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The Role of Functional Behaviour Assessment in Early Childhood Education:
Supporting Teachers to Manage Challenging Behaviours in the Classroom

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Abstract

This research looks to explore the use of functional behaviour assessment (FBA) within early childhood education (ECE) settings, as employed by teaching staff themselves. Although the use of FBA is widely researched, there is minimal research to date on its effectiveness within the ECE sector and within Aotearoa specifically. Debates in current research argue whether or not teachers are equipped and skilled enough to effectively carry out an FBA. This research study therefore investigated its applicability within Aotearoa's ECE field, as conducted by ECE teachers themselves, after completing an FBA professional learning programme. Specifically, this thesis explores how five ECE teachers reported that they implemented FBA within the classroom, how their understanding of challenging behaviours and how to manage them, may have changed after learning about and employing an FBA; and the benefits and challenges they believe there are, around FBA and its use within an ECE classroom environment. Through the use of a qualitative thematic analysis, findings conclude that FBA can be effectively and accurately implemented within ECE classrooms by teachers themselves, after completing an FBA professional learning programme. ECE teachers reported that they now think functionally about behaviours while considering the role and influences of antecedents and consequences. Furthermore, it was found that the advantages of using FBA within ECE include working in a team of teachers, the ability to intervene at an early age, and the perceived alignment with Aotearoa's ECE curriculum document, Te Whāriki. Challenges identified in this study of using FBA within ECE include, understanding the differentiation between age appropriate behaviours and problematic behaviours, no full teaching teams attending the workshop, and that there was still a need for additional external support.

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Chapter One: Introduction

Overview

This study investigated how early childhood teachers in Aotearoa New Zealand who have completed a functional behavioural assessment (FBA) professional learning programme, implement the knowledge and skills taught to their teaching practice. Following the movement towards upskilling and training frontline staff, this study aimed to investigate whether an FBA professional learning programme can be successfully taught to early childhood teachers, and then be implemented within the classroom to help manage the presentation of challenging behaviours; while meeting the needs of all children within the classroom.

The purpose of this research was to explore whether or not early childhood teachers found the professional learning programme useful, and to what extent they were able to carry out an FBA to help support the development of individual development plans (IDP). Specifically, this study has four main questions:

1. How did teachers use and implement FBA within the classroom?
2. In what ways do teachers understanding of challenging behaviours and how to manage them change, after learning about and employing an FBA?
3. What are the benefits of using FBA within an ECE classroom environment?
4. What are the challenges of using FBA within an ECE classroom environment?

This thesis reports on the results of five ECE teachers who underwent a two-part FBA to behavioural intervention plan (BIP) professional learning programme, and then implemented the knowledge and skills taught within their teaching practice across a seven-week period.

Background for the Study

In the last decade in Aotearoa, the number of children attending ECE centres, has significantly increased. Results from the recent 2017 ‘Childcare Survey’ reported that 84% of three-year-old’s throughout the country, were enrolled in formal childcare; including but not limited to kindergartens, preschools and Kohanga Reo centres (Statistics New Zealand, 2018). With this number expected to increase, early childhood education is supporting a vast majority of young children in New Zealand (Statistics New Zealand, 2017). It is therefore imperative that the services, teaching and learning

which takes place within these centres, allow young children to flourish. In particular, the areas of developing and promoting social, emotional and behavioural competencies in young children.

As the number of children receiving ECE continues to increase, so too does the presentation of challenging behaviours within the ECE sector (Johansen, Little, & Akin-Little, 2011). Challenging behaviours (also commonly referred to as problematic behaviours or behaviours of concern) within an educational context, are defined as behaviours which interfere with a child's learning, the learning of their peers, hinders positive social relationships and/or interactions, or risks the safety of/or harms an individual (Conroy, Sutherland, Snyder, & Marsh, 2008). In Aotearoa the demand from ECE centres and schools who are seeking support for children identified as engaging in problematic and/or challenging behaviours, from external agencies such as early intervention specialists and educational psychologists, are exceeding the capacities currently available (Browne, 2013; Ministry of Education, 2010). As a result, there is a large number of children, teachers and families on waiting lists, urgently waiting to receive support (Ministry of Education, 2010). Unfortunately, when working with young children and the rapid speed at which they are developing, waiting even a few months can have the greatest impact not only on their learning, but on the consistency and intensity of the challenging behaviours they are engaging in (Bayat, 2015; Bierman, Mathis, & Domitrovich, 2018).

In recent years, to try and compensate for this, there has been a movement towards upskilling and training teachers, so that they are more equipped and competent to support students with managing their challenging behaviours, themselves (Ministry of Education, 2014; Ministry of Education, n.d.). This also allows teachers to have the skills and knowledge to manage behaviour the best they can, until they are able to receive external support if necessary. However, it is also evident that most teachers only receive minimal behaviour management training or professional development courses focussed on this particular area (Johansen et al, 2011). Most graduating ECE teachers report that during their teaching training, they spend a limited amount of time learning about how to support students with special needs; but that was the extent to which they received training in any sort of behaviour management (Johansen et al., 2011). As a result, there is a large number of teachers currently practicing in New Zealand who may not feel competent in working with and supporting children with challenging

behaviours, despite an increasing pressure and expectation of them to be able to do so (Ministry of Education, 2014).

Functional Behaviour Assessment

Functional Behaviour Assessment (FBA) is a well-known and widely researched tool, currently used by behavioural specialists and psychologists. FBA is a process of clearly identifying a target behaviour and its function, as well as the variables which are triggering and maintaining it (antecedent and consequences) (Borgmeier, Loman, Hara, & Rodriguez, 2015). Unlike other behavioural interventions which focus primarily on what the behaviour looks like, FBA is a tool which focuses on the function of challenging behaviours in order to better understand the reason(s) as to why they occur (Umbreit, Ferro, Liaupsin, & Lane, 2007).

Typically, the process of an FBA begins with clearly identifying the challenging or problematic behaviour, as well as whether the goal is to minimise or eliminate it. For example, hitting, yelling, or engagement in anti-social behaviour with peers. (Lane, Menzies, Bruhn, & Cronbori, 2011). This step is followed by trying to identify and understand why the child is engaging in that behaviour; in other words what function it is serving. Behavioural specialists have found that all behaviours serve two main functions, to seek/obtain something through positive reinforcement, or to avoid something through negative reinforcement (Umbreit et al., 2007). Ultimately these behavioural principles both maintain and increase the future probability of the behaviour(s) occurring (Umbreit et al., 2007). Once the target behaviour has been clearly identified, the next step of a FBA is to look at gathering antecedent and consequent information, to understand what is happening right before the behaviour is occurring, and what is happening right after the behaviour has occurred (Lane et al., 2011). From the information gathered, a hypothesis is then developed which looks to explain why the behaviour is happening and what is maintaining it. From this hypothesis, an intervention plan can then be developed which aims at teaching the child a positive replacement behaviour, which serves the same function as the previously identified problematic/challenging behaviour. This positive replacement behaviour serves as a means for the child to obtain the same function, for example raising his/her hand, but in a more appropriate and socially acceptable way (Borgmeier et al., 2015).

In Aotearoa, FBA is typically used within primary and secondary schools as a means to support children who fall within the tier 3 category, who have been unable to

progress forward despite other interventions having been implemented to support them (Ministry of Education, 2015b). An FBA is also typically carried out by an Educational Psychologist, RTLB or another trained professional (Ministry of Education, 2014). Tier 3 is part of Aotearoa's Positive Behaviour for Learning School-wide (PB4L School-Wide) framework (Ministry of Education, 2015b). This framework has been developed and implemented throughout Aotearoa, and is helping to build a school culture whereby positive behaviour and learning is a way of life (Ministry of Education, 2015b). PB4L School-Wide works through a three-tiered process. Tier 1 provides the foundation on which tiers 2 and 3 are built, and focuses on supporting systems and processes throughout the school which impact on all students (Ministry of Education, 2015b). Tier 2 focuses on identifying and implementing interventions for students who require additional learning and/or behavioural support (Ministry of Education, 2015b). Lastly, Tier 3 focuses on more individualised and intensive support for students with more severe challenging/problematic behaviours who have been unable to be supported accordingly through tier 2 (Ministry of Education, 2015b).

Although there is minimal literature available regarding the use of FBA within an early educational setting in Aotearoa, internationally its usefulness and effectiveness has been well documented (Arthur-Kelly, et al., 2017; Borgmeier et al., 2015; Wood, Blair, & Ferro, 2009). Wood et al., (2009) reviewed 30 articles in which FBA's were conducted with children under the age of six. They reported that in 46% of the studies, components of the FBA were successfully carried out by the early childhood practitioner(s) themselves (Wood et al., 2009). This highlights the potential opportunity for FBA's to be carried out by ECE teachers themselves, as opposed to having to wait for a professional to come into the classroom to do it. However, recent debates have deliberated the practicality of schools and preschool personnel to be conducting an FBA while maintaining a high level of fidelity and integrity that is necessary for an FBA to continue being an effective behavioural tool.

Research Aim

There are two research aims for this study:

- 1) To explore the use of FBA within ECE settings.
- 2) To investigate how ECE teachers carry out and implement FBA themselves, within their teaching practice.

Rationale for the Study

Whilst there is sufficient research on the effectiveness of FBA in both helping to understand and manage challenging behaviours, there is limited research on the effectiveness of FBA being carried out and used by frontline staff in Aotearoa, and within ECE settings specifically. Along with the increase in demand for educational and behavioural support services, research in the area of training frontline staff in behavioural management could be considered of value and importance to not only the Ministry of Education, but other related key stakeholders such as primary and secondary schools, and tertiary education. Therefore, this research aims to contribute to the current gaps in research in Aotearoa, regarding the use of FBA within ECE settings by frontline staff themselves (as opposed to psychologists or other specialists).

One of the logical flaws of FBA, as highlighted by Scott, Liaupsin, Nelson and McIntyre (2005), is that FBA is predominantly used as a reactive response. It therefore loses the opportunity to act as a preventative measure, which could be used to address less severe behaviours which may be high in frequency, before they were to develop into more severe behavioural issues (Scott et al., 2005). Therefore, this research also looks to explore the use of FBA with less severe but highly frequent behavioural challenges which young children already start to present and/or engage in, to explore its value in acting as a preventative measure as opposed to a response.

Researcher Background

I have worked at an ECE centre for the past 2 years, as well as supporting children across various age groups with both learning and/or behavioural difficulties before that. During this time, my passion for understanding and working with children engaging in behavioural challenges/difficulties has grown. I am particularly interested in understanding why some children engage in particular behaviours, the support systems which are available to them, their teachers and families, as well as evidence-based interventions which have been successful at managing these behaviours. During both my postgraduate diploma and masterate studies, I was introduced to FBA and how it is currently used internationally and within Aotearoa. I was firstly drawn to how credible the tool was, as well as how insightful and useful the information which it gathers was as well. FBA is well supported in the literature, and it draws on well-respected theories, which will be further discussed in the literature review below.

While there has always been a focus on teacher learning in relation to understanding and managing challenging behaviours, historically the assessment associated with this has been carried out by trained educational professionals. I therefore, became interested in investigating whether or not teachers could be trained in conducting FBA's themselves within their own classroom. Along with this, there is very limited research on the use of FBA within early childhood settings, despite the increasing number of children presenting with behavioural challenges within this sector. Therefore, my interest in both training frontline staff on FBA, and specifically researching the use of FBA within ECE to fill this gap in existing research, prompted the development of this research study.

Introduction to Key Terms

The following terms will be used throughout the study and will be described below. These include challenging behaviours, FBA, the Incredible Years Teacher Classroom Management (IY TCM) programme, Promoting Alternative Thinking Strategies (PATHS), ECE and Aotearoa's ECE curriculum document, Te Whāriki.

Challenging behaviours: The terms challenging, problematic or inappropriate behaviours will be referred to and used interchangeably throughout the research study. These terms refer to any and all behaviours which are considered to be negatively impacting on a child or their peers learning and/or development (Conroy et al., 2008).

Functional Behaviour Assessment (FBA): FBA is an evidence-based process of understanding challenging behaviours and the purpose which they are currently serving (Lane et al., 2011). It looks at identifying possible triggers and maintaining consequences, as well as understanding setting events in order to allow for better management of the identified challenging behaviour (Lane et al., 2011).

Incredible Years Teacher Classroom Management (IY TCM) programme:

The IY TCM programme is part of the incredible years programme series which looks at specifically supporting teachers to help develop and strengthen social and emotional competence in young children (Webster-Stratton, 2011). It does this by teaching evidence-based positive teaching strategies to all teachers who participate in the training programme (Webster-Stratton, 2011).

Early childhood curriculum: Te Whāriki: The reviewed and latest version of Aotearoa's Early Childhood Curriculum is Te Whāriki: *He Whāriki mātauranga mō ngā mokopuna o Aotearoa (Te Whāriki)* Early Childhood Curriculum (Ministry of Education, 2017). The curriculum was first published in 1996 situated on the foundations of NZ being a bicultural country, whilst also now including the multicultural present it currently has (Ministry of Education, 2017). The curriculum encompasses the identity, language and culture of Aotearoa, and aims to provide opportunities, so that all young children can grow as unique, confident and competent learners (Ministry of Education, 2017).

Summary of chapters

Chapter two reviews the current literature on two behavioural strategies, tools and process currently used to help manage challenging behaviours, as well as the current literature surrounding the use of FBA. Chapter three outlines the qualitative approach to the research which was taken, along with the participant selection criteria, data collection processes used, analysis, and the ethical considerations. Results from the semi-structured interview focused around answering the research questions and key aims are discussed in chapter four. Chapter five discusses the key findings from the research in comparison to current literature in the field. Lastly, chapter six concludes the research, and provides a final summary regarding the strengths and limitations of the study, as well as possibilities for future research in this field.

Chapter Two: Literature review

Introduction

To guide the current research study on the role of Functional Behaviour Assessment (FBA) in early childhood centres (ECE), this chapter firstly looks to review the literature surrounding current interventions and strategies used to help manage challenging behaviours in the classroom. This seeks to examine what is currently used, and how FBA differs in comparison to these. It then summarises the use and effectiveness of FBA both in Aotearoa and internationally, as well as highlighting the strengths and issues surrounding the use of this tool.

Search strategy

To find the relevant literature reviewed below, a combination of the following specific search terms was used: early intervention, behaviour management, early childhood, early childhood education, teachers, early years, Te Whāriki, Incredible Years, functional behavioural assessment, Aotearoa and New Zealand. These terms were used within the following search engines to gather relevant research: Google Scholar, Scopus and ERIC. The Discover article database and search tool on the Massey University Library website was also used. Due to the limited amount of research currently available both in Aotearoa and internationally on behaviour management interventions within early educational settings, there was no date restrictions added to further filter through the literature. Relevant websites which were also used to source relevant articles, reports and documents, include The Ministry of Education, The New Zealand Council for Educational Research and The Incredible Years in Aotearoa New Zealand website.

The Incredible Years – Teacher Classroom Management programme

When working with children who are exhibiting problematic or challenging behaviours, interventions aimed at managing these can be implemented within three different levels, a school-wide focus, a classroom focus, or an individual child focus, depending on the desired goals and expected outcomes (Parsonson, 2012). In ECE centres in Aotearoa, the most well-known behavioural programme currently used, is ‘The Incredible Years Teacher Classroom Management’ (IY TCM) programme (Ministry of Education, 2014). This programme was designed to fit in with the Positive

Behaviour for Learning School-Wide framework (PB4L School-Wide), which is based on the Positive Behavioural Interventions and Supports framework (PBIS) designed in Oregon in the 1990s (Ministry of Education, n.d.). The IY TCM programme is designed for teachers of children aged three to eight years of age and aims to promote the development of emotional and social competence in young children; while also minimising and preventing the presentation of disruptive behaviours in the classroom (Jones, Daley, Hutchings, Bywater, & Eames, 2008; Ministry of Education, 2014; Webster-Stratton, 2012). The programme is taught to teachers across a six-month period, where teachers from different ECE centres come together once a month, to complete one of the six topics which the programme covers: strengthened classroom management skills; increased teacher capability and confidence; improved student behaviour; reduced classroom aggression, conflict, and acting out; and increased student engagement and achievement (Ministry of Education, 2015a). The IY TCM programme was recently introduced to schools in Aotearoa and therefore, the research regarding the effectiveness and usefulness of this program within Aotearoa is limited. A preliminary study was carried out by Fergusson, Horwood and Stanley (2013) which used information collected from standardised assessments established by the Incredible Years Inc., to measure teacher satisfaction with the programme as well as the effects the programme had on teacher classroom management behaviour (Fergusson et al., 2013). 237 primary school teachers across Aotearoa participated in the study which produced promising results (Fergusson et al., 2013). Teachers reported feeling more confident in their own abilities to manage different behaviours within the classroom, and found the strategies taught throughout the programme extremely useful (Fergusson et al., 2013). Although this study found promising results, in relation to the effectiveness of the IY TCM programme within an early childhood education context, there has been no research published to date which I am aware of.

In the United Kingdom (UK), Hutchings et al., (2007) reported the effectiveness of the IY TCM programme during its first use in the country. Their results revealed that teachers were satisfied with the programme and believed that the strategies taught were effective at improving children's behaviour in the classroom (Carlson, Tired, Bender, & Benson, 2011). Similarly, Hutchings, Martin-Forbes, Daley and Williams (2013) conducted a randomised controlled trial (RCT) to evaluate the effectiveness of the IY TCM program also. Their participants consisted of six intervention classrooms and six control group classrooms, with a total of 12 teachers and 107 children, who were

between three years and seven years of age (Hutchings et al., 2013). Findings from their study revealed a significant reduction in both overall classroom off-task behaviour and within specific target children of concern, as well as a reduction in teacher negatives with select children and vice versa (Hutchings et al., 2013). Similarly, a study completed in Jamaica by Baker-Henningham, Walker, Powell, and Gardner (2009) produced significant results in increased positive teacher behaviour and decreased negative behaviour, and increases in the number and amount to which teachers promoted children's social and emotional skills. There was also a significant increase in children's engagement with appropriate behaviours, interests and enthusiasm in class (Baker-Henningham et al., 2009).

Carlson et al., (2011) also looked to examine the effects of the IY TCM programme by examining the changes in preschool teachers' perceptions of classroom management strategies. Their study included 24 preschool teachers of children aged between three and five years, from the lowest income and highest unemployment counties in Michigan state. The delivery of the IY TCM programme in this study differed from that of the recommended monthly sessions, and instead was delivered weekly over two to three months (Carlson et al., 2011). Results from their study found significant increases in teachers' perceptions of positive strategy use, which were also maintained at the 16-week follow-up (Carlson et al., 2011). However, the pre-post-test analysis of the results collected, also revealed that there was no decrease in inappropriate management strategies engaged in with teachers.

To conclude, although the IY TCM programme is supported by research to be successful at helping to manage challenging behaviours, and is widely used throughout Aotearoa, there are a number of limitations to the programme, in comparison to the FBA professional learning programme used in this study. The biggest limitation, is that the IY TCM programme needs to be completed over a period of 6 months, so therefore is time consuming and requires a high level of commitment by teachers to complete the programme. Teachers are required to attend one full day session once a month for six months, compared to the FBA professional learning programme which can be completed in one three-hour session, or split into two one and a half hour sessions. Therefore, a huge benefit for teachers to take part in and complete the FBA professional learning programme used in this study, is the significant difference in the length of time and duration of the programme itself.

Promoting Alternative Thinking Strategies Curriculum

Another intervention programme used is the 'Promoting Alternative Thinking Strategies' (PATHS). PATHS is a teacher-taught programme designed to help promote and enhance children's social and emotional competencies, while also reducing the presentation of problematic behaviour within the classroom (Domitrovich, Cortes, & Greenberg, 2007). It is based on the ABCD (Affective-Behavioural-Cognitive-Dynamic) model of development, which stresses importance on the developmental assimilation of affect, behaviour, and cognitive understanding, as they relate to social and emotional competence (Domitrovich et al., 2007).

A study conducted by Domitrovich et al., (2007), involved a randomised clinical trial which looked to evaluate the effectiveness of an adaptation of PATHS for preschool-aged children. In their study, the preschool PATHS curriculum was taught to children throughout 30 lessons which took place once a week during a circle-time lesson in class. The lessons were focused around teaching children between the ages of three and five years, about compliments, both basic and advanced feelings/emotions, self-control strategies, and problem solving (Domitrovich et al., 2007). Findings from this study revealed that children who were exposed to the PATHS curriculum had higher emotional knowledge and skills compared to children who were in the control group; and were also rated by teachers as being less socially withdrawn (Domitrovich et al., 2007). Similarly, Mihic, Novak, Basic and Nix (2016) carried out the first study in Croatia, to examine the changes in the social and emotional competencies of children, after being exposed to the PATHS curriculum. Their study included 164 children between the ages of three and six years in 12 different preschool classrooms. Results from their studies concluded that there were significant changes in children's social and emotional competencies following successful completion of the programme (Mihic et al., 2016). Another study (Hughes, 2015) carried out in London, also produced positive results, concluding that children who were able to receive the full version of the preschool PATHS curriculum exhibited fewer problematic behaviours in the classroom and had better prosocial behaviours, emotional knowledge and attentional skills.

Although there is sufficient evidence supporting the use of the PATHS curriculum internationally (Domitrovich et al., 2007; Hughes, 2015; Mihic et al., 2016), there is very limited research on its effectiveness and use in Aotearoa. Compared to the PATHS curriculum, the FBA professional learning programme also further incorporates more teaching elements for teachers, based around understanding the core functions

being served by certain behaviours, and how they in turn can manage these (Borgmeier et al., 2015). So, while the PATHS curriculum focuses on teachers teaching children certain strategies which in turn leads to an increase in their social emotional awareness, and has shown promise in decreasing children's engagement in problematic behaviour, the FBA professional learning programme is focussed on upskilling teachers so that they in turn can implement strategies and make changes to the environment which lead to a decrease in children's engagement in challenging behaviours. It therefore is focussed around teaching teachers' certain strategies, rather than teaching children them.

Functional Behaviour Assessment:

FBA has been developed and refined over many years of research. It is rooted in Applied Behavioural Analysis (ABA) which originated in the late 1950's through to the early 1960's (Dixon, Vogel, & Tarbox, 2012). ABA refers to the practice of manipulating and/or altering behaviour, by applying the psychological principles of learning theory in a systematic way (Dixon et al., 2012). The most prominent early theories surrounding this behaviour modification, was developed by B.F. Skinner and is known as operant conditioning (Dixon et al, 2012). Operant conditioning is a process of observation and consequence that is now more commonly referred to as the ABC's (Antecedent-Behaviour-Consequence) of ABA (Dixon et al., 2012). Earlier research found that through careful observations of one's environment or antecedent(s), and understanding the relationships this has on one's behaviour, it is possible to then alter the consequences of engaging in specific behaviour, to either reinforce or discourage engagement in the problematic behaviour again in the future (Carr, 1977; Carr, Newson, & Binkoff, 1976; Dixon et al., 2012).

Furthermore, it was found that challenging behaviours predominately serve two key functions, to obtain or avoid a specific stimulus or situation (Borgmeier et al., 2015). Consequently, as a result of the abundance of emerging literature supporting these findings (Borgmeier et al., 2015; Chandler & Dahlquist, 2010; Dixon et al., 2012; Lane et al., 2011), early researchers stressed the need and importance for a standard procedure to be developed which encompassed these significant findings, while providing a step by step tool for personnel's to use, to help support individuals who were engaging with such challenging and/or problematic behaviours. This therefore,

lead to the development of Functional Behaviour Assessment (FBA) and informed its processes and procedures (Borgmeier et al., 2015).

Since then, FBA has been widely used by education professionals globally such as psychologists and various behavioural specialists (Scott, et al., 2004). Following increased demand for specialist services regarding support with children identified as engaging in challenging or problematic behaviours, there was a movement towards upskilling teachers and other school staff on FBA, so that they could instead, successfully conduct an FBA themselves (Borgmeier et al., 2015). However there has been much debate in the literature regarding whether or not teachers can do so effectively.

Wood, Ferro, Umbreit and Liaupsin (2001) carried out a study within two preschool classrooms, looking at the use of FBA. Within this study, the researcher took the lead role in both analyzing data and designing function-based interventions, while allowing teachers to assist in some of the FBA processes and implement the interventions themselves. Wood et al., (2001) concluded that with the appropriate training and feedback, preschool teachers could effectively implement interventions with high integrity. However, Wood et al., (2001) further noted that more research was needed in order to determine whether or not teachers on their own, could collect antecedent-behaviour-consequence (ABC) data, identify functions of behaviour accurately, and identify and implement function matched interventions.

McLaren and Nelson (2009) also carried out research on FBA within a preschool classroom. Within their study, the researcher was in charge of collecting the appropriate data through observations and teacher interviews. Comparably to the findings found in Wood et al., (2009)'s study, McLaren and Nelson (2009) reported that due to lack of teacher training in the field of challenging behaviours, the researcher took sole charge in identifying possible functions of behaviour and matching this to interventions. Findings from their study found that preschool teachers could in fact be guided and trained in effectively conducting FBA and implementing function-based interventions (McLaren & Nelson, 2009).

In both studies discussed above, teachers were able to assist the researcher in carrying out different components of the FBA, in particular around implementing function-based interventions after the researcher had identified which one's would be most effective (McLaren & Nelson, 2009; Wood et al., 2009). However, none of the teachers in either study, were given any form of professional training on how to collect

and use data, to then identify interventions themselves. Further research could benefit from investigating whether teachers who have completed the appropriate training, could take more of a lead in the FBA process. This is essential if teachers are expected to be more independent in the future, rather than having to rely on additional support from various professionals.

To date, there is still little consensus in research regarding whether or not teachers can effectively conduct FBA independently, while also attending to their daily responsibilities within their respective classrooms (Young, Andrews, Hayes, & Valdez, 2018). Furthermore, some research has suggested that teachers are not equipped or specialised in the field of challenging behaviours, to effectively use FBA themselves (Allday, Nelson, & Russel, 2011; Young & Martinez, 2016). Myers and Holland (2006) found in their survey with both general and special educators, that only 17% of general educators had heard of FBA, and only 12% had received any sort of training in this field. A similar study and survey was done by Young and Martinez (2016), where out of 700 general educators who were surveyed, only 20% were somewhat familiar with FBA and its processes.

However contrastingly, some research studies have shown that preschool teachers can effectively implement FBA within the classroom, after completing appropriate training and having support from professionals (McCahill et al., 2014; Wood, Drogan, & Janney, 2014). McCahill et al., (2014) systematically reviewed 25 different research studies where teachers and learning support staff such as teacher aids, received training in how to conduct FBA using either indirect and/or direct methods of assessment. Findings from this review concluded that post training, participants were able to collect appropriate data on challenging behaviours, develop accurate hypothesis regarding possible functions of target behaviours, implement function-based interventions and reduce challenging behaviours (McCahill et al., 2014).

Furthermore, McCahill et al., (2014) reported that in the 25 studies reviewed, majority of participants reacted positively to the process and made comments regarding how their knowledge and competency in understanding and managing challenging behaviours had improved, after receiving appropriate training. However, McCahill et al., (2014) did acknowledge that the specific type and process of FBA taught within each study under review did vary, therefore further suggesting that there continues to be

a disagreement regarding which type and process of FBA is in fact the most effective for use by teaching staff.

Loman and Horner (2014) trained 12 different school personnel made up of counsellors and school administrators using a manualized “Basic FBA” training programme which they created. The training programme was made up of four one hour training sessions, followed by participants needing to conduct an FBA with one identified student (Loman & Horner, 2014). Each FBA was then assessed and checked by the researchers. Findings from this study revealed that all participants were able to accurately conduct a FBA with 100% accuracy (Loman & Horner, 2014). Although findings support that school personnel could in fact conduct a FBA after receiving appropriate training, teachers themselves were exempt from this training.

To extend on from this study, Borgmeier et al., (2015) completed their study which included 57 school teachers, along with other school staff such as psychologists and behavior specialists. Teachers attended a one hour long training session and completed pre and post-tests, in order to measure the effectiveness of the training. Findings concluded that participants accuracy increased after receiving training in the areas of identifying function matched interventions (Borgmeier et al., 2015).

Chapter Three: Methodology

Introduction

This chapter outlines the qualitative approach which the research adopted, to explore the use of Functional Behaviour Assessment (FBA) within ECE settings in Aotearoa by ECE teachers. The theoretical framework and methodological approach is discussed, along with the research design and key research questions. The recruitment procedure and participant information is also detailed below, and data collection and analysis is further discussed. This research was granted ethics approval by Massey Universities Human Ethics Committee (MUHEC) and was deemed as low risk.

Methodological Approach and Theoretical Framework

Epistemology is concerned with the theory of knowledge and how it is formulated and applied (Rescher, 2003). The epistemological view point of this research study is social constructivism, whereby it recognises that there is an objective reality to how individuals seek to understand the world they live in, which has been formed through interactions with others (Creswell, 2007; Schwandt, 2003). Furthermore, it acknowledges that social perspectives are inseparable from how meaning is constructed (Scott & Morrison, 2006). This interpretive framework was applied to the research through the use of open-ended questions during the interview data collection stage as suggested by Creswell (2013). The researchers' role therefore, is to listen and interpret participant views and the research findings, in order to understand participant experiences of the use of FBA within their teaching practice and the ECE setting (Creswell, 2013).

Research Design

When the key purpose of research is to explore and understand personal accounts, underlying opinions and thoughts surrounding certain phenomena, qualitative methods to research are a good fit (Cohen, Manion, & Morrison, 2011; Punch, 2014a). Within the qualitative research design, a grounded theory research methodology was chosen. Grounded theory is a research methodology which operates inductively, and generates theory based on the data gathered (Punch, 2014a).

In this research study, a select number of early childhood education teachers took part in a professional learning programme which introduced them to FBA and its use within an ECE setting. Following seven weeks of implementing the knowledge and skills taught to them within their own classroom settings, each teacher was then interviewed individually.

Research Questions

This study explored the following research questions:

1. How did teachers use and implement FBA within the classroom?
2. In what ways do teachers understanding of challenging behaviours and how to manage them change, after learning about and employing a FBA?
3. What are the benefits of using FBA within an ECE classroom environment?
4. What are the challenges of using FBA within an ECE classroom environment?

Ethics

Massey University's ethics screening questionnaire, provided by the University's Human Ethics Committee (MUHEC), deemed this research study to be low risk, and therefore a low risk ethics application form was completed. This was approved by the MUHEC on 30th May 2018 and is included in Appendix 1. Due to the nature of this study, there were limited ethical issues of concern, however the following key issues were identified: informed consent, autonomy, anonymity of participants and minimisation of risk of harm. To address the ethical issues raised, participants were provided with information sheets detailing the nature and requirements of the research study before obtaining their informed consent on the relevant completed consent forms. Autonomy and anonymity of participants was maintained through ensuring that participants were made aware of their rights to withdraw from the research study at any point in time up until two weeks post interview; as well as understanding that all sensitive and identifiable information would be kept confidential. To minimise the risk of potential harm, participants were informed that during the semi-structured interview which took place during the data collection stage, they had the option to skip any questions they were not comfortable with answering.

Recruitment Procedure and Participants

One early childhood centre in Auckland was approached and invited to participate in the study. A meeting with the centre manager was first had, where the research study's purpose, aims and procedures were discussed. Permission was then sought and granted from the centre manager to invite teachers to participate in this research. An invitation was then sent out to teachers of children aged three and a half years and older, asking them if they would like to participate in the study, along with an information sheet outlining the research and what was expected if they wished to participate. Teachers of children within this age group were selected because ages three years five months and five years five months, is the age bracket which the researcher was interested in investigating FBA's use with.

An invitation was also sent out to all other staff within the centre, inviting them to attend the FBA professional learning programme out of interest, but would be declined to participate in the research study in full. These invitations were sent out via email from the centre manager, and instructions were given asking them to contact the researcher directly either face to face or via email, to express their interest. A total of five participants expressed their interest in participating in the research study and expressed their interest to the researcher in person. An email was then sent to each participant from the researcher, with an attached digital copy of the information sheet as well as details of when the workshop would take place.

From the five teachers who attended the FBA professional learning programme, one teacher was from Preschool 1, two teachers were from Preschool 2, and two teachers were from Kindy. Four out of five participants were current registered teachers, and all teachers were employed as full-time permanent staff. At the start of the workshop, participants were asked to read through and complete a consent form, and were allowed time to ask any questions regarding the nature of the research study and what was expected of them. For the purpose of confidentiality and to protect the identity of the participants, they will be identified by a participant number instead, i.e. participant 1, 2, 3, 4 and 5, throughout the study.

Researcher Bias

The centre which was asked to participate in this research study, is the same centre which the researcher had been causally relieving at. As a result, there is a level of potential researcher bias which needs to be taken into consideration. This bias may

potentially be in the form of research participants wanting to “please” or “impress” the researcher, through providing “good results” or feedback through the data collection phase.

Settings

This research was carried out at an ECE centre located in Albany Auckland, Aotearoa. The centre is designed for children between the ages of three months and five years plus, and has a total capacity of 125 children throughout its six classrooms. Teachers participating in this research came from the three older classrooms (Preschool 1, Preschool 2 and Kindy), where children aged three and a half years or older were enrolled in. There were between 21 and 29 children enrolled within each of the classrooms, with four teachers in each room.

The centres preschool 1 classroom was used for the professional learning programme workshop, as it was a suitable space to set up a big tv screen for the online programme to be projected onto, as well enough table space and chairs for participants to comfortably work from. The centre managers office was used for each of the interviews for data collection. This room was suitable as it was a private space which was sound proof, so discussions could not be overheard, and was away from other teachers and children.

Programme used

There has been an abundance of research conducted and aimed at providing ongoing professional development to teachers through professional learning and development programmes. Professional learning and development, within an educational context, refers to a variety of specialised training, formal education or advanced professional learning which is aimed at increasing teaching competence and professional knowledge (Timperley, Wilson, Barrar, & Fung, 2007). Topics are typically focused on the strengths and needs of students, as well as overall increasing student achievement (Ministry of Education, 2015a). When supporting teachers who are working with children engaging in challenging behaviours, professional development around this area often aim at both teaching and training educators about a range of interventions and/or strategies within the classroom (Borgmeier, Loman et al., 2018).

Mitchell and Cubey (2003) completed a report as part of the best evidence syntheses series, commissioned by the Ministry of Education. This report aimed to strengthen the evidence base that informs both education policy and practice in Aotearoa, by contributing evidence-based research to the field (Mitchell & Cubey, 2003). Their report stated that the eight characteristics of effective professional development are: “incorporating participants own skills, knowledge and understandings; providing theoretical content knowledge and information about alternative practices; participants are involved in investigating pedagogy within their own early childhood settings; participants analyse data from their own settings; have critical reflections; supports inclusive educational practice; helps participants to challenge current educational practices/beliefs/attitudes, and helps participants to gain awareness of their own thinking, actions and influence” (Mitchell & Cubey, 2003, p. xi).

Langley (1997) carried out a study aimed at supporting teachers to develop skills to better manage children who were identified as having severe behaviour problems. His professional development programme had four key aims: to reduce the positive and negative reinforcement for coercive and antisocial behaviours, “to increase positive reinforcement for pro-social behaviours”, and “to increase parental and teacher monitoring of the child to enable consistent differential treatment of pro-social behaviour” (Langley, 1997, p.34). Findings from his study found three key features of effective professional development programmes, similar to those stated in the Mitchell and Cubey (2003) report: practice, prompting and ongoing feedback (Langley, 1997). He further stated that short one-off training sessions, seminars or presentations were not nearly as successful or effective, as a programme which was structured and allowed teachers to practice skills while receiving ongoing feedback within the natural settings of their classroom (Langley, 1997).

Typically, FBA is taught to specialist education staff such as educational psychologists and Special Education Needs Coordinator’s (SENCO) through tertiary education studies and/or professional development courses (Johansen, Little, & Akin-Little, 2011). However, following the recent movement towards upskilling frontline staff such as teachers, Borgmeier, Loman and Strickland-Cohen (2018) designed an online learning programme specifically designed for all school wide staff. Their “FBA to Behaviour Intervention Plan (BIP)” programme was designed with the goal of making function-based interventions more effective, accessible and efficient for implementation within schools. The programme consists of seven progressive e-

learning modules to work through, which together guides individuals and schools on how to firstly conduct an FBA, and to then secondly use the FBA to guide the development, implementation and evaluation of a BIP (Borgmeier, Loman et al., 2018). The professional learning programme has two different programme versions, one designed for behaviour specialists, and one designed specifically for school-wide staff. The programme for behaviour specialists contains modules one through to seven, while the programme designed for school-wide staff contains modules one and four only (Borgmeier, Loman et al., 2018; Borgmeier, Sheldon, & Strickland-Cohen, 2018). Each module takes approximately 75 to 90 minutes to complete, and it is recommended that modules are completed every one to two weeks, to allow for participants to complete homework tasks which are set at the end of each module (Borgmeier, Sheldon et al., 2018).

The objectives of module one are to:

1. Define observable behaviour
2. Identify events that predict where and when the specific behaviour occurs
3. Identify why a student engages in the specific behaviour
4. Construct hypotheses statements that summarise the what, where, when and why of a student's behaviour.

The objectives of module four are to use a competing behaviour pathway to identify function-based behaviour supports that:

1. Teach positive behaviours to replace problem behaviour
2. Use strategies to prevent problem behaviour and prompt positive behaviours
3. Reinforce replacement and desired behaviours
4. Effectively redirect problem behaviour and minimise the pay-off for problem behaviour (Borgmeier, Loman et al., 2018).

How the programme was implemented within the research

For this research study, the two-part e-learning programme designed for school-wide staff was used with the participants. All research participants were invited to attend a three-hour session at the preschool one evening after it had closed, to complete module one (Understanding Behaviour) and module seven (Function-Based Assessment) together, under the guidance of the researcher. This programme has three key aims:

1. To increase staff knowledge and skills for supporting students with challenging behaviour(s).
2. To create a common language for discussing students with challenging behaviour(s).
3. To increase school staff's effectiveness and efficiency when participating in the FBA to BIP process (Borgmeier, Loman et al., 2018).

Participants sat together in one room and completed each module together on a big screen. Hard copy resources were presented to each participant, of each of the two modules also. Upon completion of both modules, participants were instructed to implement the knowledge and skills taught throughout the programme, into their teaching practice for the next seven weeks. Data was then collected in the form of a semi-structured one-on-one interview with each participant, where information was gathered in relation to the research questions listed below. Each interview was audio recorded, and notes were written down as each participant responded to each of the questions asked.

Data Collection

The data collection took place at the preschool across a one-week period, where a semi-structured interview was held with each of the five participants. Each interview was between 30 and 50 minutes long and was audio recorded for further analysis. Participant responses to each question asked, were also written down.

Data was also collected during the FBA professional learning programme, at the beginning and end of each module completed by the participants, in the form of a group pre and post-test. This was collected as to measure the direct impact each module had on teacher knowledge around defining and understanding behaviours and on function-based interventions.

Data Analysis

To analyse the data collected, this research adopted a grounded theory analysis approach. The key aim of grounded theory is to generate a theory which seeks to directly best explain the central ideas and findings, from the data collected (Punch, 2014b). Therefore, all procedures throughout the data analysis process were oriented

towards this aim, while recognising the “central role of conceptual abstraction and the hierarchical structure of theoretical knowledge” (Punch, 2014b, p. 179).

Situated within a grounded theory approach, is thematic analysis. A thematic analysis is a method commonly used in qualitative research to identifying patterns within data collected. This approach was the most appropriate method of data analysis as it allowed for key themes and ideas to arise and be obtained from the data itself (Castleberry & Nolen, 2018). To ensure the correct steps of a thematic analysis was carried out, Braun and Clarke’s (2006) six phases of a thematic analysis article was used as a reference. The first step “familiarisation with the data” was achieved by reading and re-reading the notes recorded from the interviews, as well as re-listening to the audio recordings of each one as well (Braun & Clarke, 2006). As each audio-recording was listened to again, more notes were written down to ensure that all key thoughts and ideas were captured.

The second step in the thematic analysis is coding (Braun & Clarke, 2006). This process allowed for codes and labels to attach meaning to pieces of data (Punch, 2014b). After each audio-recording was re-listened to and final notes were written down, this data was then re-read, and key emerging ideas and/or themes were coded accordingly. These initial codes were descriptive and had low inference, and looked to capture each participants response to each of the questions asked to ensure their voices were heard (Punch, 2014b; Miles, Huberman, & Saldana, 2013). These codes were also driven by the original research aim and identified research questions, however also allowing unexpected findings to be identified as well (Punch, 2014b; Miles et al., 2013). Themes were therefore identified using an inductive view point whereby the analysis was data driven, as opposed to trying to fit data into pre-existing coded frames or themes (Braun & Clarke, 2006). The level at which the themes were identified, were at a latent level. This allowed for the identification of underlying conceptualizations and ideologies, that could be theorized as shaping semantic or explicit content of the data (Braun & Clarke, 2006). Any key ideas that fit into more than one theme, were placed accordingly based on the most appropriate fit.

Once the initial codes were made, step three in the thematic analysis process was “researching for themes” in the data, by focusing on highlighting patterns among the identified codes (Braun & Clarke, 2006). This identification of patterns enabled the data to be summarised by pulling together the different themes and codes which had been identified, across the five participants (Punch, 2014b). This process is also known as

identifying higher inference patterns or conceptual codes, which drive the final data analysis process (Punch, 2014b).

Step four was reviewing the themes, where time was spent checking through each identified theme to ensure they fit the entire data-set and was an accurate representation of all data which was collected (Braun & Clarke, 2006). The fifth step involved clearly defining and labelling each theme to ensure that it represented the essence of what the theme entailed (Braun & Clarke, 2006). The last step in the thematic analysis involved writing up each theme along with corresponding extracts from the data, to develop a story detailing the key research findings, and their relation to existing literature (Braun & Clarke, 2006). In order to demonstrate rigour and provide evidence of each of the identified themes from the findings, segments from the interview and audio recordings notes will form an important part of the analysis and results sections; linking the interpretation back to the data (Attride-Stirling, 2001).

Chapter Four: Results

This chapter reports on the findings from the interviews. The findings are organised under each of the four research questions. The first section reports on how each of the teachers used and implemented FBA within their classroom. The second section reports on how teachers understanding of challenging behaviours and how to manage them may have changed, after learning about and employing a FBA. The third section reports on the benefits of using FBA within an ECE classroom environment, and the fourth and last section reports on the challenges of using FBA within an ECE classroom environment.

Firstly, presented below in Table 1 are the group scores for Module 1 and Module 4, which participants completed together during the FBA workshop. Post-test scores reveal how teacher’s knowledge regarding defining and understanding behaviours and function-based interventions, increased upon completing the FBA professional learning programme.

Table 1

Collective participant group pre and post-test score for Module 1 and 4 of the FBA professional learning programme.

Module number and name:	Pre-test score	Post-test score
Module 1: Defining and Understanding Behaviour	67%	100%
Module 4: Function-Based Interventions	80%	100%

Findings from the thematic analysis revealed key themes associated with each of the research questions. Each research question along with the identified themes formulated from the analysis, are presented below in Table 2.

Table 2

Each of the research questions, along with the associated themes as formulated from the data analysis.

Research Questions	Key Themes
Q1: How did teachers use and implement FBA within the classroom?	Completed the process as outlined in the FBA professional learning programme
Q2: In what ways do teachers understanding of challenging behaviours and how to manage them change, after learning about and employing a FBA?	Understanding behaviours functionally

	Understanding the role of antecedents and consequences
	Using an accessible template
	Increased teacher knowledge and competency
Q3: What are the benefits of using FBA within an ECE classroom environment?	Working in a team of teachers
	Able to intervene at an early age
	Alignment with Te Whāriki
Q4: What are the challenges of using FBA within an ECE classroom environment?	Differentiation between age appropriate behaviours and problematic behaviours
	No full teaching teams attended the workshop
	Still a need for external support

Research question one: How did teachers use and implement FBA within the classroom?

Findings from the data analysis revealed that participants implemented the FBA using the steps which were outlined and taught during the professional learning programme. All teachers reported that the first step they took in implementing the FBA within their classroom was discussing the learning programme which they completed, with their teaching team; and identifying children who could possibly be supported.

“There was one child who we instantly thought of, who could benefit from additional support, so we sat down together as a team and discussed the next step moving forward” (Participant 1).

“As only two out of the four members of our teaching team attended the training, the first thing we did was discuss what the professional learning programme was about, as well as which child we believed could benefit from this extra support” (Participant 2).

“The nice thing about being an ECE teacher, is that you have four to five teachers working in the same classroom, so the first thing we did following the workshop, was to talk to the rest of our team” (Participant 5).

The participating teachers identified children who had recently exhibited in problematic or challenging behaviours which they classed as being low in severity but high in frequency. These behaviours included calling out during mat times, out of seat behaviours during meal times, and taking toys from other children.

“We decided to use an FBA with one of our boys (aged 4) who was engaging in disruptive behaviours during mat times. These included constantly calling out, fidgeting, and touching children who were sitting close to him” (Participant 2).

“The boy I really wanted to focus on supporting was engaging in a lot of rough play with others, yelling at other children and bumping into them as he walked past” (Participant 3).

“I decided to focus on this child and the behaviours he was engaging in during meal times, he often throws food around the classroom and stands up and runs around” (Participant 4).

After identifying a child to work with, the teachers completed the “ABC Tracker: Routines Analysis: Part A” form (appendix 2). This form instructed teachers to complete the child’s daily schedule followed by rating the likelihood of the identified problematic or challenging behaviour occurring during that time. This rating was done by circling the corresponding likelihood rating from 1 (low) to 6 (high). For routines which were rated 5 and higher, teachers then made further comments on what the target behaviour was, as well as what the current interventions or consequences were for that child and the identified behaviour.

“It wasn’t until I had completed the routine analysis with the rating scale, that I was able to clearly see where and when he was most likely to engage in these behaviours” (Participant 1).

“I think the routine analysis is great at highlighting times of the day where it might be most challenging for him, and also to let us know there are opportunities to intervene early” (Participant 2).

“By understanding that there were certain daily routines where she was most likely to engage in these behaviours, it also made it clear to me that these behaviours definitely were not happening all the time, and that’s really important to remember” (Participant 3).

Teachers then went on to complete the “ABC Tracker: Part B” form (appendix 3). This form allowed teachers to record down every incident in which the child engaged in the problematic and/or challenging behaviour(s); and to utilise the data collected here, to identify patterns across the documented occurrences. Teachers then used this to create a summary statement describing the child’s engagement in the identified target behaviour.

“I then completed the second part of the ABC tracker form, where I recorded down every incident of when he was hitting children close to him, and by identifying what was happening right before and right after he engaged in this, it helped me to complete the summary statement” (Participant 2).

“After zooming in on one specific routine which was mat times for us, and then recording down every incident, it has allowed us to gather really important antecedent information” (Participant 3).

“I think what I liked most about completing this form, was identifying areas where myself or my fellow staff team can intervene early” (Participant 4).

“It paints a bigger picture, whereby recording every incident almost acts like adding a bit more colour to the situation and providing more context” (Participant 5).

Following the completion of this form, all participants completed the “Behavior Intervention Plan: Developed from a Functional Behavioral Assessment” form (appendix 4). The first part of the form allowed teachers to fill out the competing behaviour pathway section focused on identifying the setting event, antecedent, desired behaviour, problem behaviour, replacement behaviour, the consequences/outcomes and the function of the target behaviour.

“I then filled out the behaviour intervention plan, to pull together everything I had been observing and recording down prior to this” (Participant 1).

“The behaviour intervention plan form made it really easy and clear to build a summary of each of the important factors and components which could be influencing on her engagement in particular behaviours (Participant 2).

“The competing behaviour pathway section formed a concise summary of the data that we had collected, we actually printed off this section and stuck it on our office door so that all members of our team could see this” (Participant 3).

The second part of the form allowed teachers space to start planning and identifying intervention strategies at every stage identified in the competing behaviour pathway section mentioned above.

“After completing the competing behaviour pathway section, we then focused on identifying intervention strategies for each component” (Participant 2).

“I never knew that you could break down interventions, to target the child’s behaviour at every possible stage, and with specific components” (Participant 3).

“After completing the competing behaviour pathway section, I then completed the identifying strategies and interventions section” (Participant 5).

Research question two: In what ways do teachers understanding of challenging behaviours and how to manage them change, after learning about and employing a FBA?

From the data analysis, four key themes were identified which associated with this research question. These are presented below in Table 3:

Table 3

Key themes identified from the data analysis, associated with research question two.

Research Question	Key themes
In what ways do teachers understanding of challenging behaviours and how to manage them change, after learning about and employing a FBA?	Understanding behaviours functionally
	Understanding the role of antecedents and consequences
	Having an accessible template to use
	Increased teacher knowledge and competency

There were similarities in teacher responses to this question, in particular to increased teacher understanding regarding functions of behaviours. Therefore, this formulated the first key theme within this research question “understanding behaviours functionally”. All participants noted that after completing the FBA professional learning programme, they had a better understanding of the presentation of behaviours and the function(s) which they serve. Furthermore, all participants noted that by understanding that all behaviours typically serve two functions (to either obtain or avoid something), they were able to understand the child’s point of view and what might be going on for them, as well as being able to formulate intervention ideas focused on meeting the function(s) of the behaviour, in a more socially appropriate way.

“Through the FBA workshop, I began to understand how important it is to understand the function behind the behaviour which the child is engaging in” (Participant 1).

“I found it fascinating to learn about the two core functions which behaviours typically serve, which is to either obtain or avoid something” (Participant 2).

“I think the FBA workshop is an excellent way of upskilling teacher’s knowledge around the function of behaviour and looking at it from a wider lens, rather than just focusing on the appropriate consequences” (Participant 3).

“By understanding the function better, I feel that I can now focus more on supporting the child in meeting their needs and wants, but in a more socially acceptable way” (Participant 3).

“By understanding the function behind a child’s behaviour, it teaches you to look past just the presentation of the behaviour itself, and more towards the child’s needs and wants which are sitting behind that behaviour” (Participant 4).

“I always knew that behaviour had a purpose and that was why children engaged in them, however after learning about FBA it has really broken down everything for me and made me rethink the way I should be approaching certain behaviours” (Participant 5).

The second key theme identified in the analysis was “understanding the role of antecedents and consequences”. Participants 1 and 2 noted that by focusing on the antecedent, this allowed them to better understand the challenging behaviours by identifying what was happening right before the child engaged in it. Furthermore participants 2, 3, 4 and 5 noted that by understanding the antecedents, they were able to focus on these as well to try and manage the challenge behaviours better by trying to intervene early. Participants 1, 3 and 4 also noted that by understanding the role of certain consequences and their impact on behaviour, it helps to ensure that the consequences which are put in place are not unintentionally reinforcing the behaviours of concern.

“The workshop makes you look further into behaviour including the antecedent, context and setting events, which may be factors influencing the child to engage in certain behaviours” (Participant 1).

“I haven’t thought much about the antecedent or trying to understand what is happening for a child before the engagement in the problematic behaviour, this

workshop has encouraged me and provided me with skills to try and address issues early... So, there is more of a focus on preventative options for me now” (Participant 2).

“My perceptions around the importance of appropriate consequences has changed ten folds. I think I was becoming a bit complacent with how I was trying to manage certain behaviours, and now upon reflection I feel that I may have unintentionally been reinforcing them” (Participant 3).

“I never knew about replacement behaviours and how important it is that they serve the same function as the problematic/challenging behaviours, and how this in turn is the gateway towards leading to the desired behaviours” (Participant 4).

“After learning about and employing FBA within the classroom, it has reminded me how important it is to look for and understand antecedents of behaviours, because it allows for opportunities to intervene early” (Participant 5).

The third theme identified during the analysis was “having an accessible template to use”. All participants noted that by having clearly structured and easy to follow templates, this aided them to both better understand and manage challenging behaviours within their classroom.

“Having the templates for every stage of the FBA, ensured that you were looking at every aspect of that particular child and what might be going on for them” (Participant 1).

“In terms of managing behaviour, I think the forms and structure of the FBA is really useful at helping to guide me through the process of first identifying behaviours of concern, through to implementing effective behaviours” (Participant 2).

“Not time consuming because of the ease of use of the templates. This means that ECE teachers will actually have enough time to do this properly” (Participants 2).

“I especially like how the intervention plan asks you to look at intervening at every stage right from the setting event. I think this helps to manage challenging behaviours from more of a preventative focus rather than after the child has engaged in problematic behaviours (Participant 3).

“By having this template, it ensures that centre wide we have a consistent way and format of supporting children who are engaging in problematic or

challenging behaviours, and that we have a process that we go through” (Participant 4).

“The resource templates were well structured and modulated in ways to get into an intervention plan from start to finish in depth, something which ECE teachers desperately need” (Participant 4).

Lastly, from the analysis the fourth key theme “increased teacher knowledge and competency” emerged from the data. All participants made comments regarding receiving little to no support in understanding and managing challenging behaviours while they were studying to become ECE teachers, and how workshops on FBA could be carried out to fill that gap. Participants 2, 3 and 4 noted that because this was the first workshop they had completed focused on this topic, their knowledge, skills and competencies in this area could only be improved and upskilled for the better.

“Although we have received similar training on positive guidance and behaviour, it was no way near as in-depth as this, and it did not cover or incorporate intervention plans or ideas...so it left you saying ok now what?” (Participant 1).

“I received little to no training on behavioural issues and challenges throughout my studies, and so had to learn all I knew prior to this, through hands on experience” (Participant 2).

“I look at behaviours differently now, instead of thinking why won’t he/she stop doing this, I am now thinking what is it that they want and how can I support them in getting that within reason” (Participant 2).

“The break down and level of detail which the professional learning programme went into was good, especially with the A-B-C’s” (Participant 3).

“I wish we had received this sort of skill development while we were studying to become ECE teachers, I honestly believe that this will help all ECE teachers to look at and manage behaviours differently” (Participant 4).

“I like that this sort of training can help to create a supportive culture whereby all staff can have access to this training, and thereby increasing the commonality across not only our teaching practice, but the language we use, the forms we use, and our centre philosophy as well” (Participant 4).

“This is exactly what the ECE sector needs, something where teacher knowledge and skills are further developed, and where a structured and clear process can be

carried out” (Participant 5).

“There was a really good focus on replacement behaviours and how to teach these effectively. This is something that we as ECE teachers do not have much training on, so it was good to be taught this” (Participant 5).

Research question three: What are the benefits of using FBA within an ECE classroom environment?

From the data analysis, three themes emerged from the findings regarding the benefits of using FBA within ECE. These are presented below in Table 4.

Table 4

Key themes identified from the data analysis, associated with research question three.

Research Question	Key themes:
What are the benefits of using FBA within an ECE classroom environment?	Working in a team of teachers
	Able to intervene at an early age
	Alignment with Te Whāriki

All participants commented regarding the usefulness of using FBA within an environment where there was a team of teachers (usually four) within each classroom. This provided both the teachers and the child with more support when and where needed.

“I feel like we have an advantage over primary or secondary teachers, because we have more than one teacher working in the same room to carry out the FBA ourselves” (Participant 1).

“Benefits of having multiple teachers in a class room, means we have more support and pairs of eyes for observations and the intervention stages” (Participant 3).

“By working with a team of teachers it ensures that we can brainstorm ideas and that every stage of the FBA has been discussed with a group of professionals, rather than just being carried out by one teacher (Participant 4).

“It also increases fidelity of the FBA and each of the different stages and components” (Participant 5).

However, there were also a number of comments regarding how too many teachers in one room could also be seen as a challenge due to opposing ideas and differing viewpoints.

“Although there is a benefit of having more teachers in the same classroom, this may also be a challenge because there could be an influx of opinions and ideas which might not be a great thing either” (Participant 4).

“I think the benefits of having more than one teacher in the room will always outweigh the challenges, however having more teachers on board may also be challenging because everyone could have different ideas and a different understanding regarding what they think is going on” (Participant 5).

There was a general consensus within participants around the benefits of using FBA within ECE as it allows for support and interventions to be provided to children at an early age, rather than behaviours potentially progressing and getting worse as the child gets older. Participants 1, 2 and 3 noted that this allows for FBA to be used as more of a preventative and early intervention module, rather than just as a reactive response to the presentation and engagement of challenging behaviours.

“After seeing improvements, I can see that FBA is practical and effective, and it can work with young children in ECE” (Participant 1).

“I think it’s so important that we target challenging behaviours as soon as they emerge, and within ECE we are already seeing so much but have not been taught effective strategies on how to support children” (Participant 3).

“This process encouraged us to work alongside parents more, and provided us with a format which we could share with them. This is especially important when working in ECE with young children and their families” (Participant 4).

“At the moment, most children only receive support for these sorts of behaviours when they reach primary school, and in fact that might actually already be too late” (Participant 5).

Lastly participants made comments regarding their thoughts of how FBA aligned well with Aotearoa’s ECE curriculum document Te Whāriki, which strengthened its usefulness and applicability for future use within this education sector. Participants 2, 3, 4 and 5 commented on how FBA as a whole aligned well with each of the five strands of Te Whāriki.

“Within this environment, we want something which is positive and strengths based, and FBA definitely is” (Participant 1).

“FBA helps ECE teachers to look at a child as a whole” (Participant 2).

“I think any additional support or interventions we employ within ECE, needs to align with Te Whāriki, and I think FBA is a perfect fit” (Participant 3).

“I think FBA aligns with the five strands of Te Whāriki, wellbeing, belonging, contribution, communication and exploration” (Participant 4).

“I think sometimes teachers get caught in just reacting to children when they engage in certain behaviours, rather than trying to understand and intervene early. FBA ensures that this doesn’t happen, and positively changes your way of thinking” (Participant 5).

Research question four: What are the challenges of using FBA within an ECE classroom environment?

From the thematic analysis, there were three main themes which emerged in relation to the challenges of using FBA within an ECE classroom environment. These are presented below in Table 5:

Table 5

Key themes identified from the thematic analysis, associated with research question four.

Research question	Key themes
What are the challenges of using FBA within an ECE classroom environment	Differentiation between age appropriate behaviours and problematic behaviours No full teaching teams attended the workshop Still a need for external support

Participants 1, 3 and 4 noted that one challenge with trying to employ FBA within ECE, was teacher understanding regarding the differentiation between age appropriate behaviours and problematic or challenging behaviours due to the young age of the children. Furthermore participants 2 and 5 noted that it may be difficult with children who are so young to clearly identify which behaviours are of concern and need support through a FBA, and which are in fact age appropriate.

“Because of the age of the children we are working with, there are development factors which need to be considered as well, and it is unclear as to how this can

be done within the FBA” (Participant 1).

“Some behaviours which may appear to be challenging behaviours such as not wanting to share toys, are actually age appropriate as well so this needs to be taken into consideration and within context also” (Participant 2).

“Some developmental areas (like teething) can be contributing factors to the engagement in some challenging behaviours, so these age stages and developmental factors do need to be taken into consideration” (Participant 4).

“ECE teachers do have other areas and contexts to consider due to the age of the children we are working with, and their level of cognitive understanding” (Participant 4).

The second key challenge which all participants noted was that not all teachers from each of the different classrooms attended and completed the FBA professional learning programme. Therefore, it did make it hard for all teachers to be on board from the start, and understand each of the different steps and processes involved with the FBA.

“Easier to be on the same page if all teachers attended the workshop, this would help to ensure that the whole process was implemented consistently” (Participant 3).

“We spent a fair amount of time having to share the knowledge and skills we learnt to the rest of our staff, which was good cause it reinforced what we had learnt, but was also difficult and time consuming.

“Full teams to attend and complete the FBA workshop as well, so that there is a shared understanding and buy in from all staff” (Participant 5).

Lastly from the data analysis, the theme “still a need for external support” emerged from the findings. Participants 2, 3 and 5 noted that although the FBA professional learning programme helped to increase their teacher knowledge and skills, and they felt competent with managing and understanding certain behaviours, they still believed there was a need for external support in some cases.

“ECE teachers come from different educational backgrounds and experiences, and therefore what measures are there in place to ensure that all teachers are competent enough to conduct the FBA? There may still be a need for external support here from professionals” (Participant 3).

“There is definitely a movement towards upskilling teachers, and I feel way more empowered to support the children I teach now, however I think FBA within ECE might be effective if we only use it with certain behaviours, and then the rest I think we still need outside support” (Participant 4).

“There are some behaviours which I think still require additional support from external agencies, and so my only concern is where do we as teachers then draw the line and seek that support?” (Participant 5).

Summary

Overall, participants reported that they were able to implement a FBA competently within their classrooms after completing the FBA professional learning programme. They relied on the guidelines and templates provided during this workshop to ensure that they were doing this accurately and effectively. Participants noted that the FBA workshop increased their knowledge and understanding of challenging behaviours in two key areas: to think of behaviours functionally and to understand the role of antecedents and consequences. The related benefits of using FBA within ECE settings included working in a team of teachers, having the opportunity to intervene at an early age, and the perceived alignment with the ECE curriculum document, Te Whāriki. However, participants reported the following challenges of FBA’s applicability and use within ECE, as understanding the differentiation between age appropriate behaviours and problematic behaviours, not having full teams attend and complete the FBA professional learning programme, and that there was still an expressed need for external support with some challenging behaviours.

Chapter Five: Discussion

The two aims of this research study were to (1) explore the use of FBA within ECE settings, and to (2) investigate how ECE teachers carry out and implement FBA themselves within their teaching practice. In this chapter, interpretations of results and findings are discussed, while drawing and linking to appropriate literature throughout. Findings from this study provide important insights into how ECE teachers implemented FBA; how their understanding of challenging behaviours and how to manage them may have changed after learning about and employing an FBA; and lastly, the benefits and challenges of using FBA within an ECE classroom environment.

In this study, five ECE teachers completed a three-hour long FBA professional learning programme created by Borgmeier, Sheldon et al., (2018) specifically for all school staff. Across a seven-week period, teachers then implemented the knowledge and skills taught throughout the workshop into their teacher practice. A one-on-one interview was then held with the researcher to collect data regarding teachers experiences of using FBA and how applicable they felt it was within the ECE sector. A thematic analysis was then used to capture, analyse and report key themes across all participants and the data collected (Braun & Clarke, 2006).

As noted in chapter two there has been a lack of consensus in the literature regarding whether or not teachers are able to accurately and effectively conduct FBAs themselves. However, following the increase in demand for learning support services such as psychologists and behavioural specialists, there has been a movement towards upskilling teachers so that they are better able to support students, rather than having to wait for external agency support, who are struggling to meet current demand (Browne, 2013; Johansen et al., 2011).

While there is supporting evidence from a range of studies (Lane et al., 2014; Wood, Drogan & Janney, 2014) where teachers have been involved with the FBA process, there is a lack of agreement on which type and specific process of FBA is the most effective, as each study has incorporated slightly different procedures and FBA programmes. Similar results were found in a recent review done by Wood et al., (2014). They reviewed 30 research studies whereby preschool teachers were involved in some way, with the FBA process (Wood et al., 2014). However, none of these studies allowed teachers to take the lead role in the process, as this was done instead by a professional such as a psychologist or board-certified behavioural analyst (BCBA) (Wood et al.,

2014). Furthermore, each of the 30 studies exposed the participating teachers with varying FBA workshops and training programmes (Wood et al., 2014). The current study therefore, provides valuable information regarding the effectiveness of ECE teachers taking sole charge in conducting FBA's, as well as the perceived effectiveness of an FBA professional learning programme which had been designed specifically for all school staff (Borgmeier, Sheldon et al., 2018).

Following the analysis, findings from this study revealed that after completing the FBA professional learning programme, ECE teachers in this study were able to use this to guide them in completing a FBA, within their own teaching practice in their respective classrooms. Participants from this study worked through each stage as outlined in the workshop and completed each of the forms provided to them (see appendix 2, 3 and 4). Therefore, findings from this study support the notion from McCahill et al., (2014), that with the appropriate training and support, FBA could in fact be conducted by frontline staff such as teachers themselves.

Participants further stressed the importance and usefulness of having accessible templates to use and follow, which helped to guide them through the FBA process effectively and accurately. Borgmeier et al., (2015) support the importance of providing teachers with clear visual templates for them to follow, as they believe it ensures higher fidelity of programme implementation. Furthermore Borgmeier et al., (2015) stress how valuable the competing behavior pathway (see appendix 4) is in terms of being an "organisational teaching framework" (p. 80) for all teachers to use and rely on, as it ensures teachers are using all information gathered throughout the assessment phases, to inform and direct function-based interventions.

It is still widely argued in the literature (Scott et al., 2005; Westling, 2010; Young et al., 2018; Young & Martinez, 2016), that teachers do not have a high level of understanding regarding challenging behaviours and how to intervene accordingly, so therefore will have difficulty in conducting FBA's. Specifically, around being able to identify functions of behaviours, and understand the influences and roles of setting events, antecedents, consequences and replacement behaviours (Young et al., 2018; Young & Martinez, 2016). However, findings from research participants in the current study's, pre and post test scores collected at the FBA workshop (refer to table 1 above), showed that the FBA professional learning programme was effective at increasing teachers' knowledge and skills, in understanding challenging behaviours and function-

based interventions. Collectively as a group for Module 1 ‘Defining and Understanding Behaviour’ participants scored 67% on the pre-test, followed by scoring 100% on the post-test which was completed immediately following the completion of the module. Similar improvements were seen upon completion of Module 4 ‘Function-Based Interventions’ where collectively as a group, participants scored 80% on the pre-test and 100% on the post-test. Results from this study suggest then, that after completing the FBA professional learning programme, teachers are able to define and understand behaviours and implement function-based interventions with 100% accuracy.

From the data analysis, four key themes emerged in relation to the second research question “In what ways do teachers understanding of challenging behaviours and how to manage them change, after learning about and employing a FBA?”. These themes were (1) understanding behaviours functionally, (2) understanding the role of antecedents and consequences, (3) using an accessible template, and (4) increased teacher knowledge and competency. These themes derived from the data itself, therefore confirm how teachers’ knowledge and understanding of these key FBA components were in fact targeted during the professional learning programme, and were effective at upskilling teachers’ skills as evidenced by the pre and post-test scores. These could therefore, be used to speak to the issues outlined by Young and Martinez (2016) and Young et al., (2018), by providing evidence that each area of concern mentioned, could be addressed accordingly through the use of an effective FBA professional learning programme. For example, there was a general consensus among all participants regarding how the FBA workshop helped them to have a better understanding of how children engage in behaviours which typically serve two key functions, to obtain or avoid something. Therefore, encouraging teachers to think functionally about supporting children who engage in problematic behaviours was a key finding, as evidenced by Participant 2 who stated, “I look at behaviours differently now, instead of thinking why he/she won’t stop doing this, I’m now thinking what is it that they want and how can I support them in getting that, within reason”. Furthermore, participants noted, that they now also focused on antecedents and consequences more, to ensure that interventions implemented would be as effective as possible.

These findings further support the last theme which emerged from the data analysis, around increased teacher knowledge and competency through successfully

completing the FBA professional learning programme; and having had an opportunity to practice implementing a FBA themselves straight away to help solidify their learning. Participants further noted that they felt a sense of empowerment as they now had a better understanding of behaviours and how to manage them themselves, rather than feeling the need to rely on others. Chandler and Dahlquist (2010) similarly stated that “it is our responsibility as educators to identify and address challenging behaviours across the continuum (mild-moderate-severe) that have a negative impact on the student, their learning and others” (p. 6). Furthermore Snell, Berlin, Voorhees, Stranton-Chapman and Hadden (2011) noted that along with increased teacher knowledge and competency, the use of FBA processes within ECE, will also help to address teacher’s expressed needs for more training in understanding and managing challenging behaviours.

Benefits of using FBA within ECE

Overall, participants indicated that there were a number of benefits to using FBA within an ECE environment, including having a team of teachers working in the same classroom as opposed to just one teacher in a primary school classroom; being able to address certain problematic and/or challenging behaviours at an early age, and the alignment with the ECE curriculum document, Te Whāriki, and its five strands.

Research has debated whether teachers will have enough time, on top of their daily routines and tasks to be able to carry out FBA effectively (Scott et al., 2004; Young et al., 2018). However, results from this study could argue, that because there are typically four teachers within in a single ECE room, it may be more manageable for ECE teachers to carry out FBA, as opposed to primary or secondary teachers. Participants also commented that they would feel less pressured “to get it right” as they would be able to discuss and brainstorm options and ideas during every stage of the FBA. However, in contrast some participants found that it was equally as challenging working in a team during the seven-week period, because no full teams attended and completed the FBA professional learning programme. As a result of this, time was spent on needing to inform the rest of the teaching team about FBA and the processes involved, in order for there to be a shared understanding and ensure all teachers were on board.

One of the most important benefits/advantages of using FBA within an ECE context as uncovered in this study, were participants beliefs around being able to intervene and support children at a young age. Additionally, participants made comments regarding FBA's potential use as a preventative or early intervention approach in ECE, rather than relying on its use later on, when potentially challenging behaviours could have escalated. This notion is supported in the literature by Scott et al., (2005) who stated that FBA often loses its use as a preventative measure as it is currently predominantly used as a reactive response. Furthermore, Lavigne et al., (1998) found that 50% of 2-to-3-year-old children with a behavioural disorder, will continue to have their diagnosis, and be engaging in these behaviours 42-48 months later. Therefore, early identification and intervention efforts are crucial to try and remediate behavioural concerns, minimise the long terms effects these behaviours can have, and enhance competence (Bagner, Rodriguez, Blake, Linares, & Carter, 2012; Mathis, & Domitrovich, 2018; Wood et al., 2001).

Participants also made comments regarding the use of FBA with children who they identified as previously engaging in less severe behaviours, but which were considered to be high in frequency. These behaviours included calling out during mat times, and "tantrum type" behaviours such as but not limited to, yelling and throwing small items around the room. Similarly, Scott et al., (2005) also supports this by stating that they too believed that FBA could be utilised more in the education field, to address less severe behaviours before they were to potentially develop into more severe behavioural issues and/or challenges. Therefore, within general education sectors, assessment-based early interventions may prove to be best practice, in terms of preventing children who currently engage in challenging or problematic behaviours, from subsequently being identified and referred to seek support from special education (Scott et al., 2004).

Lastly, the theme "alignment with Te Whāriki" was identified as a benefit of FBA's use within ECE in Aotearoa specifically. All participants found that FBA aligned well with the ECE curriculum document Te Whāriki, and each of the five strands: Wellbeing (Mana atua), Belonging (Mana whenua), Contribution (Mana tangata), Communication (Mana reo) and Exploration (Mana aoturoa).

Strand (1) Mana atua, ensures that children's health is promoted, and wellbeing is nurtured, and that with time they are supported and able to manage themselves, and

express their feelings and needs (Ministry of Education, 2017). FBA supports this development by using function-based interventions and strategies which look to meet the needs of children, but in a more socially acceptable way; while supporting children to effectively express their emotions, wants and needs to others (Lane et al., 2011).

Strand (2) Mana whenua, ensures that children feel comfortable with the routine's, understand the limits and boundaries of acceptable behaviour, and show respect for kaupapa, and the rights of others (Ministry of Education, 2017). Through specialised additional support, children will learn through interventions and the FBA process as a whole, more about the classroom and environment limits and boundaries of acceptable behaviour; as well as alternatively being educated on behaviours which are seen as being more acceptable (Borgmeier et al., 2015; Lane et al., 2011).

Strand (3) Mana tangata, ensures children are affirmed as individuals, and encourages them to learn alongside and with others, through the use of different strategies and skills, while treating each other fairly. It also ensures that there are equitable opportunities for all to learn (Ministry of Education, 2017). FBA will ensure that all children will have equal opportunities for learning, by allowing teachers to identify key routines and activities where a child may benefit from additional support, to ensure they are getting the best learning opportunity possible, for them. (Borgmeier et al., 2015).

Strand (4) Mana reo, ensures that children are in an environment whereby they are able to develop verbal and non-verbal communication skills, as well as discover different ways to be creative and expressive (Ministry of Education, 2017).

Strand (5) Mana aoturoa, focuses on teaching children to gain confidence in their own body control, and learn strategies to practice active exploration, thinking, reasoning and problem solving (Ministry of Education, 2017). Through the use of replacement behaviours which is a key component of the FBA process, children are educated and supported on alternative ways in which to meet their needs. Therefore, encouraging children to practice problem solving, active exploration, thinking and reasoning, throughout this process (Borgmeier et al., 2015).

The finding that all participants perceived FBA to align well with Te Whāriki, is significant in that a lack of alignment here could significantly impact on the social validity of the use of FBA within ECE, and furthermore create a barrier to its successful implementation within this sector (Hans & Weiss, 2005; Marchant, Heath & Miramontes, 2013). Blaiklock (2010), however presented some concerns with Te

Whāriki, whereby reporting that some teachers indicated that they did not feel that the current ECE curriculum offered them with clear pathways and/or strategies which they could use in order to support the development of pro-social behaviour(s) in the children they teach. The FBA professional learning programme used in this study therefore, could be used to offer teachers further guidance or how to support young children to meet social-emotional goals specified within the curriculum and each of the identified strands discussed above.

Challenges of using FBA within ECE

Findings from the data analysis also revealed some challenges to the use and implementation of FBA within ECE including differentiating between age appropriate behaviours versus problematic behaviours, not having full teaching teams attend and complete the professional learning programme, and there still being a need for external support from appropriate professionals and agencies.

Although the benefits of using FBA within ECE allows for early intervention as discussed above, there were also some challenges noted regarding its use with this age group. Participants noted that it may be too difficult for some teachers to be able to clearly identify and understand which behaviours are of concern with young children, and who therefore may need some support through a FBA; and which behaviours may in fact be age appropriate. Teachers further noted, that this may be the very reason why FBA is not widely used in ECE.

Research has stressed the importance of ECE services ensuring they are promoting social, emotional and behavioural competencies in young children, and how these areas in the first few years of life, can set the foundations for a life-long journey of learning and success (Bagner et al, 2012; Bierman et al., 2018; Webster-Stratton, 2012). When identifying children who present with challenging behaviours in early educational settings, Heineman, Childs and Sergay (2006) similarly stated that it is important to understand and consider first, what behaviour is developmentally and age appropriate. For example, it is developmentally appropriate for a three-year-old to not want to share toys with others, however this could be seen as a challenging behaviour within an older age bracket (Heineman et al., 2006). The difficulty when identifying young children who may benefit from extra support therefore, is distinguishing whether or not the behaviours they are engaging in are considered developmentally appropriate or not. (Heineman et al., 2006). Many mild and/or moderate behaviours that are age

appropriate, should not be viewed as challenging behaviours that warrant a FBA (Chandler & Dahlquist, 2010).

Lastly, although participating teachers noted that their knowledge, skills and competence in understanding and managing challenging behaviours had significantly improved, they felt that with certain problematic behaviours there was still a need for “expert support” from someone like a psychologist or BCBA. This could be due to the severity of the behaviour’s children might be engaging in, as well as the differences in teacher skill and experience level which may impact on their competencies to carry out and conduct an FBA effectively. Similar conclusions have been noted in recent research studies, where there are still cases who do require additional support from professionals, however, most problem behaviour(s) that do occur in the classroom, can be modified and corrected by a classroom teacher, if they understand, and are able to apply function matched treatments (Borgmeier et al., 2015; Chandler & Dahlquist, 2010).

Summary

While there is supporting evidence in the literature regarding teacher’s involvement with FBA, most studies reviewed noted that educational professionals such as psychologists and behavioural specialists, took the lead role in its facilitation. This current study therefore builds from existing research, by providing teacher accounts of how they were able to independently conduct a FBA following the completion of appropriate training. The FBA professional learning programme designed specifically for school-wide staff was effective at increasing teacher knowledge, understanding and competence of supporting children engaging in challenging behaviours. Participants noted that they now had a clear understanding of functions that behaviours served and how to implement function matched interventions to remediate the presentation of challenging behaviours within the classroom. Furthermore, participants identified that working in a team of teachers, having the opportunity to intervene with problematic behaviours early, and how they viewed FBA to align with Te Whāriki, would support further use of FBA within ECE in Aotearoa. Lastly, findings from this study highlighted challenges found with implementing FBA in ECE settings as there being difficulties with differentiating between age appropriate behaviours and problematic behaviours due to the young age of the children, not having full teams completing the FBA workshop made it difficult to have a shared understanding of each FBA process, and that there was still a need for external support for more complex behaviours.

Chapter Six: Conclusion

This research study sought to add to the limited literature regarding the use of Functional Behavior Assessment (FBA) in Early Childhood Education (ECE) by ECE teachers. The purpose of this research was to explore the use of FBA within an ECE context, as carried out by teachers who had completed a FBA professional learning programme. In the section below, strengths and limitations of the research study are discussed, along with possibilities for future research and the practice implications.

Strengths of the study

There are a number of key strengths in this research study, related to the methodology, participants, and valuable findings which the study produced.

This study used a professional learning programme developed by Borgmeier, Loman et al., (2018), who are very experienced in the field of FBA and training frontline staff. Their FBA to BIP programme used within this research study was released this year, and therefore incorporates and is supported by the latest research and findings. By using the two modules designed for school-wide staff, by specialist educators in the field, it has ensured high programme fidelity, as the researcher has not had to design and facilitate their own FBA workshop.

Research has found that FBA has been successfully implemented in preschools, however there is very limited research to date, on its use in preschools in Aotearoa specifically (Lane et al., 2011). This research therefore provides a valuable insight into its use within this context, and provides evidence of its applicability within this educational sector. Findings from this study will be valuable for all ECE staff as well as the Ministry of Education and other support agencies. It provides an overview of how teachers implemented the FBA, along with their perceived benefits and challenges of its use within ECE. Future research studies could therefore, build on each of the key themes and findings identified in this study, and explore them in even more depth.

Another strength to this study was the use of one on one interviews with each participant. This allowed participants to express their thoughts and ideas on the use of FBA within ECE and their own teaching practice. It further allowed the researcher to collect an in-depth and comprehensive understanding of each participants experience, while being able to probe for further explanations of responses where and when necessary.

A thematic analysis was used to identify and analyse key themes which were derived from the data collected through the semi-structured interviews. The thematic analysis allowed for participant voices to be heard, and for personal accounts to be captured (Braun & Clarke, 2006). It also allowed for key themes to emerge from the results itself, and is widely supported in the literature for its “theoretically-flexible approach to analysing qualitative data” (Braun & Clarke, 2006, p.1).

Limitations of the study and possibilities for future research

Findings from this study provide a unique insight into the use of FBA within ECE in Aotearoa by teachers, however there are a number of limitations in the study which should be noted. These are related to the use of a thematic analysis, participants being from the same centre, no full teaching teams participated, existing researcher relationship with the centre, aspects of the professional learning programme, and the short time frame given to participants to use FBA. Each of these limitations discussed below, may also help to direct the possibilities for future research.

Although a thematic analysis allowed for key themes and findings to emerge from the data itself, it is important to note that as a researcher I held certain theoretical and epistemological viewpoints which could have influenced how I coded the data. Another limitation of the current study is that all participants were from the same centre, and therefore were not a true representative of the total ECE population and sector. Findings found from this study as a result, may not be transferable to other centres and teaching staff. Future research therefore may look to include participants from different centres within Auckland and outside Auckland to include rural areas, to get a more accurate representation of ECE teachers within this specific region.

The centre which was approached to participate in this research study, is the same centre where the researcher was currently part time relieving at. This could be seen as a limitation to the research findings, as some participants may have felt the need or wanted to, provide the researcher with “good data”. However, by being familiar with and knowing the participants beforehand, this relationship may have increased participant trust in the researcher and the FBA professional learning programme; as well as increased teacher buy in from the start, which is important given the short seven-week time frame given to participants to implement a FBA. Bonner and Tolhurst (2002) explored the advantages and disadvantages of being either an insider or outsider in

qualitative research. They found that within qualitative research, it is becoming increasingly popular for researchers to be a part of the social group in which they wish to conduct their studies. The advantages to this include that researchers are able to have a greater understanding of the culture being studied (Bonner & Tolhurst, 2002; Pugh, Mitchell, & Brook, 2000), are able to implement research and collect data more naturally because they are not viewed as a stranger within that setting, and lastly, that having an established relationship may in fact promote the integrity and honesty of results shared between the participants and the researcher(s). However, there are also challenges to being an insider in qualitative research, which include that being too familiar with participants and the setting, may lead to certain assumptions being made in terms of collecting and analysing the data (Bonner & Tolhurst, 2002).

The seven-week time frame given to participants, is another limitation to the study, as some participants were unable to comment on the extent to which behaviours which were targeted, increased or decreased, following the implementation of function-based interventions. Future research could benefit from increasing this time frame, to allow more time for participants to implement FBA, and to begin seeing changes to children's engagement in certain behaviours.

Data revealed that although teachers found the FBA professional learning programme to be very valuable and effective, there was great value seen and comments made on, in full teaching teams attending and completing the programme. Participants in this study came from three different classrooms, whereby at most they represented half of their respective teaching team. Timperley et al., (2007), stress the importance and benefits of entire teams attending professional development workshops, in their best evidence synthesis on teachers and professional development.

Another limitation found in this study was that the professional learning programme used, was designed for all school personal and not ECE teachers specifically. As a result, all of the examples given throughout the programme were examples of children aged five and older. This made the examples not as applicable or relatable to participants who were using them to test and further understand key components. Participants did comment on the benefits of redesigning the programme used, so that it was specially designed for and aimed at ECE teachers and their unique context. Therefore, although results affirm the applicability and appropriateness of FBA

for use within the ECE sector, they do also raise some challenges and opportunities for the professional learning programme to be adapted, to ensure FBA and each of its processes are even more compatible and appropriate to use within the early childhood education sector and context of Aotearoa. This could be addressed in future research, where an ECE teacher specific FBA professional learning programme was designed and implemented.

Upon examining and reflecting on the key findings and themes of this study, there is additional information which could have been collected, which would have helped to strengthen them. This includes collecting information from participants regarding their years of teaching experience and training and/or certifications which they hold. This may help researchers to identify specific components and aspects of teachers, their capabilities, current level of understanding and experience, which could support sustained use of FBA, increased efficacy and implementation fidelity. Future research could look at including or exploring the correlation between ECE teaching experience, and the implementation of FBA within their teaching practice.

Lastly, particular areas which may be of value to explore in depth, is the use of FBA within specific age groups. In this study it was used with children between the ages of three years five months and five years five months. It may be beneficial to explore each age individually because of how important each developmental stage is with young children, and the speed at which they progress through different learning areas at each age. Secondly, it may be beneficial to explore the use of FBA within specific cultural groups and settings, to ensure FBA is culturally appropriate and applicable.

Practice Implications

From the analysis, it was found that all participants believed FBA aligned with the ECE curriculum document, Te Whāriki and each of the five strands. This increases the validity of FBA for use within ECE by practitioners, and congruence with the ECE curriculum. Furthermore, when supporting children who are engaging in challenging behaviours, teachers need to implement an evidence-based programme, with fidelity for it to be successful. If teachers believe it aligns well with teaching philosophies and guidelines, this will hopefully also increase teacher buy in as well.

Final thoughts

To conclude this study explored the use of FBA within an ECE setting in Aotearoa, as implemented and used by ECE teachers. From the thematic analysis used, results revealed that after completing an FBA professional learning programme, teachers were able to implement FBA within their own respective classrooms independently from the researcher, and instead alongside their own teaching team. Teachers reported that the ways in which their understanding of challenging behaviours and how to manage them changed, were that they now understood behaviours more functionally, had a clear understanding of the roles and influences of antecedents and consequences, and felt that overall their teaching knowledge and competencies had increased. Participants noted that the benefits of using FBA within ECE that they found, included working in a team of teachers, having the opportunity to intervene certain challenging behaviours at an early age and the alignment they felt FBA had with Aotearoa's ECE curriculum document, Te Whāriki. Lastly, findings from this study highlighted key challenges of using FBA within ECE including, differentiating between age appropriate behaviour and problematic behaviours, not having full teaching teams complete the professional learning programme, and that they felt there was still a need for external support for some children engaging in more difficult behaviours.

A few recommendations for ECE centres and teachers:

1. To encourage full teams of ECE teachers to attend and complete the FBA professional learning programme used in this study.
2. To complete any further professional development courses if and where appropriate, if teachers need more clarification.
3. To present the FBA professional learning programme and its possible links to Te Whāriki, so ECE teachers have a clear understanding of its appropriateness and applicability within this educational field.

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Appendices

Appendix 1



Date: 22 April 2018

Dear Zelda McGrath

Re: Ethics Notification - **4000019376** - **The Role of Functional Behaviour Assessment in Early Childhood Centres in Aotearoa: Supporting Teachers to Manage Challenging Behaviours in the Classroom**

Thank you for your notification which you have assessed as Low Risk.

Your project has been recorded in our system which is reported in the Annual Report of the Massey University Human Ethics Committee.

The low risk notification for this project is valid for a maximum of three years.

If situations subsequently occur which cause you to reconsider your ethical analysis, please contact a Research Ethics Administrator.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research."

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Associate Professor Tracy Riley, Acting Director - Ethics, telephone 06 3569099 ext 84408, email humanethics@massey.ac.nz.

Please note, if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to complete the application form again, answering "yes" to the publication question to provide more information for one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

Research Ethics Office, Research and Enterprise

Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand **T** 06 350 5573; 06 350 5575 **F** 06 355 7973
E humanethics@massey.ac.nz **W** <http://humanethics.massey.ac.nz>

ABC Tracker

Part B

Student _____

Staff _____

Dates _____

Identify a student with recurring challenging behavior. Focus on a single routine (see Part A to identify and prioritize a routine) and track occurrences of the problem behavior during the prioritized **routine (subject or time of day)**. Each time a problem behavior occurs during this routine over the next weeks document the A-B-C sequence. Use the data collected to identify patterns or trends across occurrences to form a **Summary Statement** describing the student's behavior below.

Prioritized Routine/ Subject/ Activity (see p. 1) →				Time of Day: Start time: End time:
Date/Time	When... (Antecedent)...happens	The Student... (Behavior)	And as a result... (Consequence)	
Example Date: Feb 8 Time: 10:25	Asked to complete worksheet (multi-digit multiplication & work problems) independently	Verbally refuse to work, say "This is stupid", wander room & make negative comments	Teacher will leave student alone & students gets to avoid difficult task/worksheet	
1 st Incident Date: Time:				
2 nd Incident Date: Time:				
3 rd incident Date: Time:				
4 th incident Date: Time:				
5 th incident Date: Time:				



Therefore, the function of the behavior is to **get / avoid** _____
 (circle one) (detail what is obtained or avoided)

