Para 15)

- 65 Other than those issues covered in Section I, are there any aspects of the project that might raise specific cultural issues? Yes ☐ No ☒

If yes, explain. Otherwise, proceed to Section K.

- 66 What ethnic or social group/s (other than Māori) does the project involve?

Hopefully a wide range of all disciplinary cultures and ethnic backgrounds will be involved.

- 67 Does the researcher speak the language of the target population? Yes ☒ No ☐

If no, specify how communication with participants will be managed.

Because all will be academics teaching or researching in their respective disciplines it is assumed that they will be fully conversant in English and will use English during the research project.

- 68 Describe the cultural competence of the researcher for carrying out the project.

(Note that where the researcher is not a member of the cultural group being researched, a cultural advisor may be necessary)

The researcher has extensive experience in working with a range of cultural groups and individuals, both within her work as a rehabilitation specialist as well as an Anglican Priest in her roles within Chaplaincy and various parishes. She also knows how to seek advice on cultural matters and who can be approached to provide this support while keeping confidence on sensitive issues.

- 69 Identify the group/s with whom consultation has taken place or is planned.

(Where consultation has already taken place, attach a copy of the supporting documentation to the application form)

Professor [REDACTED] has again had wide experience in cross cultural research and is available to give advice where necessary throughout the duration of the thesis.

- 70 Describe any ongoing involvement of the group/s consulted in the project.

N/A

- 71 Describe how information resulting from the project will be shared with the group/s consulted.

N/A

- 72      **If the research is to be conducted overseas, describe the arrangements you will make for local participants to express concerns regarding the research.**

N/A

---

## **SECTION K**

### **Q73**

- Participants have a right to receive a summary of the findings therefore please clarify the mechanism and include details in the information sheet.

## **SECTION K: SHARING RESEARCH FINDINGS (Refer Code Section 4, Para 26)**

- 73      **Describe how information resulting from the project will be shared with participants.**

*(Note that receipt of a summary is one of the participant rights)*

A summary of findings will be made available to all the participants once the data collection and analysis has been done.

---

Please see updated information sheet to see the information now included on this issue.

## **INFORMATION SHEET**

- If participants choose not to stay at El Rancho, please clarify who is responsible for the payment for alternative accommodation.

Participants will be expected to find their own accommodation and be expected to pay over and above the \$142.50 allocated for accommodation.

- Given the focus group setting, the right to turn off the video/audio tape is not appropriate as this can affect the input of other participants. The committee suggests that participation is on the understanding that video and audio taping will occur and remove bullet point 6 from participant's rights. Note: In addition, participants are only able to edit their own contributions in the focus group.

I have made changes in light of your comments.

- If there a minimum number of participants required in order for the conference to proceed, please include this detail in the information sheet.

There is a minimum number of 30. This information is now included in the information sheet

- Please clarify other intended uses of the data, e.g. the committee notes that it is the intention of the researcher to publish results in journal articles.
- This is now included in the information sheet
- 
- Ensure inclusion of the **correct** committee approval statement as follows: *"This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 08/43. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email [humanethicsouthb@massey.ac.nz](mailto:humanethicsouthb@massey.ac.nz)".*

*This has now been corrected*

- Remove the ACC statement as it is not relevant in this study.

This has now been removed

- Provide a copy of the revised information sheet.

Please find attached

Please supply to the Secretary, one (1) copy of this email with the reply inserted under each point, plus any amended documents which should clearly identify changes made, e.g. using track changes, italics or bold font. Please ensure that your Supervisor has checked your response before you submit your reply. Do not begin your research until you receive your final letter of approval.

Yours sincerely

Dr Karl Pajo, Chair

**Massey University Human Ethics Committee: Southern B**

-----  
*Patsy Broad  
PA/Ethics Administrator  
Research Ethics Office  
Old Main Building, Turitea PN221  
Massey University/Te Kunenga ki Purehuroa  
Private Bag 11222, Palmerston North  
New Zealand*

*Phone 06 350 5573  
Fax 06 350 5622*

# Appendix C

## Initial Letter to Participants



MASSEY UNIVERSITY

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

Te Kura Pukenga Tangata

SCHOOL OF HEALTH AND  
SOCIAL SERVICES  
Private Bag 11 222  
Palmerston North 4442  
New Zealand  
T 64 356 9099  
F 64 6 350 5681  
[www.massey.ac.nz](http://www.massey.ac.nz)

Dear

My name is Julia Budd and I am a doctoral student and tutor at Massey University, Palmerston North. My research is entitled, "We are each of us angels with only one wing": A 'Whole Systems Change' approach to cross-disciplinary paradigm shifting as in the case of Rehabilitation and Disability Studies. I am using the disciplines of Rehabilitation and Disability Studies as a research case study. My supervisors are Professor Steve La Grow and Professor [REDACTED], both from the School of Health and Social Services, Massey University. They have suggested your name as a significant person working in the field of either Rehabilitation or Disability Studies. I would therefore like to invite you to take part in my research project.

The research project will entail about 4-6 hours of reflection followed by a weekend conference from 6pm Friday 25<sup>th</sup> June 2010 until after lunch on Sunday 27<sup>th</sup> June 2010. The conference will be held at Elm Court, El Rancho in Waikanae. It will be an opportunity to explore and reflect on your views on disability with up to thirty other people in the field. It is hoped that interdisciplinary dialogue will be engaged in and encouraged. All the accommodation and food costs have been covered but you will need to make your own travel arrangements.

This is a preliminary email of invitation. I will be delighted to send you further details about the project if you would be interested in participating. I would also be really interested to hear of any others whom you think may be interested in participating, including any PhD students researching in the fields.

I am really excited about the possibilities of this project and hope that you will see its potential as well. I look forward to hearing back from you. It would be good if you could let me know if you would be willing to participate or if you have the names of others as soon as possible so that a participant list can be finalised.

Yours sincerely

Julia Budd  
[J.M.Budd@massey.ac.nz](mailto:J.M.Budd@massey.ac.nz)  
06 356 9099 ext 5896  
0272549574



## Appendix D

### Participants Information Sheet and Letter



MASSEY UNIVERSITY

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

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SCHOOL OF HEALTH AND  
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Private Bag 11 222

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New Zealand

T 64 356 9099

F 64 6 350 5681

[www.massey.ac.nz](http://www.massey.ac.nz)

**We are each of us angels with only one wing:  
A 'Whole System Change' approach to cross-  
disciplinary paradigm shifting as in the case of  
Rehabilitation and Disability Studies.**

#### INFORMATION SHEET

##### Researcher Introduction

My name is Julia Budd and I am undertaking this research as part of my Doctoral Studies. I am also a Tutor in Rehabilitation in the School of Health and Social Services at Massey University, Palmerston North. I can be contacted via email [J.M.Budd@massey.ac.nz](mailto:J.M.Budd@massey.ac.nz) or by telephone (06) 3569099 extn. 5896. I have two supervisors, both within the School of Health and Social Services at Massey University, Palmerston North. Professor Steven La Grow can be contacted on (06) 3569099 extn 2248 or by email [S.J.Lagrow@massey.ac.nz](mailto:S.J.Lagrow@massey.ac.nz). [REDACTED] can be contacted on [REDACTED] or by email [REDACTED]

##### Participant Recruitment

You have been identified as a significant person in the field of Rehabilitation and/or Disability Studies. I would, therefore, like to invite you to be part of a study that utilizes a 'Whole System Change' approach to explore your views on disability and rehabilitation. It will involve up to four to six hours of reflection and recording on your worldview and your paradigm of disability as well as reflection on an experience of yours in relation to disability. You will also be invited to attend a 'Whole System Change' conference over a weekend. It is hoped that there will be between 20-30 participants at the conference who will span a wide range of paradigms from the disciplines of Rehabilitation and Disability Studies. It is hoped they will also represent a wide range of cultures from New Zealand. This number has been chosen to ensure a broad representation of paradigms, worldviews and cultures, which will add richness to the research at the same time as providing a suitable level of data saturation.

The conference will be held at Elm Court, El Rancho in Waikanae. It will start at 6pm on Friday 25<sup>th</sup> June 2010 and finish just after lunch on Sunday 27<sup>th</sup> June 2010. It has been chosen as a suitable venue as it has a main conference room as well as lounge areas for small group work. Accommodation is in shared rooms of two or three but individual occupation is possible if required. There will be no charge for the weekend, which is fully catered from supper on Friday night to lunch on Sunday. You will need to inform me if you have any special requirements in relation to disability facilities or special dietary requirements. You can view the accommodation on [www.elrancho.co.nz](http://www.elrancho.co.nz) under conferences. It is important, if possible, for people to stay on site and for the whole weekend as much of the synergy will occur as people mix and share. If you feel, however, that this is not suitable for your needs then alternative accommodation can be

sought in motels nearby. You will need to arrange this yourself so that you can ensure that your needs are met. \$142.50 will be available to you (so long as a month's notice of your intention is given), to help finance this stay but you will need to finance any additional costs.

### **Project Procedures**

The language of the conference will be English.

The data from the weekend will be gathered in a number of ways, including, your workbook journals, interviews, group feedback sheets, group summaries, video taped presentations, audio tapes, timelines, photographs and sheets of butcher paper to record significant conversations. Participants will be able to decide whether or not they want their own contributions acknowledged but you are asked to keep other people's contributions confidential. For participants who do not want to have their contributions acknowledged these contributions will be aggregated so that the comments made cannot be attributed to any one individual. On completion of the project the data will be stored safely in locked cupboards within the School of Health and Social Services. Instructions will be given for its disposal along University Guidelines for confidential material.

A summary of initial findings will be circulated to participants within three months. The data will then be analysed using a range of techniques to see if and when changes occurred in individual or group thinking as well as what facilitated those changes. This will then be compared with the literature review. The data will then be used within the Doctoral Thesis as well as subsequent Journal articles.

### **Participant involvement**

As a participant you will be asked to undertake two exercises of reflection on the topics of your worldview and paradigm of disability and then to reflect on a best experience of "inclusive New Zealand" guided by some reflective questions. You will also be asked to consider major events or themes that you think have occurred and/or impacted the fields of Rehabilitation and Disability Studies, internationally, nationally. Subsequently, participants will be involved for one weekend from 6pm Friday to after lunch on Sunday, where you will be asked to share your stories and reflections and undertake small and large group discussions and activities. Any extra participation subsequent to the weekend will be at your discretion.

### **Participant's Rights**

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study at any time;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded;
- choose not to participate when the audio/video tape is being used.

### **Support Processes**

Some of the sessions or activities may bring up some personal issues. Feel free to withdraw from activities or discuss things through with one of the facilitators.

#### **Project Contacts**

I have included a brief outline of 'Whole System Change' as well as a general outline of the conference. Please feel free to contact either myself or either of my supervisors if you have any questions in relation to the project.

#### **Committee Approval Statement**

- This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 08/43. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email [humanethicsouthb@massey.ac.nz](mailto:humanethicsouthb@massey.ac.nz).

## Appendix E

### Ethics Forms



MASSEY UNIVERSITY

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

Te Kura Pukenga Tangata

SCHOOL OF HEALTH AND SOCIAL  
SERVICES

Private Bag 11 222

Palmerston North 4442

New Zealand

T 64 356 9099

F 64 6 350 5681

[www.massey.ac.nz](http://www.massey.ac.nz)

**We are each of us angels with only one wing:  
A ‘Whole System Change’ approach to cross-  
disciplinary paradigm shifting as in the case of  
Rehabilitation and Disability Studies.**

#### PARTICIPANT CONSENT FORM

**This consent form will be held for a period of five (5) years**

I have read the information sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to any part of the conference being audio or video taped.

I agree to not disclose anything discussed over the weekend conference.

I agree to participate in this study under the conditions set out in the information sheet.

**Signature:**

**Date:**

.....

.....

**Full Name - printed**

.....

**We are each of us angels with only one wing:  
A ‘Whole System Change’ approach to cross-  
disciplinary paradigm shifting as in the case of  
Rehabilitation and Disability Studies.**

**CONFIDENTIALITY AGREEMENT**

I ..... (Full Name - printed)

agree to keep confidential all information gleaned from other participants or group discussions concerning the project *“We are each of us angels with only one wing: A ‘Whole System Change’ approach to cross-disciplinary paradigm shifting as in the case of Rehabilitation and Disability Studies.*

I ..... (Full Name - printed)

I do/do not (please delete as appropriate) require any contribution I make either from my workbook journal or my contribution to discussions to be acknowledged as my thoughts.

I will not retain or copy any information from another participant or from group discussions involving the project.

**Signature:**

**Date:**

.....

**We are each of us angels with only one wing:  
A 'Whole System Change' approach to cross-  
disciplinary paradigm shifting as in the case of  
Rehabilitation and Disability Studies**

**TRANSCRIBER'S CONFIDENTIALITY AGREEMENT**

I ..... (Full Name - printed) agree  
to transcribe the tapes provided to me.

I agree to keep confidential all the information provided to me.

I will not make any copies of the transcripts or keep any record of them, other than  
those required for the project.

**Signature:**

**Date:**

.....

.....

# Appendix F

## Letter of Ethics Approval



**Massey University**

28 October 2008

Rev Julia Budd  
7A Koromiko Avenue  
PALMERSTON NORTH

OFFICE OF THE ASSISTANT  
TO THE VICE-CHANCELLOR  
(Research Ethics)  
Private Bag 11 222  
Palmerston North 4442  
New Zealand  
T 64 6 350 5573/350 5575  
F 64 6 350 5622  
humanethics@massey.ac.nz  
animalethics@massey.ac.nz  
gtc@massey.ac.nz  
www.massey.ac.nz

Dear Rev Budd

**Re: HEC: Southern B Application – 08/43**  
**We are each of us angels with only one wing: A “Whole System Change” approach to cross-disciplinary paradigm shifting as in the case of Rehabilitation and Disability Studies**

Thank you for your letter received 16 October 2008.

On behalf of the Massey University Human Ethics Committee: Southern B I am pleased to advise you that the ethics of your application are now approved. Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

A handwritten signature in dark ink, appearing to read 'Karl Pajo'.

Dr Karl Pajo, Chair  
**Massey University Human Ethics Committee: Southern B**

cc Prof Steven La Grow  
School of Health & Social Services  
PN351

Prof Carol McVeigh, HoS  
School of Health & Social Services  
PN351

---

Massey University Human Ethics Committee  
Accredited by the Health Research Council



# **Appendix G**

## **Weekend Planning Sheets**

### **Prior to Conference and on Arrival at 6pm Friday**

#### **Resources needed to bring**

- Rolls of Butcher paper
- Large pads of flip chart paper
- 6 sets of felt tip pens
- Four sets of large print markers
- White Board markers
- 25 pads of post its
- Blue tak
- Pins
- 6 disposable cameras
- 2 data projectors
- Computer
- Happy Feet DVD
- Name badge holders
- Name badges
- Room identifiers
- Centre piece, flowers, material candles etc
- List participants names
- Room allocation sheet
- First aid kit, list emergency numbers etc
- Consent forms
- Hot water bottles spare
- Spare shampoos, body wash, toothpaste, combs
- 20 Welcome baskets for rooms
- 6 baskets of fruit for units
- Herbal teas, decaf coffee, plungers
- Mints, Happy Feet lollies, popcorn
- Small bowls
- Have all activities on two CDs for Pam and Gretchen

#### **Resources needed to book from El Rancho**

- Flip Chart easel
- Bedding
- Towels
- Ramps to all entrances including café, dining room, meeting room toilets and unit 3
- DVD player
- Whiteboard
- Arrange café open on Saturday afternoon from 3.15 – 5.15 during free time

#### **Things to do**

- Set up welcome table with name badges, room allocation and unit keys.
- Have timetable up on wall
- Set up centre piece and lounge for session one
- Have refreshments available for arrival
- Beds made and welcome packs in room
- Fruit baskets in room
- Names on rooms
- Put heating on in bedrooms, lounge areas etc
- Pick up Brent from Waikanae

**Introduction**  
**Friday 6.30 pm**  
**Session 15mins**

**Resources needed**

- Amended timetables
- Housekeeping notes
- Ground rule ideas
- Flip chart, easel and marker pens
- 

**Activities**

**Timetables**

- Hand out timetables and explain adjusted it to give free time Saturday afternoon as requested by some.
- Explain a timetable on wall by kitchen
- Will need bring journals to all sessions

**Housekeeping**

- Ask if their rooms all ok and if they need anything else
- Have some spares of things if needed
- Direction to toilets
- Dining room , meal times and refreshments
- Café time and situation
- Fire safety
- Security
- Camp regs , alcohol, quiet at night
- Intro to team and their roles
- First Aid kit and person

**Ground rules**

Invite them to develop their own. Julia to facilitate Stuart to scribe

Possible ideas

- All equal
- All with respect
- Active listening
- One person speak at a time
- Confidentiality
- All points of view valid
- Speak from own experience rather than generalise, share own stories
- Focus on ideas
- No personal attacks
- Participate fully as all voices needed
- Goal not to agree but to deepen understanding
- Be conscious body language

Ground rules will be placed up in room

Challenge each other on ground rules

Model ground rules yourself

Remember to stress importance active listening in big groups

Add in times of silence to reflect give time others to open up

Ask if want to add others as go through weekend.



## **Worldview and Paradigm Exercise**

**Friday 6.45 pm**

**30 mins session**

### **Resources**

- Data projector
- Computer
- Powerpoints Concept map
- Powerpoint Typology
- Their journals

### **Activities**

#### **Develop concept map**

Explain this to be their starting point based on the reflections they did before they came.

- Go through Powerpoint explaining what concept map is and how to develop one
- Give focus question "What facilitates a fully inclusive society?"
- Get them to develop own concept map

#### **Explain Typology**

Explain Priestly developed this typology in 1998 as way of explaining different paradigms of disability. Will be using this in activities throughout the weekend.

- Go through Powerpoint of Typology

**Movie Exercise**  
**Friday 7.15 pm**  
**2 hour 15min session**

**Resources**

- Data projector
- Computer
- DVD palyer
- Happy Feet DVD
- Activity sheets
- Exercise sheets
- Big Feedback sheets
- Journals
- Felt tip pens
- Markers
- Happy Feet lollies and popcorn
- Reflection question sheets

**Activities**

**Movie**

- Go through typology and activity sheet
- Have drinks lollies etc available
- Watch movie

**Discussion**

- Small group discussion and work on exercise sheets
- Big group feedback one large blank typology sheet and blank for comment sheet

## **Introduction and Timelines**

**Saturday 9.00 – 10.15 am**

**1 hr and 15 min session**

### **Resources**

- Data projector
- Computer
- Powerpoint Introduction and Timelines
- Sheets marked up for timelines
- 25 post it note blocks
- Pens, paper etc.

### **Introduction**

- Ask if all slept well etc
- Ask if any needs etc
- Outline of day
  - sessions all morning,
  - lunch at 12,
  - free time until 3pm asked for café on site be open,
  - 3pm back here
  - then dinner at 5.15pm
  - evening session at 6.45pm
  - finish 9.30 pm for supper
- Need journal at all sessions
- Put participant letter at top of each group activity or on contributing piece of paper.  
Participant letter is the one on the front of the notebook you received.
- Show powerpoint explaining Whole System Change philosophy
- Ask any questions

### **Timelines**

- Show timeline slide
- Give out post its. Get them label them
- Get them think of the events etc and put on post its.
- Get them contribute to the timelines
- Get them to review and discuss with others to refine the timelines.

### **Reflection Questions**

## **Timelines and Typology**

**Saturday 10.30 – 12.15**

**1 hr 45 mins**

### **Resources**

- Timelines
- Paper for groups
- Felt tips
- Typology sheets for each group

### **Activity**

- Split into three groups
- Allocate work area
- Give each group a timeline and typology paper
- Get them to work in groups trying to see where aspects of the timeline fit in the typologies.
- Get them to identify any trends they see.
- Get them back into big group and feedback to whole group a summary of what they found.
- Place timelines and typology summaries on wall

### **Reflection Questions**

## **Future Search Exercise**

**Saturday 3.15 – 5.15pm**

**2hr session**

### **Resources**

- Time lines
- Typology and timeline summaries
- Notes on the four different paradigms taken from the timelines and typologies generated in previous sessions.
- Instruction sheet for activity
- Group lists
- Video camera

### **Video the feedback sessions**

### **Activity**

- Divide into four groups and allocate meeting space
- Give out paradigm sheets to groups
- Give out activity sheets, large paper, markers pens etc.
- Groups meet to discuss their paradigm and put themselves into that paradigm. Need really role play and take on the views and values of this paradigm.
- And answer first set of questions in relation to summary of this paradigm's focus and how it views disability and its remediation, what does this group consider are the casuals mechanisms of disability and which of these need to be changed to lead to an inclusive society. How do these causal mechanisms work together, how has this paradigm developed, what this paradigm is doing at present, what they want for the future.
- Consider what things it believes it doing right, what it is proud of, what it might feel sorry for. About owning up not blaming.
- Each group presents to the whole group
- Back into small groups to discuss how they have responded to other groups presentations, views and attitudes.
- Back as whole group to state how it made them feel.

### **Reflection Questions**

## **Appreciative Inquiry Discover**

### **Positive Stories**

**Saturday 6.45 – 7.45pm**

#### **Resources**

- Data projector
- Computer
- Powerpoint Appreciative Inquiry: Discover
- Interview sheets
- Flip Chart Large
- Paper for groups felt pens, markers.

#### **Video the feedback sessions**

##### **Activity**

- Welcome back from dinner to evening session on AI Discover and Dream
- Show Powerpoint AI Discover and talk about Appreciative Interviewing
- Give out Interview Sheets
- Get them read them through and think about own story.
- Get them choose partners
- Interviews
- Divide into 5 group with 2 pairs in each
- Get them to come up with common themes, the high points, the life-giving moments, and ideas that grabbed you.
- Get them to identify the causal mechanisms across the stories and how they impact each other.
- Feedback to whole group. Draw out any common threads

#### **Reflection Questions**

## **Appreciative Inquiry: Dream**

**Saturday 7.45 – 9.30**

**1hr 45 min session**

### **Resources**

- Data projector
- Computer
- Powerpoint Appreciative Inquiry: Dream
- Paper and pens for groups
- Video camera
- Dream Worksheets

### **Activity**

- Show Powerpoint Appreciative Inquiry: Dream
- Give out work sheets
- Divide into groups
- Groups develop creative presentation of dream
- Groups present their dreams to whole group which is videoed.

### **Reflection Questions**

## **Synthesis or Specialisation**

**Sunday 9.00 – 10.15 am**

**1hr 15 min session**

### **Resources**

- Data projector
- Computer
- Powerpoint Synthesis or Specialisation
- Individual levels and scales sheets
- Large level and scale sheets
- Felt tips, markers
- Large blank sheets

### **Activities**

- Divide group into groups
- Give them the levels and scales
- Ask them to place different disciplines that concerned with disability on the levels and scales.
- Overlay somehow with colours to show the most likely levels and scales for each paradigm of disability from Priestly's typology on the chart.
- How might this relate to worldviews or ontologies held
- Back as big group
- Show Powerpoint Synthesis or Specialisation
- Leave up questions
- Get them back in groups to discuss
- Get whole group feedback

### **Reflection Questions**



## **Appreciative Inquiry: Design**

**Sunday 10.30 – 11.30 pm**

**1 hr session**

### **Resources**

- Data projector
- Computer
- Powerpoint Appreciative Inquiry: Design
- Ishikawa (Fishbone) diagrams
- Paper, pens for small groups
- Post it pads
- Butcher paper

### **Activity**

- Show Powerpoint Appreciative Inquiry: Design
- Split into small groups
- Have them develop Ishikawa (Fishbone) diagrams
- Photograph Ishikawa (Fishbone) diagrams
- Put up Action Plan sheets
- Each area from spines on own time lines
- Get them add their post it notes to the action plan timelines altering them in line with dependencies and pre requisites so in logical order
- Have them review and adjust
- Final feedback session
- Identify 1<sup>st</sup> steps if applicable and where people would like to take it from here.

### **Reflection Questions**

**Final Reflections and Close**  
**Sunday 11.30 am – 12.15 pm**  
**45 mins session**

**Resources**

- Journals
- Pens
- Data projector
- Computer
- Powerpoint Concept Maps
- Pressies and cards for assistants
- Cards for participants

**Activities**

- Half hour time of reflection for participants
  - Concept map without referring to previous one
  - Final reflection questions
- 15mins for close
- Thank you presentations to assistants
- Thank you to all participants and give out cards
- Close. Explaining any further contact, processes etc.

**Final Reflection Questions**

# Appendix H

## Background and Initial Reflection Questions



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### Pre-conference Reflection Material

You are asked to undertake some reflections prior to attending the weekend event. This will provide data for research and also will prepare you for some of the activities at the weekend. I ask that you record these reflections in the journal I have included in this package. Please bring these journals along to the weekend so that you can continue to reflect during the weekend. These journals will be collected at the end of the weekend and will form the major basis of the research analysis.

In order to start this process I have attached some questions to stimulate your reflections.

### Worldviews and Paradigms

The first reflection is around your 'worldview' and 'paradigm of disability'. I have given some basic explanations of the terms *worldview* and *paradigm* to help give a conceptual framework to your reflections.

C.S. Lewis, in "The Magician's Nephew", sums up worldview nicely when he states, "For what you see and hear depends a good deal on where you are standing: it also depends on what sort of person you are". Worldviews are the frame of reference, often unconscious and often not fully articulated, through which each individual views the world. Often they are unexamined and incomplete as theoretical frameworks. Worldviews shape our ideologies and paradigms.

A paradigm is explained by the Merriam-Webster Online dictionary as "a philosophical and theoretical framework of a scientific school or discipline within which theories, laws and generalizations and the experiments performed in support of them, are formulated". They both emanate from and help to inform worldviews.

Worldviews shape our ideologies and paradigms which subsequently shape our values and ultimately our behaviours.

Over the next few weeks try and evaluate how you are responding or interpreting events. See if you can see what this says about your own worldview. Record any observations in your journal.

What other things do you think inform your worldview generally and more specifically in relation to disability?

## **Paradigm of Disability**

What is your definition of disability?

What do you think causes disability?

What do you think are the goals for a person with a disability?

How is disability reduced or removed?

What is the ideal relationship between practitioners working in the field and people with disabilities?

What is the role of support people and families of people with disabilities?

What features in the environment, both physical and social, enable people with disabilities to reach their goals?

What role does culture play in understanding disability?

Are there any other questions of importance to you/

## **Paradigm Formation**

Also note in your workbook journal, how do you think your worldview has impacted upon your 'paradigm of disability'? What other things have shaped your 'paradigm of disability'?

**Thank you for taking the time to do this. I have attached a plan for the weekend and I look forward to your participation in this conference.**

Julia Budd

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# Appendix I

## Information for Assistants

### **“Building Environments for Interdisciplinarity.”**

#### **Thoughts and suggestions for facilitators at PhD weekend conference.**

Firstly, I just want to thank you all for taking this time out to help me with my PhD. I know I could not do this without you all. You all know me pretty well and have worked with me on different ventures, some of you will know each other and others will be making new friends. Let me introduce you to the team and their special areas of expertise over the weekend. There is [REDACTED] my friend, colleague and coffee partner she will be working with [REDACTED], my friend and wine drinking partner and they will be looking after all the practical aspects of making people comfortable. Then there is [REDACTED] a great friend and supporter who loves organising me and my computer, she will be in charge of all the technology and making sure all the resources are in the right place at the right time. [REDACTED] a long term friend from Alpha days is the guru of photographs and video and will be helping with my visual data collection. [REDACTED], who has worked with me extensively on Appreciative Inquiry projects and training, will help me facilitate groups and keep me in line and on time. Finally, there is [REDACTED], my amazing supervisor who will be available to help support and encourage me and deal with issues as called on. Steve La Grow my other amazing supervisor is away this weekend on a mission trip and so can't be with us. His role is to pray that all goes well! Well that's the team. I am really looking forward to working with you all and I am sure you will enjoy working with each other.

Recently I took part in a three minute thesis competition. One of the comments the judge made about my presentation was that he was unsure how I was actually building the environment for interdisciplinarity. It is a topic that I have considered a great deal at times during my PhD process but one that is easily forgotten as one makes plans and develops the activities for the weekend. So the question really is, how is an environment for interdisciplinarity built? Well I think there are basically two main aspects to this, one is the elements of the environment and the other is the activities themselves. Basically, both need careful planning and facilitation. I have already sent you a timetable of activities and the reflection questions that the participants have received to give you an idea of the activities. What I hope to outline here is more the background, philosophy and task that we will all be engaged in, in relation to building the environment. I mention a lot of material here. Please do not be put off. I have merely included all this so that you can get a feel for what I am doing and where I am coming from so that you can reflect on some of these issues as you prepare and engage in the weekend. Each of you has been chosen to help because I trust and respect you and know that you all have special gifts that will contribute to making this weekend great. So as you read through, don't get bogged down just use the information as you see fit and come prepared to be yourself and enjoy time together.

#### **Whole Systems Change Approach**

Change is something that is continuous. Although in many ways we are all trying to move to a place of homeostasis or balance we are all in a state of change but sometimes we are unaware of this. And so in order to build an environment for interdisciplinarity we also need to build an environment that can facilitate positive change. That is why the tools that I am using for this weekend have been drawn from the Whole System Change approach. All the Whole Systems Change approaches come from the same philosophical base that considers that groups cocreate

information, they shape the story together. It assumes that all the knowledge and skills needed for the task are situated within the group and that as group members are free to be who they are, can see how they can contribute to the whole and how the whole fits together that change occurs. This happens over time as the group values what they are doing, and sees and respects how each individual contributes to the whole. With this in mind it is, therefore, important that everyone on the weekend is made to feel that they are respected and valued and have something important to contribute to the weekend and to the topic as a whole and that as each contribution is made a larger more complex and holistic picture is built. It is hoped that this will evolve as the weekend progresses and it is something that we need to deliberately build.

### **How Change Occurs**

Understanding the principles of how change occurs can help us to structure environments and activities that will help stimulate change leading to more collaborative thinking. From my research I have identified two theories that can help us structure the environments and activities. These two theories are Transformative Learning Theory and Integral Thinking.

Transformative Learning Theory was developed by Jack Mezirow. He described a linear process of change that started with an actuating event or an event that started the change process. For us this event is the research project. He then stated that individuals needed to identify and articulate the underlying assumptions, as you will have seen from the documents that I sent to the participants I am already getting them to think about their assumptions about disability. The next stage is critical self-reflection and again I am asking participants to undertake this before, during and at the end of the event. The next stage is critical discourse and many of the activities during the event will give opportunities to engage in critical discourse. The final stage is testing new assumptions. Again this will be facilitated by some of the activities during the weekend. I do not think this is a one off linear process but a cyclical one. I actually think that the participants will go through a number of these cycles before and during the event.

Integral thinking was developed by Ken Wilbur and seeks to identify, through the use of a quadrant, four areas of reality for individuals and groups. He has also identified tools of transformation that he states facilitates changes at these different levels of reality. The first he describes as individual exterior and involves physical aspects of the individual. He sees the tools for transformation in this quadrant being diet and exercise. Although important we are not really actively involved in making changes in this quadrant. The second quadrant is individual interior and relates to peoples intentions, values and attitudes. To facilitate change in this quadrant the tools of transformation are self-questioning and journaling and will be facilitated by the self-reflection questions and journaling throughout the research. The third quadrant is collective interior and relates to culture, shared group values and worldviews. The tools of transformation for this quadrant are dialogue and storytelling, opportunities for both these activities will be provided during the weekend. The fourth quadrant is collective exterior and relates to policies and strategies. The tools of transformation here are systems thinking and the development of the process for policy making. Some of the groundwork for this may occur during the weekend as individuals engage in group exercises.

It is important that all of us are aware of these processes so that we can consider what is going on for individuals and groups during the weekend. We can all be actively involved in helping to facilitate these tools and activities. For those of us engaged in the actual facilitation of groups we need to be identifying conversational streams and helping to lead them in positive ways that can help initiate self-reflection, critical discourse and joint meaning making. We can all be actively involved in laying down

appreciative principles, applying appreciative interventions and designing the social architecture of the event. Part of that architecture involves the elements of the environment.

### **Elements of an Environment**

Mazlow in his hierarchy of needs identified a number of different aspects of individual need. His theory stated that in order for people to operate at a higher level the lower level of needs had to be satisfied. Many people have used and added to Mazlow's hierarchy. The one that I am using is a combination of different hierarchies and identifies 8 levels. These levels are a) biological and physiological, b) safety, c) belonging and love, d) esteem, e) cognitive, f) aesthetic, g) self actualisation and, h) transcendence. During the weekend in order to facilitate change and build an environment for interdisciplinary dialogue we will be asking the participants to be working at the highest levels of this hierarchy. We will, therefore, need to ensure that all the lower needs are met.

The biological and physiological needs include air, food drink, shelter, warmth, sex and sleep. I don't think we need to worry about the sexual needs! But all the others are very relevant. Although we are all involved at this level it will be predominately the realm of [REDACTED] and [REDACTED]. We need to make sure that all their needs are met, that their rooms are comfortable and warm, that they have access to all that they need including accessible bathrooms and toilets for users of wheelchairs and guides to meals for those individuals who have a vision impairment. Work rooms need to warm, comfortable but with good air flow so that sluggishness is avoided. All have indicated their preferences for food and accommodation and I will be working with the venue organisers to determine that these needs are met. I am presently arranging for transport from Wellington for a number of participants. [REDACTED] and [REDACTED] will also be responsible for laying up for meals and organising and making morning and afternoon teas and supper. [REDACTED] is also in the process of making up welcome packs for guests for their rooms. I am developing a welcome card for them as well. Any other suggestions or ideas to add to this would be great.

The safety needs encompass both physical and emotional safety. Obviously from a physical perspective we need to ensure the safety of the individuals and their possessions. For this we will need to make sure that cars are locked and parked in safe places and that room keys are used and kept safe. We will need to make sure that all accessibility issues are taken care of and that all areas are safe and easily located. The emotional safety aspects are also crucial. If we are expecting people to make themselves vulnerable, talk about personal issues and assumptions and share with each other at deep levels then we need to be making sure that they feel safe. This will be initiated from the very beginning by clear inclusive ground rules and guidelines for interactions. We will all be responsible to ensuring that these guidelines are adhered to. Although all have signed consent forms to have photographs and videos made please do be sensitive to people's needs as you go through the weekend. If any safety issue are felt to have been breached then please do inform me as soon as possible so that the situation can be dealt with as soon as possible.

Belongingness and love needs are again ones that we all need to be aware of. I think these are some of the most important needs and I will deal with these again in the later section on hospitality. Basically, we need to make people feel that they belong from the outset and that they feel that they have something worthwhile to contribute. Not only do we need to be demonstrating unconditional love and respect we also need to be engendering that in our participants as well. Little things such as the welcome baskets, pick ups from the airport, welcome cards etc will all hopefully help facilitate and meet these needs.

Esteem needs are closely linked and built from the previous needs. If people feel they have an important part to play and that they are respected and important members of the group then they will tend to have greater self esteem. We, therefore, need to demonstrate and encourage all to respect and value one another.

Cognitive needs require that there is meaning and understanding of the process and the topic of the weekend. Hopefully these needs will be met by clear transparent process and activities before and during the event as well as opportunities for self-reflection.

Aesthetic needs are an important and often overlooked aspect. El Rancho is in a lovely setting and provides for much of the beauty and balance needs of the participants. Some time will be needed for people to take advantage of these beautiful natural surroundings. A focal point and flowers will also be set up in the main meeting area to help people focus their minds and give energy, balance and beauty.

The two highest levels of self actualisation and transcendence are the levels at which we hope our participants will be working during the weekend. Hopefully if their others needs are met then they will be free to explore fulfilling their needs at these levels.

### **Hospitality**

Hospitality is one of the most important aspects of what we will be doing over the weekend. It is often seen as nothing more than providing food and accommodation but it is so much more. Marjorie Thompson describes it beautifully. She states, "Hospitality means receiving the other, from the heart, into my own dwelling place. It entails providing for the need, comfort and delight of the other with the openness, respect, freedom, tenderness and joy that love itself embodies". The dwelling place she speaks of is not her home but her very being. It is this type of hospitality that we need to be providing over the weekend. We need to be prepared to step outside of our comfort zones and let ourselves be vulnerable so that we can de-centre ourselves and make ourselves available to this new relationship with others.

Trappist Monks have hospitality as their main 'charism' or gift. They have studied long and hard to work out what hospitality is and how they can best provide it. They describe it as 'giving of self for the good of the other', an 'other-centred love', a contemplative action. By contemplative action they have realised that hospitality does not come naturally, it is something we need to work on. They have identified that individuals need to understand the casual connections between what they think, say and do. They recommend that individuals go through a process that starts with self awareness which allows them to weigh up their motives, assess the situation, draw on empathy, draw on notions of justice and fairness and then develop appropriate action. Perhaps we can try and incorporate that into how we provide hospitality during the weekend. The monks have discovered that self-reflection and journaling can help the process and perhaps this is something we could do during the weekend in our reflective times.

To help facilitate our own self-reflection perhaps we can consider what the monks describe as the features of compassionate love, humility, trust, respect, unselfishness, openness, detachment, putting aside one's own agenda for the sake of others, being present to the situation and to others, having a mature view of reality and acceptance of ourselves in order to accept others. They state that we need to have a realistic appraisal of our self and our flaws whilst accepting ourselves fully, we need to be aware of our own emotions and unmet needs and we need to really engage in listening and understanding. We need to understand another's need and pain, we need to value



others as they are, suffer with them and desire to help them be all that they can be. Part of this is knowing that our need for reciprocal love and affection our need to be accepted and to belong, our guilt, fear and seeing others as a reflection of self can all hinder our ability to reach out to others with that compassionate love. If we are seeking to look good, control or manipulate others or avoid confrontation we cannot offer hospitality in its true sense. All this is not to send us all on guilt trips or to make us feel that we can't do this but hopefully to stimulate our own thoughts on what hospitality is and how we can facilitate environments to help people work at their best.

### **Facilitation**

A good facilitator can be described as one who enables groups to collaborate and work effectively to create synergy. A good facilitator is one who acts as a neutral party advocating for fair, open and inclusive procedures. They contribute the structure and process which supports everyone to do their best thinking which can then hopefully lead to inclusive solutions and sustainable agreements. Facilitators need to keep to time, set the agenda and record proceedings. [REDACTED] and I will be the main facilitators but we will also rely on others such as [REDACTED] to record information in relation to the photographs and videos and [REDACTED] to help record and collate the butcher paper and group discussion papers etc.

Good facilitators understand group dynamics, have listening skills add to group creativity, embody respect for others, are aware of different levels of reality and understand the differences that divide groups. Many of you are used to facilitating groups and it would be good to use these skills and reflect on these things during the weekend.

### **Conclusion**

Basically, we are all responsible for building the environment at the weekend. Some of the aspects I have spoken about relate to more of the specific roles but many of the things are general. Not only do we need to embody many of these attitudes ourselves but we will also need to try and help facilitate the participants behaving in this way as well. The more we can do this the more I believe the right environment will be built that helps facilitate interdisciplinarity.

One further task I am asking of you. Please would you take time to reflect on these things and on the actual events as you go. How are the individuals and groups interacting? What have you observed? What has challenged you? What has helped or hindered interdisciplinary dialogue and discussion? What do you think helped build an environment for interdisciplinarity? Write down anything you think might be relevant or pertinent. I have included a reflective journal for your thoughts, beginning, during and at the end of the weekend. This will be useful data for me as I consider the results of my research. Because of this I have also included a participant's consent form. I would be grateful if you could sign this and bring it along to the weekend with you.

Again many, many thanks for agreeing to help me in this way. I really do appreciate it. I hope you find the exercise stimulating, exciting and fun.

Blessings

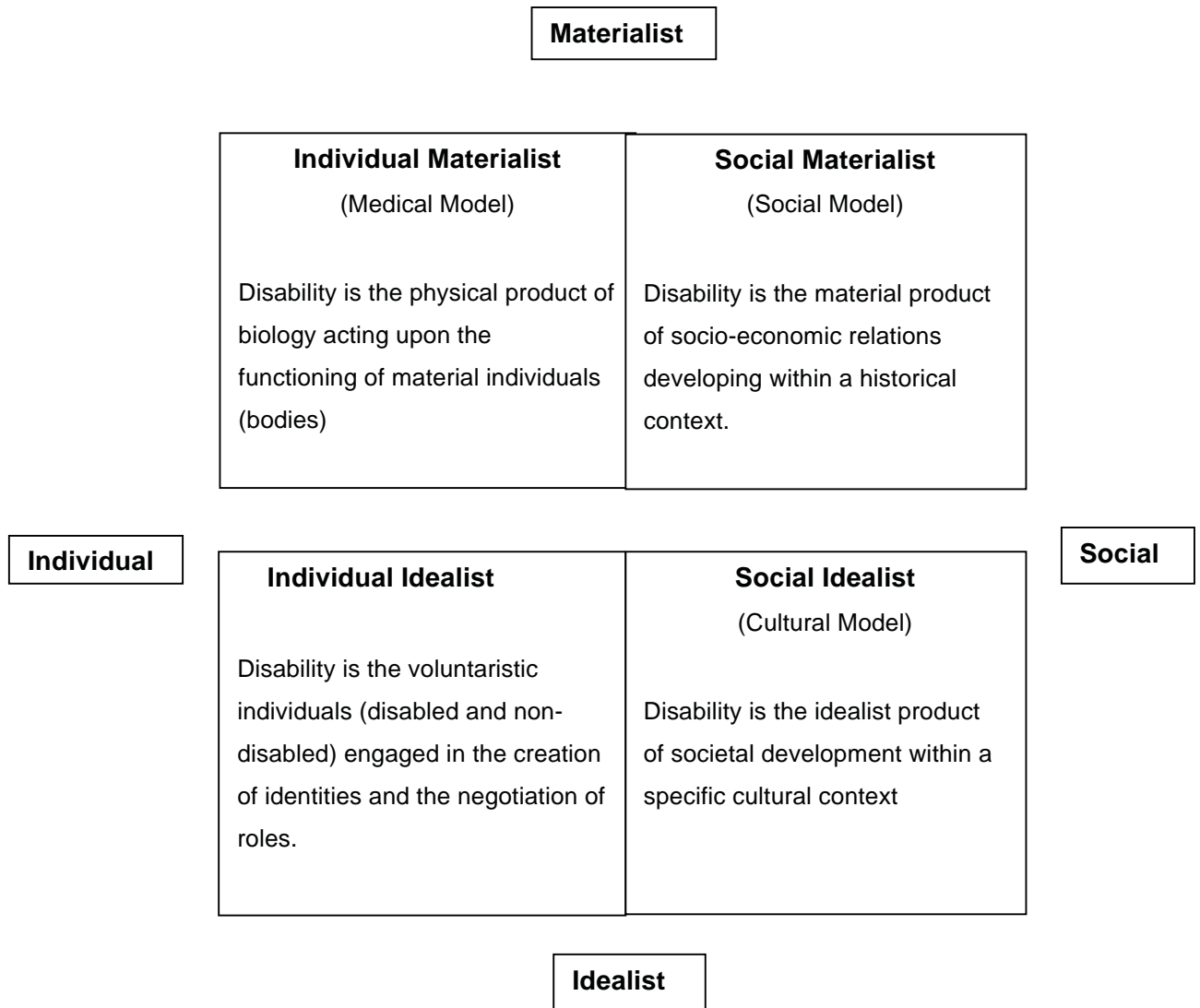
Julia

# Appendix J

## Movie Exercise

### 4 Fold Typology from Priestley (1998)

Priestly, M. (1998). Constructions and creations: idealism, materialism and disability theory. *Disability and Society*, 13(1), 75-94



As you watch the movie “Happy Feet” consider the events and interactions that could fit in each of the quadrants above. Jot down any quotes or details of the event alongside the relevant quadrant.

# Appendix K

## *Future Search Exercise*

Saturday 3.15 – 5.15pm

2 hours

### **Small Group Exercise**

From your experience and from the work that you have done so far in relation to the timelines and typology try and embrace the paradigm of disability that you have been allocated as a group. If this fits with your own views all well and good. If it does not then please try and role play into this paradigm.

- Read the brief description and summary from the previous session in relation to your paradigm that you have been given.
- Spend some time in silence to absorb the information and to get into role if that necessary.
- Write participant's letter in top right hand corner of any documentation.
- Use the following questions as thought provokers to develop a summary of your paradigm to present to the wider group.
  - What is the main focus of this paradigm?
  - How does this paradigm view disability?
  - What does this paradigm consider to be the causal mechanisms of disability?
  - How do these causal mechanisms work together?
  - How does this paradigm consider that an inclusive society can be achieved?
  - Which causal mechanisms need to be changed and how, bearing in mind the interactive nature of causal mechanisms?
  - Where has this paradigm arisen from?
  - What is the main activity of people holding this paradigm at the present?
  - Where are people, holding this paradigm, wanting to go in the future?
- Consider also
  - What things does this paradigm think it is doing right?
  - What is this paradigm proud of?
  - What might it feel sorry for?

This is all about ownership not blaming.

- Prepare feedback for the whole group session

## **Appendix L**

### ***Appreciative Inquiry: Discover Activity***

#### **Appreciative Stories**

The New Zealand Disability Strategy states that, “New Zealand will be inclusive when people with impairments can say they live in: A society that highly values our lives and continually enhances our full participation.” Think of your best experience when you have seen this inclusivity at work.

What was the event?

When did this event occur? What was happening politically or socially before and during this event?

What conditions and/or combination of conditions do you think made this event possible in terms of the following?

- Structures
- Policies
- Individuals
- Values
- Systems

Where was your own disability thinking at the time? Why do you think you held those views? Have your views changed and if so how?

What do you think were the values and thoughts of the other players in the event and what do you think influenced their thoughts, values and practice?

What is the core thing that made the event so good?

What do you wish could have been different that would have made this event or experience even better?

## Appendix M

### ***Appreciative Inquiry: Dream Activity***

#### **The Dream**

What would the world look, feel and function like if the elements that we discovered were to become the norm rather than the exception?

- Based in reality
- Stretched

#### **Visualize the dream**

- From themes and conversations in Discover phase
- Ask these questions
  - What is happening?
  - How does it happen?
  - What are the things that made it happen (e.g. leadership, structures, systems etc)?
  - What makes this dream exciting?

#### **Express the Dream**

- Choose creative way to present the dream (vision) to whole group.
- Could be
  - News report,
  - song,
  - poem,
  - skit,
  - interview,
  - picture,
  - people sculpture etc

#### **Possibility Statement**

- Is it provocative
- Is it grounded
- Is it desired
- Is it affirmative
- Does it provide guidance
- Does it expand the zone of possible change
- Is it a high involvement process

# Appendix N

## Synthesis and Specialisation Activity

### Scales

- Intra – psychological, within the individual
- Agent – biographical
- Micro – small group
- Meso – functional roles
- Macro – societies
- Mega – civilizations and traditions
- Planetary – globalization effects

### Levels

- Chemical – at level of chemical components (e.g. Chemistry or Pharmacology)
- Physical – relating to the physical world around us (e.g. Physics or Environmental Science and Planning)
- Biological – Primarily relating to human biology or anatomy
- Psychological – (e.g. Psychology)
- Psycho social – interaction of individuals and social world
- Political/socio economic – relating to policies or structures within countries or communities
- Cultural – influenced by cultural differences.

### Complexity

The complexity of the world has led to two different responses

- a call for greater specialisation and fragmentation as researchers drill down to discover more of the depths of a phenomenon
- A call to wrestle with 'consilience', synthesis of knowledge, to embrace the breadth rather than the depth of the phenomenon

### Questions

- How might these two statements be considered paradoxical?
- In light of the timelines we had at the beginning do you think this has changed over time and if so how?
- How might we bring balance between these two responses?
- How does this relate to the levels and scales?
- How does this relate to the paradigms of disability in Priestly's typology?