CHANGES IN BELIEFS OF PRE-SERVICE TEACHERS IN AN ESP TEACHER EDUCATION PROGRAMME IN VIETNAM

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ABSTRACT

Pre-service English for Specific Purposes (ESP) teachers' belief change has been under-researched, so little is known about how and why their beliefs change over their teacher education programs. This study aimed to identify beliefs about ESP teaching of pre-service teachers in an ESP teacher education programme in Vietnam; explore how their beliefs changed after the ESP teaching methodology course and after the practicum; and identify factors that influenced their belief changes.

A qualitative case study approach and a multiple-case study design were employed to investigate the belief changes of twelve pre-service ESP teachers. Over a six month period, data were gathered through the employment of semi-structured interviews, reflective journals, observations, and stimulated recall interviews. These qualitative data went through two main analysis processes (within-case and cross-case analyses) and were analysed inductively, deductively, comparatively, and chronologically with the support of the *NVivo* software program. These comprehensive processes of data collection and analyses resulted in significant research findings.

The findings revealed that the pre-service ESP teachers held a wide range of initial beliefs about ESP teaching before they were provided with theory and practice about ESP teaching. These initial beliefs, which originated from their ESP learning experiences in the teacher education programme, were found to have a number of distinctive features and were susceptible to change. The pre-service ESP teachers' beliefs tended to change in six ways and follow two key processes of belief change. The findings also revealed a wide variety of contextual and internal factors that, despite playing different roles, exerted integrated influences on their beliefs. Therefore, this study highlights the importance of not only the ESP teacher education program but also the pre-service ESP teachers themselves in the development of their beliefs about ESP teaching.

The findings from this study shed fresh light on the development of beliefs about ESP teaching of pre-service teachers in an ESP teacher education program. Insights into the complexity of their belief change processes will not only facilitate the development and improvement of ESP teacher education programmes in the future but also provide a basis for further research into this unexplored area.

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I would also like to thank my research participants, pre-service ESP teachers who enthusiastically shared their beliefs, thoughts, and feelings about their journey to become ESP teachers. Their trust and openness were of critical importance to the insight that this research has gained. Without their contribution, pre-service ESP teachers' beliefs and belief change would have remained untouched. My thanks are also extended to the Faculty of Foreign Languages and Ho Chi Minh City University of Technology and Education for their approval for this research being conducted and their support over this time.

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LIST OF ABBREVIATIONS

AL	Audio Lingual Approach
CLIL	Content and Language Integrated Learning
CLT	Communicative Language Teaching
EGP	English for General Purposes
EMI	English-Medium Instruction
ESP	English for Specific Purposes
GTM	Grammar-Translation Method

CHAPTER ONE
INTRODUCTION

1.1. Introduction to the study

This thesis focuses on the change in pre-service English for Specific Purposes (ESP) teachers' beliefs and the factors influencing these belief changes. My interest in this study began during my role as a teacher educator in an ESP teacher education programme at Ho Chi Minh City University of Technology and Education (commonly known as the University of Technology and Education). During the practicum in the final semester of this programme, pre-service ESP teachers' performance in ESP classes showed they had varied understandings of *what* and *how* to teach ESP. Given the similar ESP learning experiences and knowledge of ESP teaching they had been provided with over the previous semesters, variations in their perceptions and practices surprised me, as a teacher educator and a mentoring teacher. A question arose in my head: What makes the differences in their perceptions of ESP teaching and in their ESP teaching practices? I also began to question the effectiveness of the ESP teacher education programme in which I was involved - not only as an ESP teacher, a methodology course teacher, a course designer, and a mentoring teacher – but also as one of the programme designers. These questions initiated my desire to explore the nature of pre-service teachers' processes of learning to become ESP teachers and the influence of the ESP teacher programme on their professional development.

Examination of the relevant literature neither helped answer my questions nor resolved my concerns. I found that, although ESP has become increasingly important in tertiary education in many parts of the world (Basturkmen, 2014), literature on ESP teacher education "is surprisingly limited" (Basturkmen, 2014, p. 17). I could not find any research that identified the issues emerging in this specialized context. Further examination of the language teacher education literature, however, showed there were connections between teachers' beliefs, their teaching practice, and teacher education (Basturkmen, 2012; S. Borg, 2003, 2006, 2011a; Debreli, 2012; Pajares, 1992). Based on the insights gained from the teacher beliefs literature, I believed that studying changes in the pre-service ESP teachers' beliefs over time might shed light

on their process of becoming ESP teachers and the influence of the ESP teacher education programme at the University of Technology and Education on this process.

The aim of the current study was thus to examine the change of pre-service ESP teachers' beliefs about ESP teaching during the ESP teacher education programme at the University of Technology and Education, and to shed light on how this change related to the effectiveness of the programme. When entering a teacher education programme, pre-service teachers usually hold their own beliefs about knowledge, teaching, learning, teachers, and learners. These initial beliefs have been formed during their earlier schooling, but are likely to be challenged over the time of the teacher education programme. The current study aimed to explore how the initial beliefs about ESP teaching of the pre-service ESP teachers changed after the ESP teaching methodology course and after the practicum, and to identify factors influencing these belief changes. The study, therefore, serves both practical and theoretical purposes. Practically, the findings of the study will help to identify factors that are influential in bringing about changes in pre-service teachers' beliefs about ESP teaching to improve the ESP teacher education programme at the University of Technology and Education. Theoretically, the research aims to add to the limited existing literature on both pre-service ESP teacher education and pre-service ESP teachers' belief change, contributing to the current knowledge of teacher beliefs in general.

In the following sections of this chapter, the research context as well as the rationale and significance of the research are described. An overview of the thesis is then presented in the final section.

1.2. The research context

The context is an important feature of the current study which is about changes in beliefs of pre-service teachers in an ESP teacher education programme in Vietnam. This section is divided into three parts. Firstly, background to the teaching and learning of English language as a foreign language is provided. An overview is then provided of ESP teaching. In the third part, information about ESP teacher education is presented.

1.2.1. Background to English language teaching in Vietnam

"Vietnam's linguistic history reflects its political history" (Denham, 1992, p. 61). Over the past 150 years, many changes in language policies have been responsive to political changes in this country (Denham, 1992; Đỗ, 2007; Huong & Albright, 2018). Under French colonialism (1858 – 1945), French was the main language taught in schools as a foreign language and then as a medium of instruction (Huong & Albright, 2018). During the Vietnam War (1945 – 1975) when the country was divided into two parts, while Chinese and Russian were promoted in the North, English and French were taught in the South (Đỗ, 2007; Huong & Albright, 2018). After the war, from 1975 to 1986, Russian was the official and dominant foreign language that was taught at most intermediate and high schools across the whole country. English and French were only taught where there were not enough teachers of Russian, mostly in the South of Vietnam (Huong & Albright, 2018; H. T. M. Nguyen, 2017). However, English has become the main foreign language in the Vietnamese education system since the Open Door policy (or Doi Moi) was launched in 1986. This policy marked the integration of Vietnam into the world and thus promoted significant political and economic changes in the country (Huong & Albright, 2018). In the following two decades (i.e., the 1990s and the 2000s), there was rapid development of English language teaching and learning as well as the high demand of English language courses and teachers in Vietnam (Đỗ, 2007; Huong & Albright, 2018; V. C. Le, 2011).

Since the 1990s, English has been an official foreign language that is taught as a subject at schools and tertiary institutions. English has become one of the major subjects, and high school students have to sit an examination on English, together with mathematics and literature, to be certified as high school graduates (MOET, 2017). Students at tertiary institutions study English as their major or as a compulsory part of their programme (Huong & Albright, 2018). However, the quality of English language teaching and learning at schools and tertiary institutions has been criticized (T. L. Lam, 2018; V. C. Le, 2011). A number of reasons for this have been identified, including quality of teachers (V. C. Le, 2011), learners' motivation, teacher engagement, and the communication environment (T. L. Lam, 2018).

In an effort to "boost English learning and teaching on a long-term basis in order to effectively compete in international markets and achieve sustainable economic growth," (Huong & Albright, 2018, p. 10), the Vietnamese Prime Minister approved a project entitled *Teaching and Learning Foreign Languages in the Vietnam's National Education System, Period 2008 - 2020*, in short called the *2020 National Project* (VNG, 2008). The overall goal of this project is to enable the majority of graduates from high schools and tertiary institutions to communicate confidently in a foreign language, particularly English, in their daily lives as well as in their study and work environments. This project has substantially influenced all aspects of the teaching and learning of English in Vietnam. As a result, English language is taught at all levels of the education system, from primary schools to tertiary institutions.

However, at the Congressional Hearing in November 2016, the Minister of Education and Training acknowledged the failure of the *2020 National Project* because most of its objectives would not be able to be achieved by 2020 (Linh, 2016; T. Nguyen, 2017). Thus, this project was extended and the *Refreshed 2020 Project* was approved in 2017 (VNG, 2017). This *Refreshed 2020 Project* identified eight main targets by 2025, including: significantly improving the quality of English language teaching and learning at all education levels; applying advanced technology in English language teaching and learning; providing English language learning communities; ensuring English language competence and pedagogical competence of teachers; developing the assessment system; prioritising English language teaching and learning in rural areas; empowering and promoting the role of private language schools; and ensuring the project management (VNG, 2017). The extension of the *2020 National Project* as well as the targets set by the *Refreshed 2020 Project* indicate the policy makers' determination to improve English language teaching and learning significantly in Vietnam in a short time span.

1.2.2. ESP teaching in Vietnam

Although it is unclear when ESP was first taught in Vietnam, ESP is now a compulsory subject included in most majors at Vietnamese tertiary institutions. Students at vocational schools, colleges, and universities take a four- or five-credit ESP course after several general English courses, depending on the length of their programmes (Trinh & Mai, 2018). ESP courses are believed to help graduates to join the international labour force market as a result of Vietnam's integration into the

global economy after the Open Door policy (Hang, 2009; V. K. Nguyen, 2015; VNG, 2008). In this sense, in Vietnamese education system, ESP is considered as an umbrella term referring to all types of courses in English for Occupational Purposes, English for Vocational Purposes, English for Professional Purposes, and English for Academic Purposes (including English for General Academic Purposes and English for Specific Academic Purposes).

Since the launch of the *2020 National Project* in 2008, ESP has attracted increased attention from ESP teachers, university administrators, and policymakers. In particular, there have been more studies on what and how to teach ESP (e.g., D. Lam, 2011; N. Nguyen, 2011; V. K. Nguyen, 2015), and more conferences on how to promote the teaching and learning of ESP at tertiary institutes (Giang & Lộc, 2009 ; Khuong & Ly, 2018; T. T. Nguyen, 2009; Vinh, 2009). Therefore, further action has been taken by the Ministry of Education and Training to promote ESP teaching and learning at tertiary institutions. For example, in 2015, the Ministry of Education and Training approved four ESP vocational programmes in order to manage and improve the quality of ESP teaching and learning. These programmes were piloted in all qualified vocational schools nationwide from 2016 to 2018 (MOET, 2015).

Despite the emphasis on ESP at the national level, and its growing importance, ESP teaching and learning at tertiary institutions still appears to be faced with many challenges. At the institutional level, objectives and importance of ESP courses appear to be overlooked and, therefore, there is a lack of consensus in the way they have managed ESP courses and chosen ESP teachers. Some institutions, such as the University of Danang (DNU, n.d.), have an ESP department responsible for teaching ESP courses for students in all majors. However, the majority of Vietnamese tertiary institutions, for example, Ho Chi Minh City University of Technology and Education (UTE, n.d.), assign ESP courses to faculties within relevant majors. In addition, ESP courses are generally taught by subject teachers who have graduated in majors such as science or business from either masterate or doctoral programmes in foreign countries (Duong, Bui, & Bui, 2005; B. H. Nguyen, 2013), or by general English teachers (D. Le, 2014). As in-service ESP teachers, with either English language or specialist backgrounds, these teachers did not receive any further training on ESP teaching before taking on responsibility for the ESP programme (D. Le, 2014; B. H. Nguyen, 2013; H. Pham & Malvetti, 2012). This situation suggests a general belief

that any teacher with a background in either English language or a specific discipline are able to teach ESP.

At the course level, the quality of ESP teaching and learning has been constrained by a number of factors. Although analysis of students' needs is considered a distinctive feature of ESP teaching and learning, it is generally ignored in ESP course design in Vietnam (D. Lam, 2011; Oanh, 2007). It is reported that, due to financial limitations, ESP course designers, material developers, and teachers are unable to consult industry experts or those with good knowledge or experiences in the fields relating to their ESP courses (D. Lam, 2011). Instead, they assume learners' needs and compile ESP materials from different sources (V. K. Nguyen, 2015; H. Pham & Malvetti, 2012). As a result, it is common that ESP courses focus on developing students' vocabulary, grammar, and reading skills (Duong et al., 2005; V. K. Nguyen, 2015; Trinh & Mai, 2018) rather than their discipline-specific language competence (Basturkmen, 2006, 2010; Paltridge & Starfield, 2013).

ESP students' level of English proficiency is another factor in ESP teaching and learning in Vietnam. While learners are normally required to have an intermediate level of English language proficiency to take ESP courses (McDonough, 2010), ESP students at most of Vietnamese tertiary institutions have low English levels and limited communication skills (Khuong & Ly, 2018; D. Lam, 2011; T. T. H. Nguyen & Pham, 2016; V. K. Nguyen, 2015). Consequently, their English language competence after graduation tends not to meet the requirements of employers (Khuong & Ly, 2018).

Furthermore, the quality of ESP teachers has been commented on. Although ESP teachers may have obtained the required qualifications, ESP students have been reported to be dissatisfied with their teachers' proficiency in English language, as well as their knowledge of the subject matter, and pedagogical competence (Khuong & Ly, 2018). Teachers themselves have also reported the challenge of the unclear focus of ESP courses. They are reportedly confused about whether specialist subject knowledge or language competence should be the primary focus (V. K. Nguyen, 2015) and, as a consequence, have struggled to determine how to teach ESP (e.g., N. Nguyen, 2011; V. K. Nguyen, 2015). Therefore, all ESP teachers in Vietnam seem to face a dilemma. Those who are general English teachers encounter difficulties in

subject knowledge, while those who are subject teachers have difficulties with language teaching methodology (D. Le, 2014; B. H. Nguyen, 2013).

1.2.3. ESP teacher education in Vietnam

Very little is known about how Vietnamese teachers gained knowledge and skills to teach ESP. Of the few studies that have been conducted in this area, D. Le (2014) and H. Pham and Malvetti (2012) identified a number of strategies in-service general English language teachers have used in their transition to teaching ESP. These teachers were reported not to have received any formal training, either about the subject knowledge or teaching methodology, prior to teaching ESP. Therefore, as general English language teachers, they put most of their effort into gaining as much subject knowledge as they could through self-study as well as from talking with colleagues, subject teachers, and students (D. Le, 2014; H. Pham & Malvetti, 2012).

Pre-service ESP teacher education in Vietnam, as well as in the world, has not received much attention either (Basturkmen, 2014; Master, 1997; H. A. Pham & Ta, 2016). It is difficult to find information about specialised ESP teacher training courses at Vietnamese tertiary institutions. In fact, while ESP courses are included in most higher education programmes, an examination of the websites of 13 teacher education institutions and 144 institutions that have pre-service teacher education programmes all over the country showed that only one pre-service ESP teacher education programme was offered. The University of Technology and Education, which is the context for this study, thus appears to be the first institution to provide a specialised pre-service programme to train ESP teachers in Vietnam. The programme expects to produce qualified ESP teachers to meet the growing need of tertiary education in Vietnam.

In short, contrary to the significant focus on ESP by the Ministry of Education and Training, and tertiary institutions in Vietnam, professional development for ESP teachers, and research in this area, are lacking. Against this background, an ESP teacher education programme is a unique context for the current study on pre-service ESP teachers' belief change. Thus, this is the first such significant study in Vietnam and possibly in the world.

1.3. Rationale and significance of the study

The current study was conducted in response to the need for improving the ESP teacher education programme at the University of Technology and Education in Vietnam. Some problems were observed after the programme had been running for several years. As a teacher educator, the researcher found that many final-year pre-service ESP teachers who were English major students emphasized that ESP courses were intended to widen learners' subject knowledge and, therefore, subject teachers were more suitable for teaching ESP than English teachers. As a mentoring teacher in the practicum, the researcher also found that many pre-service teachers were not confident about *what* to focus on and *how* to teach an ESP lesson. They thus considered their mentoring teachers as role models, relying on their suggestions and therefore teaching their ESP lessons in almost the same way as their mentoring teacher. In this sense, they were unlikely to become independent ESP teachers. Nonetheless, the stated goal of the ESP teacher education programme is to provide pre-service ESP teachers with "comprehensive professional knowledge and skills as well as important soft skills to easily adapt to changes in varied English language teaching environments" (UTE, 2012, p. 1).

Given the background outlined above, the findings of the current study are critical to the ESP teacher education programme at the University of Technology and Education, which is essentially a pioneer in the field in aiming to fill the need for trained ESP teachers in Vietnam. In identifying changes in pre-service ESP teachers' beliefs after the ESP teaching methodology course and the practicum, as well as factors influencing these changes, the findings will inform understandings about how their beliefs changed over the time they learned to become ESP teachers. The study thus provides powerful and in-depth insights into the pre-service ESP teachers' professional development process. These insights are crucial to the ongoing development of the ESP teacher education programme because they will influence not only how the content can be improved but also how the approaches and measures of pre-service teachers' learning can be enhanced.

Teacher beliefs are central to this thesis. Teacher beliefs, as part of teacher cognition (S. Borg, 2003, 2006), play a pivotal role in teachers' decision-making during lesson preparation and in the classroom (Levin, 2015). Literature shows that research on teachers' beliefs has been rapidly growing (S. Borg, 2003, 2006) and that belief

change has become an important aim in both teacher education in general (Levin, 2015; Richardson, 2003; Tillema, 1998) and language teacher education in particular (S. Borg, 2003, 2006; J. Richards & Farrell, 2005). However, research on *pre-service* teachers' beliefs has been limited (see Basturkmen, 2012; S. Borg, 2003, 2006, 2012). Little is currently known about *how* pre-service teachers' beliefs change and it is not clear what factors bring about changes in teachers' beliefs. In addition, most research on the development of pre-service language teacher beliefs, and the impact of language teacher education on their beliefs, so far has involved pre-service teachers who are in general English teacher education programmes (e.g. M. Borg, 2005; Cabaroglu & Roberts, 2000; Özmen, 2012). Basturkmen (2014) affirms that pre-service ESP teacher education has not been adequately studied, although ESP is growing in importance in many parts of the world. This thesis, therefore, fills an important gap in the existing knowledge.

The current study is the first study to explore pre-service ESP teachers' beliefs about ESP teaching, changes in these beliefs, and specific factors influencing these changes. This study, therefore, will generate new insights into the formation of pre-service ESP teachers' beliefs, and the findings will contribute to the development and improvement of pre-service ESP teacher education programmes. Given the gap in the existing knowledge of pre-service ESP teacher education (Basturkmen, 2014) and the scarcity of research into pre-service teacher belief development (Levin, 2015; Tillema, 1998), the current study will deepen insight into these two fields of knowledge.

1.4. Overview of the thesis

In Chapter One, background information has been provided about the current study. The research aims and the context in which the study is located has been presented. The research problem and the gaps in the related literature have also been presented, as well as the significance of this study to enhance both practice and theory.

In Chapter Two, the literature on key aspects of ESP and teacher beliefs is reviewed. In particular, an overview of ESP as a branch of English language teaching is provided, and ESP teaching objectives, methodology, and teacher competencies are examined. This is followed by a discussion on the importance and characteristics of teacher beliefs, categories and processes of belief changes, and different influences

on teacher beliefs. The chapter ends with the identification of gaps in the literature that are addressed by the current study and the research questions.

In Chapter Three, the methodology underpinning the study and the research design is presented. In particular, a detailed description is provided of the research approach and the data collection processes, including the research setting, participants, data collection tools, and data analysis. The researcher's positioning, strategies to ensure the research quality, and ethical considerations are also discussed.

In Chapter Four, the findings of the study are presented. It includes three sections: the pre-service ESP teachers' initial beliefs about ESP teaching, changes in their beliefs over the time of the study, and the factors influencing their changed beliefs. The findings about the pre-service teachers' initial beliefs and influencing factors were based on the analysis of data gathered from the twelve cases. Meanwhile, the findings about pre-service teachers' belief changes are illustrated by data from ten participants that is drawn from analysis of individual cases.

In Chapter Five, the research findings are discussed and compared and contrasted in relation to the relevant literature. The discussion focuses on three aspects of the study: the features of pre-service ESP teachers' initial beliefs about ESP teaching; changes in their beliefs, including reasons for belief changeability, discrete categories of belief change, and belief change processes; and the contextual and internal influences on their beliefs.

Finally, in Chapter Six, the key findings from the study are summarized, implications for theory and methodology are discussed, and recommendations for practice are presented. In this final chapter, limitations of the study are also identified and recommendations for future research are made. The chapter ends with the researcher's reflection on the research process and its contributions as well as the development of my own knowledge and skills as a researcher.

CHAPTER TWO
LITERATURE REVIEW

2.1. Introduction

In this chapter, research that relates to ESP and teacher beliefs is reviewed. In doing so, the conceptual framework for the study is presented and gaps in the literature that are addressed by the current study are highlighted.

The chapter comprises five main sections. In the first section, ESP, including the definition, the historical development, and the distinction between ESP and EGP (English for General Purposes) is introduced. In the second section, a discussion of the objectives of ESP teaching, its teaching methods, and related teacher competencies is provided. The third section focuses on the literature on how teacher beliefs are defined, regarding the importance and characteristics of teacher beliefs. In the fourth section, the limited literature on changes in pre-service teachers' beliefs is examined. Different factors that bring about changes in pre-service teachers' beliefs are examined in the fifth, and final, major section of the chapter.

At the end of the chapter, gaps in the literature are presented, leading to the research questions that guide this study. A summary of the key points identified in the literature review is also provided.

2.2. Introduction to ESP

Background to ESP, a key area in the current study, is provided in this section. The section begins by briefly defining ESP and the place it holds within the field of English language teaching. Next, the history of ESP development will be briefly presented. Following that, a detailed discussion on the distinction between ESP and EGP in the related literature is provided.

2.2.1. Defining ESP

ESP refers to the teaching and learning of English language "where the goal of the learners is to use English in a particular domain" (Paltridge & Starfield, 2013, p. 2) so that they can complete "tasks in their studies or work that have a language component" (Anthony, 2017, p. 10). Therefore, ESP has been defined as an approach that focuses on the specific language needs of learners (Anthony, 2017; Basturkmen, 2010; Hutchinson & Waters, 1987; Johns, 1999). An analysis of learners' needs is

recommended in order for ESP teachers to determine the specific language to be taught (Hutchinson & Waters, 1987).

Within the field of English language teaching, ESP and EGP are distinct branches (Basturkmen, 2010; Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987; Paltridge & Starfield, 2013). Researchers note that ESP can include both English for Academic Purposes and English for Occupational Purposes. Ultimately, a diverse range of areas can be included under both English for Academic Purposes and English for Professional Purposes, depending on whether the language is used for higher study or work purposes (Dudley-Evans & St John, 1998). Examples of those areas include English for Business Purposes and English for Medical Purposes, as shown in Figure 2.1 which also illustrates the relationship between ESP and EGP and the four ESP sub-groups (i.e., English for Academic Purposes, English for Occupational Purposes, English for Vocational Purposes, and English for Professional Purposes).

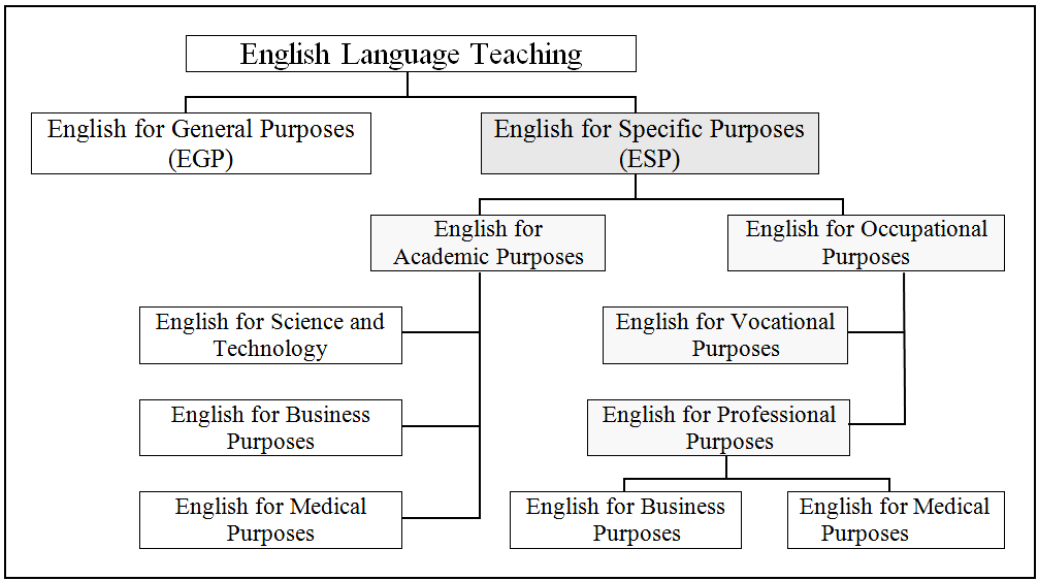

Figure 2.1: ESP in the relationship with EGP and specific courses
(Adapted from Dudley-Evans & St John, 1998, p. 6; Hutchinson & Waters, 1987, p. 17)

2.2.2. Historical development of ESP

The commencement and development of ESP were closely related to the emphasis on learners' needs. The emergence of ESP resulted from changes in society, linguistics, and education in the 1960s. Socially, the rapid growth of scientific, technical, and economic activities after the Second World War encouraged those

working in these fields to learn English, which had become accepted as an international language (Anthony, 2017; Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987). These learners thus were well aware of their specific needs for English. As English courses were designed in response to learners' specific needs, there was an expansion of research on the nature of the English language used in different disciplines (Hutchinson & Waters, 1987). For example, spoken and written English language used in science and technology or doctor-patient communication was researched. This trend in language research came from the emerging view that English used in business was different from English used in engineering contexts (Hutchinson & Waters, 1987). The difference in learners' needs and interests was also recognized in education (Hutchinson & Waters, 1987). As a result, identifying learners' needs has become a distinctive feature of ESP.

ESP has continually developed in conjunction with changes that were occurring in approaches for teaching EGP (Anthony, 2017; Dudley-Evans & St John, 1998; Upton, 2012). In particular, ESP emerged concurrently with Communicative Language Teaching (J. Richards & Rogers, 2001), which emphasized the development of learners' communicative competence (J. Richards, 2006). Throughout its development, ESP has also incorporated features of Task-Based Language Teaching and Content-Based Instruction, English language teaching approaches popularized in the 1980s and 1990s (Anthony, 2017; Dudley-Evans & St John, 1998; J. Richards & Rogers, 2001). For example, Task-Based Language Teaching, a "strong form" of Communicative Language Teaching (Thornbury, 2011, p. 189), similar to ESP, focuses on learner-centeredness and the connection between classroom learning and later experiences in the real world (Anthony, 2017). In addition, both ESP and Content-Based Instruction include the teaching of both language and subject matter. These similarities indicate the mutually supportive relationship between ESP and EGP over the last 50 years. Over time, ESP has come to be considered as "one of the most established teaching approaches in English language teaching" (Anthony, 2017, p. 9).

2.2.3. Distinguishing ESP from EGP

While they have influenced each other, a number of differences exist between ESP and EGP. First of all, the objectives for each of these fields of English language teaching are somewhat different. Although both fields aim to develop learners'

communicative competence, EGP has typically focused more on developing learners' linguistic competence and knowledge for general purposes (Anthony, 2017; Basturkmen, 2010) or on language-related examination purposes (Hutchinson & Waters, 1987). By contrast, ESP objectives are normally based on the analysis of specific learners' needs as well as the linguistic features of the specific disciplines that the ESP courses are serving (Anthony, 2017). ESP courses thus focus on preparing learners not only for the language but also the knowledge, skills and genres that are appropriate to, and necessary for, the specific activities that they will be involved in within their target academic, professional or occupational contexts (Basturkmen, 2006; Dudley-Evans & St John, 1998; Orr, 2002; Paltridge, 2012). In other words, ESP has a narrower focus than EGP (Basturkmen, 2010). Therefore, as Basturkmen (2006) asserts, whereas EGP teaching usually does not pre-determine a particular work or study setting where English will be used, "ESP aims to speed learners through to a known destination" (p. 9). As a result, the distinctive qualities of ESP teaching are: "needs-based, pragmatic, efficient, cost-effective, and functional" (Belcher, 2006, p.134).

The specificity of the learning purposes and the associated disciplines is also considered as a key feature that distinguishes ESP from EGP (Dudley-Evans & St John, 1998; Hyland, 2002, 2011; Hyland & Hamp-Lyons, 2002; Orr, 2002). Such specificity is believed to influence teachers' considerations of learning objectives, the input materials and output activities, methodologies, and the assessment of learners' learning (Basturkmen, 2006; A. Cheng, 2011; Harmer, 2015; Hyland, 2002). To illustrate the distinction between courses in these two branches of English language teaching, Dudley-Evans and St John (1998) propose an EGP-ESP continuum (see Figure 2.2). As seen in Figure 2.2, towards the general end of the continuum are EGP courses, while ESP courses are toward the more specific end.

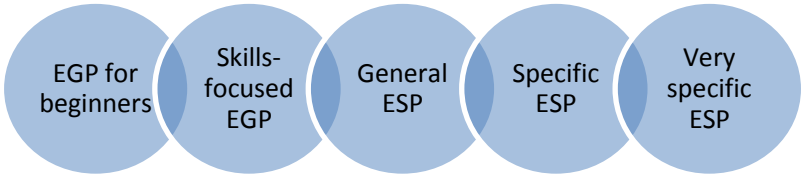

Figure 2.2: The continuum of ELT course types
(Adapted from Dudley-Evans and St John, 1998, p. 9)

There has been much emphasis on the nature of learners' needs as a feature that helps to distinguish ESP from EGP (Dudley-Evans & St John, 1998). ESP learners, most of whom are tertiary students or people working in specific fields, are believed to have a more instrumental view of language learning (Basturkmen, 2010) and have "clearly identifiable reasons for learning English" (Harmer, 2015, p. 5). By contrast, the majority of EGP learners do not always have a clear idea of where, when and for what specific purposes they will use the language (Harmer, 2015). This situation comes about because EGP is generally taught as a school subject in non-English speaking countries with a focus on developing learners' overall language proficiency. In addition, while most learners can start learning EGP with no prior background in the English language, this is unlikely for ESP learners. Paltridge (2012) asserts that ESP learners are mainly adults with an upper-intermediate level of threshold proficiency. McDonough's (2010) survey also showed that most of the published ESP course materials have been for learners with an intermediate level of language proficiency.

Another difference between ESP and EGP is the roles taken by learners and teachers. In EGP classes, teachers are experts in English and language teaching and take an active, leading role in the teaching and learning process. By contrast, most ESP teachers are English language teachers with limited subject knowledge (Ding & Bruce, 2017; D. Le, 2014; Martin, 2014; Wu & Badger, 2009), although in some cases, they may be subject teachers with specialist subject knowledge but more limited English language proficiency (B. H. Nguyen, 2013; Rogers & Mulyana, 1995). Learners' knowledge of the specific discipline in ESP classes, therefore, becomes an important factor. If learners are experts in their fields, teachers can become their language consultant (Dudley-Evans & St John, 1998). However, this situation may pose potential challenges to teachers in terms of providing instruction on content terminology in English (McDonough, 2010), which is considered a dilemma for ESP teachers (Wu & Badger, 2009). Nonetheless, more equal status in the adult classroom may allow both learners and teachers to enjoy sharing their expertise (Dudley-Evans & St John, 1998; Gnutzmann, 2009). If learners are new to a field or have restricted subject knowledge, teachers can either learn along with learners (McDonough, 2010) or use their basic knowledge of the learners' field to guide their language learning (Gnutzmann, 2009).

However, although ESP teachers and learners each possess language and subject knowledge, their equal status is unlikely in ESP classrooms in many Asian contexts. In countries such as China, Singapore, and Vietnam where the culture of learning is influenced by Confucian values, teachers are seen as knowledge providers, and learners are expected to be attentive listeners in class (Chai, Khine, & Teo, 2006; Duong et al., 2005; Wu & Badger, 2009). These teachers are believed to have more knowledge than their learners and to know what is needed for their teaching (Kennedy & Li, 2008; Wu & Badger, 2009). The dilemma that ESP teachers with limited subject knowledge encounter in such contexts, therefore, may be more serious because they are more prone to lose face, an aspect that is important in these cultures (Gieve & Clark, 2005). Consequently, ESP teachers in many Asian contexts attempt to equip themselves with as much subject knowledge as possible (D. Le, 2014) or employ different techniques to minimize the risk of losing face (Wu & Badger, 2009). In other words, they manage to show that they have good knowledge of the subject matter, indicating that they tend to take the leading role of the expert in both English language and a specific discipline in ESP classrooms.

In addition, Barnard and Zemach (2003) note that it is not always easy to identify the boundary between ESP and EGP, which may lead to misunderstandings about the course objectives and methodology as well as the roles of ESP teachers (Atai & Fatahi-Majd, 2014; Biria & Tahririan, 1994; Duong et al., 2005; Y. Li, 2009, October). Figure 2.3 summarises the literature on the position of ESP teaching between English language teaching and discipline teaching. ESP teaching is placed closer to English language teaching, on the left end of the continuum because ESP is a branch of English language teaching rather than discipline teaching (Anthony, 2017; Dudley-Evans & St John, 1998). Figure 2.3 also shows considerations for designing and teaching ESP courses, including learners' needs, levels of language proficiency and subject knowledge, as well as specificity in terms of pedagogical contexts and disciplines. These factors are taken into considerstion because ESP courses may vary in terms of objectives and approaches, a matter which will be discussed in detail in the following section.

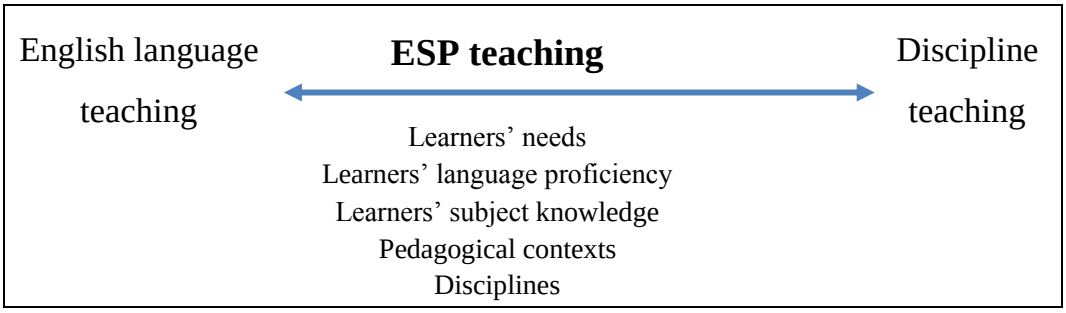

Figure 2.3: ESP teaching and course considerations

2.3. Teaching ESP

As discussed in the previous section, ESP courses vary in specificity and the teaching of ESP is influenced by many factors related to learners, contexts, and disciplines. These factors all constitute distinctive features of ESP courses which require ESP teachers to use a specialized methodology and to have/develop distinctive teacher competencies to support learners to achieve the course objectives. In this section, ESP objectives, teaching methodology, and teacher competencies are examined to provide more insights into the teaching of ESP.

2.3.1. Objectives of ESP teaching

Research into ESP and ESP teaching (e.g., Basturkmen, 2006, 2010; Orr, 2002; Paltridge & Starfield, 2013) suggests that, although ESP learners' needs vary, ESP courses share a number of key objectives. The related literature gives priority to English language components of ESP courses, indicating that English language is central to ESP learners' needs. The overall aim of ESP teaching is to enable learners to communicate effectively in English in their current and/or future academic, occupational, or professional contexts (Anthony, 2017; Basturkmen, 2006, 2010; Ding & Bruce, 2017; Dudley-Evans & St John, 1998; Orr, 2002; Paltridge & Starfield, 2013). This overall aim is emphasized in designing and teaching ESP courses (Basturkmen, 2010; Orr, 2002; Paltridge & Starfield, 2013). For example, the specialized communication between pilots and air traffic controllers, that is regulated by the International Civil Aviation Organization, is central in English for Aviation Purposes (Moder, 2013); and clinical communication skills are a particular aim in English for Medical Purposes (Wette & Hawken, 2016).

In order to achieve the overall aim of ESP, three main objectives are identified in the literature. Firstly, ESP focuses on the linguistic features of the specialized English language. Learners should be provided with knowledge of the specialized English

language used by specific disciplinary communities (Orr, 2002). The second objective is to familiarize learners with the "subject-specific language use" (Basturkmen, 2006, p. 133) so that they can have sufficient understanding of written and spoken texts in relation to the specific contexts (Orr, 2002). Finally, ESP courses develop learners' skills in using the language for particular academic, professional or occupational purposes (Orr, 2002) or "target performance competencies" and "strategic competence" (Basturkmen, 2006, p. 133). Therefore, Dudley-Evans and St John (1998) assert that "ESP is centered on the language (grammar, lexis, register), skills, discourse and genres" relevant to the field or discipline that learners select (p. 5). Research indicates that these objectives can be achieved concurrently. For instance, the target community's discourse is taken into serious consideration in developing ESP learners' language skills and vocabulary (e.g., Bosher, 2013; Coxhead, 2013; Feak, 2013; Goh, 2013; Hirvela, 2013; Hyland, 2013). In this way, ESP teaching enables learners to perform academic, professional or occupational activities, including not only specific language knowledge and skills but also an ability to link communicative situations with related linguistic and cultural knowledge (Basturkmen, 2006).

Apart from subject-specific English language, "underlying knowledge" is another objective of ESP teaching (Basturkmen, 2006, p. 133). Although the interaction between subject knowledge and specific language ability exists in ESP courses (Basturkmen, 2006; Douglas, 2013), subject knowledge is not seen as the primary focus of teaching ESP (Anthony, 2017; Dudley-Evans & St John, 1998). Rather, academic, professional or work-related knowledge and skills are mainly considered as "carrier content" (Dudley-Evans & St John, 1998, p. 11) to create meaningful situations and contexts for language development (Orr, 2002), thus enhancing language learning processes (Belcher, 2006). Similarly, although ESP needs analysis and assessment may emphasize learners' subject knowledge and the work-related tasks they are about to undertake (see Bosher, 2013; Douglas, 2000, 2013; Feak & Reinhart, 2002; Wette & Hawken, 2016), the focus is mainly on identifying the target language used in situations on which course syllabi and tests are designed. In addition, McDonough's (2010) review indicates that, out of 45 current ESP materials, only nine titles include, and aim to promote, learners' professional or work-related knowledge and skills, while others primarily aim to develop subject-

specific vocabulary and language skills. Therefore, subject knowledge, together with professional skills and the target community's culture, needs to be integrated into language skills development. For example, law students in an ESP programme can improve their understanding of US court cultures through developing their skills in reading legal materials and researching legal issues (Feak & Reinhart, 2002).

In addition, if ESP courses focus more on subject knowledge, ESP as an English language teaching approach can be confused with two other approaches: Content and Language Integrated Learning (CLIL) and English-Medium Instruction (EMI). Although ESP, CLIL, and EMI courses include both language and subject knowledge, they differ in focus. In CLIL which is considered as a dual-focused approach to education, learning outcomes are both language competence and subject knowledge, and learners' needs are not always prioritized (Airey, 2016; Cenoz, 2015). On the other hand, in EMI, subject knowledge is taught in English which plays a critical role in learners' learning, especially at the tertiary level (Airey, 2016; Anthony, 2017). English language is therefore considered as "a constructor of knowledge" rather than the key aim of an EMI course (Airey, 2016, p. 76). Figure 2.4 illustrates the types of courses and different outcomes. Toward the left end of the continuum are courses focusing on language knowledge outcomes, while courses focusing on subject knowledge outcomes are toward the right end of the diagram. The Grammar-Translation Method (GTM) is considered to be more language-focused than other approaches to language teaching, such as Communicative Language Teaching (CLT), and ESP is seen as more language-focused than CLIL and EMI (Airey, 2016; Anthony, 2017).

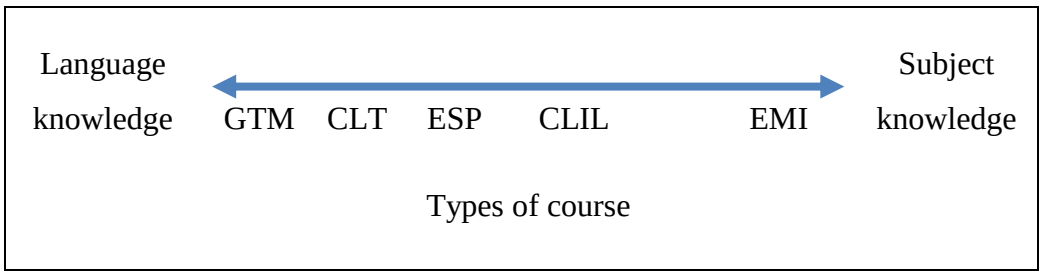

Figure 2.4: The language/ subject knowledge continuum
(Adapted from Airey, 2016, p. 73; Anthony, 2017, p. 20)

Another stated objective of ESP teaching is to foster learners' critical awareness (Basturkmen, 2006). This objective emphasizes "the way students feel about themselves" and "their perceptions of their status in relation to members of target

environments and discourse communities" (Basturkmen, 2006, p. 141). Critical pedagogists, in drawing attention to learners' rights, may go beyond learners' immediate needs (Belcher, 2004). Such researchers also examine the socio-historical and political aspects of the context in which the language is used and how this is influenced by "the power relations and inequality in the wider society" (Starfield, 2013, p. 467). These perspectives require ESP learners to get used to ways of thinking in their target work environments but, at the same time, to be able to critique negative aspects in order to improve situations (Basturkmen, 2006). However, despite its growing importance in teaching ESP, fostering learners' critical awareness tends to be considered as an add-on objective, in addition to its primary pragmatic goal, relevant communicative competence (Basturkmen, 2006; Belcher, 2004; Benesch, 1996, 2001; Littlewood, 2014; Pennycook, 1997; Starfield, 2013).

Due to the variations in ESP learners' needs and constraints of time and resources, it is not considered to be necessary for ESP teachers to address all of the objectives discussed above (i.e., linguistic features, discourse practices, communication skills, subject-related knowledge, and critical awareness) (Basturkmen, 2006). However, teachers will likely prioritize particular aspects in their course objectives when identifying how to attain these objectives, and the competencies that ESP teachers will need to do so.

2.3.2. ESP methodology

ESP literature tends to prioritize research on *what to teach* over *how to teach* (Feak, 2013; Gnutzmann, 2009; Hewings, 2002; Littlewood, 2014; Master, 2005; Todd, 2003). This tendency is likely to be because of beliefs such as: "there is... no such thing as an ESP methodology" (Hutchinson & Waters, 1987, p. 18) and ESP is "a materials-driven rather than methods-driven enterprise" (Belcher, 2006, p. 137). However, there is also the view that ESP may use a different methodology from that of EGP (e.g., Dudley-Evans, 2001; Dudley-Evans & St John, 1998). To delve further into this debate, this section will begin by looking at how the term, *methodology*, is defined.

The term *methodology* has been defined in many ways. Cognitively, *methodology* is defined as "a set of principles underlying practice" (Rodgers, 2009, p. 341) or "a cognitive framework that can give direction and coherence to our choice of activities

and guide us in implementing them" (Littlewood, 2014, p. 292). Taking this view, the literature on ESP methodology could be said to lack a thorough discussion of theories or methodological principles which guide ESP teachers in their choice of techniques and activities (Basturkmen, 2006; Littlewood, 2014; Todd, 2003). One possible reason for this lack in the related literature is that, since ESP is an approach to English language teaching, it is believed to be primarily guided only by the theories of English language teaching methodology (Hutchinson & Waters, 1987; Littlewood, 2014).

From a more practical perspective, Kumaravadivelu (2006) defines *methodology* as "what practising teachers usually do in the classroom in order to achieve their stated or unstated teaching objectives" (p. 84). This definition relates to the description found in Dudley-Evans and St John, that ESP teaching "exploits topics and the underlying methodology of the target discipline or profession to present language, knowledge and skills" (Dudley-Evans, 2001, p. 132). This means teachers tend to make use of the methodology of disciplines, such as science, business, engineering, or nursing, to teach the specialized English language used in these fields (Dudley-Evans, 2001; Dudley-Evans & St John, 1998). Therefore, it can be understood that ESP methodology is a combination of English language teaching methodology and that of specific disciplines or fields. In other words, ESP methodology consists of a wide variety of strategies, techniques, and activities, based on principles of both language teaching and specific disciplines to achieve objectives of the specialized language teaching (Anthony, 2017; Dudley-Evans, 2001; Dudley-Evans & St John, 1998).

The practical view of ESP methodology appears to be widely accepted, as seen in the prosperity, and the promotion, of research into specific needs, discourses and genres, showing the interest in different target communities and their language use (Belcher, Johns, & Paltridge, 2011; Bhatia, 2014; J. D. Brown, 2016; Orr, 2002; Paltridge & Starfield, 2013). In addition, many books and journal articles (e.g., T. P. Brown & Lewis, 2003; Flowerdew, 2010; Harding, 2007; Hyland, 2006; Master & Brinton, 1998; McCarter & Jakes, 2009; Orr, 2002) indicate that ESP methodology is generally understood in a practical way in the literature. ESP course materials available on the market surveyed by McDonough (2010) also follow this path,

confirming the integration between language and discipline teaching methodologies in ESP practice.

The practical view on ESP methodology highlights the role of contexts and learners in ESP teaching. There is no single approach or method that is applicable to all ESP contexts, disciplines and levels of specificity, as well as being suitable for all ESP learners' needs, background and expectation (Johns, 1999; Littlewood, 2014; Paltridge & Starfield, 2013). Therefore, Paltridge and Starfield (2013) assert that "the social context of each ESP class is specific, as are the learning goals and objectives, the choice of materials and activities, the methodologies that are appropriate to the learners and their learning, as well as the ways in which the learning will be assessed" (p. 323). This view coincides with the post-methods trend (Bell, 2003; Kumaravadivelu, 2003, 2006; Prabhu, 1990; Thornbury, 2011) or eclecticism (J. Richards & Rogers, 2014) which has become more prevalent in English language teaching. Factors such as learners, materials, and contexts bring about the uniqueness of ESP courses (Johns, 1999) and characterize the specialized methodology of ESP.

The specialized ESP methodology tends to be flexible and dependent on teachers' personal "theory of practice" (Kumaravadivelu, 2003, p. 3). Due to various pedagogical factors such as learners, materials, and contexts, ESP teachers are allowed more freedom of methodological and pedagogical choice. Teachers decide approaches to ESP lessons or courses regarding materials and methods (Anthony, 2017; Littlewood, 2014). However, their approaches are said to be based on criteria such as their sense of plausibility and other relevant principles of language learning and teaching. These principles are believed to be based on "accumulated personal experience illuminated by language teaching theory" (Littlewood, 2014, p. 297). Therefore, ESP methodology does not have its own fixed set of principles.

Despite its potential advantages, the flexibility of ESP methodology and the freedom of choice can also pose a lot of pedagogical challenges for ESP teachers, particularly as many often lack knowledge of either the English language or the specific discipline (e.g., Górska-Poręcka, 2013; Master, 2005; Wu & Badger, 2009). Team teaching is a particular methodological approach that has been recommended by ESP researchers and theorists (e.g., Dudley-Evans & St John, 1998; Esteban & Martos,

2002; Todd, 2003), as a solution to filling gaps in ESP teachers' knowledge. This approach, in which English language teachers and subject teachers or specialists teach together in an ESP course, has been recorded to bring about positive results in that it increases ESP learners' motivation and facilitates content-based instruction (Cianflone & Coppolino, 2009). However, some consider team teaching to be too expensive (Master, 2005). Instead, it has been suggested that the gap in ESP teachers' knowledge can be filled through consulting subject specialists, professionals and staff at various stages in the preparation stage of ESP courses (Hussin, 2002; Mack, 2009). As noted earlier, it is also possible to make use of ESP learners' subject knowledge during the course (Dudley-Evans & St John, 1998; Gnutzmann, 2009; Wu & Badger, 2009), although this is not always effective or acceptable in cultures where teachers are considered as the key source of knowledge (see Section 2.2.3). Nonetheless, the importance of ESP teachers' subject knowledge is still a controversial issue which will be discussed more thoroughly in the next section about teacher competencies.

2.3.3. ESP teacher competencies

ESP teachers are required to have a wide range of competencies. Their competencies are comprised of those required of teachers in general, those specifically required of EGP teachers, and those particularly needed for teaching ESP. This inclusion stems from the distinction between ESP and EGP identified in Section 2.2.3 as well as distinctive features of ESP teaching regarding objectives and methodology discussed previously (see Sections 2.3.1 and 2.3.2). Therefore, in this section, a brief overview is provided of the literature regarding the knowledge base that is needed by teachers in general, and by EGP teachers in particular, before moving on to discuss ESP teachers' competencies in more detail.

Teachers, in general, are required to have a wide range of knowledge. From the perspective of teacher educators, teachers should have "content knowledge", "general pedagogical knowledge," "curriculum knowledge," "pedagogical content knowledge," "knowledge of learners and their characteristics," "knowledge of educational contexts," and "knowledge of educational ends, purposes, and values" (Shulman, 1987, p. 8). More recently, pedagogical knowledge related to technological content has also been added to this list (Koehler, Mishra, & Cain, 2013), as well as knowledge of global issues and multiculturalism (Holden & Hicks,

2007). This expansion indicates that "more demands are made upon the knowledge required by teachers" over time (Ben-Peretz, 2011, p. 6). Ultimately, teacher knowledge and skills are necessarily "intertwined in complex ways" (Johnston & Goettsch, 2000, p. 437).

The knowledge base that EGP teachers are expected to have is similar to that required of general teachers, as presented above. Overall, they are considered to need language knowledge (Johnston & Goettsch, 2000; Kourieos, 2014; J. Richards, 1998), general pedagogical knowledge (Mullock, 2006; J. Richards, 1998), knowledge of language teaching (Johnston & Goettsch, 2000; Kourieos, 2014; Mullock, 2006; J. Richards, 1998), knowledge of learners (Johnston & Goettsch, 2000), and contextual knowledge (J. Richards, 1998). In addition, EGP teachers are expected to have communication skills, and pedagogical reasoning and decision-making skills (J. Richards, 1998).

ESP teachers also need to possess the knowledge base identified in EGP teachers. This overlap comes about because ESP is a branch of the wider English Language Teaching field (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987). English language teacher education and experience also constitute a crucial background for ESP teachers (Bruce, 2011). Therefore, competencies such as knowledge of teaching contexts, understanding of learners and their needs, understanding of the "main types of language syllabus," and "a high level of systematic language knowledge" are required of ESP teachers (BALEAP, 2008, p. 3).

Apart from the knowledge and skills shared with teachers in general, and EGP teachers in particular, ESP teachers also need to have an "extra knowledge base" (Górska-Poręcka, 2013, p. 30) or further specialized knowledge (Ferguson, 1997). They have to perform five roles (i.e., teacher, course designer and materials developer, collaborator, researcher, and evaluator) in the ESP teaching process (Dudley-Evans & St John, 1998), which are not necessarily required of their EGP counterparts (Górska-Poręcka, 2013). This is because ESP courses and materials are tailored to specific learners' language needs, while EGP courses and materials learners are designed on general levels of language proficiency (i.e., beginning, elementary, pre-intermediate, intermediate, upper-intermediate, and advanced). Each

stage of the ESP teaching process (i.e., needs analysis, course design, teaching and learning, assessment, and evaluation) also requires teachers to have specific specialized competencies. In particular, they need expertise in conducting needs analysis, in addition to designing a course, or developing materials relating to a specialist field (Górska-Poręcka, 2013). They should also have knowledge of the specific academic, professional, or occupational contexts, regarding cultures and values (BALEAP, 2008; Ferguson, 1997; Orr, 2002); and the particular subject-related language features used by the communities ESP learners belong to or will belong to (i.e., genre and discourse) (BALEAP, 2008; Basturkmen, 2006; Dudley-Evans, 1998; Ferguson, 1997; Hyland, 2007). Gaining these aspects of specialized knowledge can enable ESP teachers to confidently exploit texts, activities, and communicative practices in the target situations which are highly distinctive.

In addition, ESP teachers need specialized pedagogical content knowledge. As discussed earlier (see Section 2.2.1), ESP teaching to a large extent involves the teaching of both language and subject knowledge, and these aspects influence both objectives and methodology. Therefore, apart from knowledge of language teaching, ESP teachers also need knowledge of specific discipline teaching methodology. This knowledge enables them to employ relevant methods, strategies, and activities of specific fields, such as problem-solving, case studies, and diagram/chart descriptions, in order to teach the specialized English language (Dudley-Evans, 2001; Dudley-Evans & St John, 1998). In addition, ESP teachers should have "respect for learner knowledge and perspectives, intellectual curiosity and flexibility, and enjoyment of improvisational problem-solving" (Belcher, 2006, p. 104). This is emphasized because of the nature of ESP teaching, as noted previously. In particular, teachers' lack of specialist knowledge of the target discourse and community often requires a more equal status of teachers and learners in ESP classrooms. The diversity of learners' needs also influences the particularity of course objectives and methodology.

Furthermore, ESP teachers' subject knowledge has attracted significant attention from researchers (e.g., Belcher, 2013; Ferguson, 1997; Górska-Poręcka, 2013; Martin, 2014; Master, 2005). As ESP teachers are aiming to develop learners' academic, professional and/or occupational communicative competence, they often struggle with subject matter about which they may have little or no prior knowledge

(Basturkmen, 2010; Hutchinson & Waters, 1987; Wu & Badger, 2009). As more English teachers than subject teachers are involved in ESP teaching (Anthony, 2017; Ding & Bruce, 2017; Górska-Poręcka, 2013; Martin, 2014; Wu & Badger, 2009), prominent in discussions about ESP teachers' competencies are continuing controversies over who is more suitable for teaching ESP and how much subject knowledge they must have.

The literature raises two contrasting viewpoints about who should teach ESP and ESP teachers' subject knowledge (Master, 2005). One view emphasizes teachers' subject knowledge and thus prefers subject specialists with some English teaching experience or training to teach ESP. Feak and Reinhart (2002) support this stance in proposing that having a lawyer teach an ESP programme for law students is a critical feature of the programme and a major factor in its success.

The other view believes that, in ESP teaching, English teachers hold a primary role and subject knowledge is "a potential obstruction to the teacher's true role" (Master, 2005, p. 107). This second viewpoint, which holds that ESP teachers do not need to be a discipline expert although they do need to have a certain understanding of the subject area, seems to be more widely accepted (e.g., BALEAP, 2008; Belcher, 2006; Benesch, 2001; Dudley-Evans, 1998; Górska-Poręcka, 2013; Harding, 2007; Scrivener, 2005). There are a number of reasons for this viewpoint. Firstly, ESP teachers with an English language teaching background are believed to have advantages in managing the different roles of ESP teachers (Bruce, 2011; Dudley-Evans & St John, 1998; Górska-Poręcka, 2013). For this reason, they are considered to be "usually better prepared to deal with the real needs" of ESP learners than subject teachers (Master, 2005, p. 107). In addition, as ESP and EGP share a similar aim (i.e., to develop learners' communicative competence) (Basturkmen, 2010), the teaching of ESP and EGP draws on the same or similar teaching theories and research concerns, such as language acquisition, communicative competence, and assessment (Ding & Bruce, 2017). Furthermore, while English language teachers' lack of subject knowledge may be easily supported by their expert learners and/or subject teachers (Dudley-Evans & St John, 1998; Esteban & Martos, 2002; D. Le, 2014), it seems more complicated to equip subject teachers with language teaching methodology (see B. H. Nguyen, 2013; Rogers & Mulyana, 1995). Therefore, the transition from EGP teachers to ESP teachers tends to be more common than the

transition from subject teachers to ESP teachers (e.g., Chen, 2000; D. Le, 2014; Martin, 2014; Wu & Badger, 2009).

However, the notion as to what constitutes sufficient subject knowledge to understand the subject area has not thoroughly been discussed in the literature (Belcher, 2006). It is likely that the extent of specificity of ESP courses (Hyland, 2002) and "the nature of the ESP being taught" (Master, 2005, p. 107) determine the degree of disciplinary expertise that ESP teachers will require. For example, specialist knowledge is likely to be more essential in highly technical contexts or in ESP courses that target jobs related to human lives, such as air traffic controllers (Master, 2005). Skills-based ESP courses, however, may focus on developing learners' language and study skills, and thus the demand for teachers' subject knowledge may not be as high (Tabatabaei, 2007). However, ESP teachers are expected to have some knowledge of the subject matter if they are to promote effective language learning (J. Richards & Rogers, 2001).

Researchers in ESP teacher education have identified a wide range of specific competencies that ESP teachers are expected to demonstrate, as summarized below in Table 2.1. These competencies fit with the roles of ESP teachers that Dudley-Evans and St John (1998) have identified (i.e. researcher, course designer and materials provider, teacher, collaborator, and evaluator), as well as including the broad range of specific knowledge and skills needed for ESP teaching that have been discussed in this section so far.

Table 2.1: Required competencies of ESP teachers

ESP teachers should be able to…	Sources
• analyze learners' needs and disciplinary genres and discourse forms for course preparation	Belcher (2004); Dudley-Evans and St John (1998); Ferguson (1997); Huttner, Smit, and Mehlmauer-Larcher (2009); K. Richards (1997); Venkatraman and Prema (2007)
• understand basic principles as well as linguistic and cultural aspects of the specific discipline in which their students are studying or will be working	Basturkmen (2010); Carver (1983); Dudley-Evans (1997); Ewer (1983); Ferguson (1997); Górska-Poręcka (2013); Master (1997)
• design/ develop syllabi and materials for ESP courses	Basturkmen (2006); Belcher (2004); Dudley-Evans (1998); K. Richards (1997); Venkatraman and Prema (2007);
• build students' awareness of cultural and linguistic features of the professional community they are going to belong to	Orr (2002); Venkatraman and Prema (2007)
• exploit specialized texts for students' development of specific language knowledge and skills used in the professional area	Venkatraman and Prema (2007)
• employ a variety of teaching strategies and approaches flexibly to help students practice using genres and discourse forms used in their professional area	Carreon (1996); Carver (1983); Tudor (1997); Venkatraman and Prema (2007)
• assess students and evaluate ESP courses	Dudley-Evans (1998); Venkatraman and Prema (2007)
• develop students' study and work skills	Carver (1983); Venkatraman and Prema (2007)
• work collaboratively with students and subject teachers in all stages of the ESP process	Dudley-Evans and St John (1998); Todd (2003)

2.4. Examining teacher beliefs

ESP teachers require all of the above competencies described in Section 2.3.3 in their teaching practices, to a greater or lesser degree. However, teachers' decision making and behaviors in the classroom are greatly influenced by their beliefs about teaching (Pajares, 1992). Indeed, "good teachers examine methods (and the history of methods) to see how far these agree with their own beliefs" (Harmer, 2015, p. 70). Therefore, beliefs about ESP and ESP teaching are likely to be developed throughout a teacher education course. Cognitively, learning how to teach is a process in which pre-service teachers "explore their own beliefs and thinking processes and examine how these influence their classroom practice" (J. Richards & Farrell, 2005, p. 6). Teacher education can therefore not only develop pre-service ESP teachers' pedagogical knowledge and skills but also change their beliefs about ESP teaching. The extent to which this occurs is examined in the current study. In this section, the literature on teacher beliefs and belief changes will be explored further.

Teacher beliefs have been referred to and defined in different ways. Alternative terms for beliefs include *personal practical knowledge* (Golombek, 1998) , *images* (Johnson, 1994), *maxims* (J. Richards, 1996), and *mental models* (Strauss, 2001). Broadly speaking, teacher beliefs are defined as "implicit assumptions about students, learning, classrooms, and the subject matter to be taught" (Kagan, 1992, p. 66). Teacher beliefs are also defined as "teachers' psychologically held thinking, conceptions and understanding" about teaching and learning (Zheng, 2015, p. 14). These definitions indicate that teacher beliefs remain a complex subject in the literature. In order to clarify this construct, in the light of the current study, its importance and characteristics will be examined in this section.

2.4.1. Importance of teachers' beliefs

Teacher beliefs is an important topic that has been researched for over the last 60 years (Ashton, 2015). Teacher beliefs are generally considered to filter new information and experiences to guide teachers' pedagogical decisions and instructional practice (Fives & Buehl, 2012). Examination of the related literature reveals that teacher beliefs affect teachers in three main ways: approaches to, and processes of, learning to teach (Johnson, 1994; Mak, 2011; Martínez Agudo, 2014; Pajares, 1992); perceptions of teaching (Almarza, 1996; M. Borg, 2005; Phipps & Borg, 2009); and teaching practices (S. Borg, 2009; Farrell & Lim, 2005; Martínez

Agudo, 2014; Phipps & Borg, 2009). Ultimately, as noted by Mak (2011), beliefs filter the ways that teachers conceptualize their teaching and their roles as teachers. Mak's research also indicates that "culturally-influenced" beliefs (p. 65) tend to discourage pre-service teachers from exploring other pedagogical approaches, shaping their learning-to-teach processes. Beliefs can also determine the continuation or the termination of a newly-adopted teaching practice by pre-service teachers, whose beliefs are primarily based on their prior learning experiences (e.g., Almarza, 1996; Grijalva & Barajas, 2013; Tillema, 1998). This view implies that teachers' beliefs play a critical role in their professional development.

Overall, research shows that teachers' beliefs facilitate their decision-making process (Crawley & Salyer, 1995; Smith, 2016), guide their thoughts and behaviour (M. Borg, 2001; Farrell & Lim, 2005), and therefore may enable specific teaching goals to be met (Tobin & LaMaster, 1995). In one example, the work of Kuzborska (2011) ascertained that teachers' theoretical beliefs play a decisive role in their teaching of reading activities, thus indicating a strong relationship between their beliefs and practices. In another example, Nespor (1987) illustrated the influences of teachers' beliefs on the reasoning processes that take place behind their classroom practices. In this study, history teachers were found to modify teaching objectives and activities because they believed merely providing students with historical information was of no benefit to their life-long learning. These examples suggest that understanding the impact of teacher beliefs allows for deeper insights into their professional lives. Therefore, research on teacher beliefs is critical not only for teacher educators but also for teachers themselves.

2.4.2. Characteristics of teacher beliefs

Teacher beliefs are found to have a wide range of characteristics which contribute to the definition of the construct. Characteristics of teacher beliefs in the literature include the following: the relationship between beliefs and knowledge, the evaluative and emotional nature of beliefs, the implicit and explicit nature of beliefs, the consistency across beliefs, and the stability and changeability in beliefs. Each of these characteristics is discussed below.

Teachers' beliefs and knowledge are two key components that constitute teacher cognition (S. Borg, 2013). These two constructs are distinguished by features, such

as their subjectivity/objectivity (Fives & Buehl, 2012; Pajares, 1992); the truth component (Fives & Buehl, 2012; Richardson, 1996); and the affective and evaluative components (Ashton, 2015; Meirink, Meijer, Verloop, & Beren, 2009; Nespor, 1987; Pajares, 1992). In particular, Richardson (1996, 2003) points out that while knowledge depends on a "truth condition" accepted by a community, "beliefs do not require a truth condition" (p. 3). For example, teachers usually attribute their knowledge to input sources such as teacher education courses, books, or research which they may consider to be universally true; however, their beliefs reflect different interpretations of what they have deemed to be the truth on the basis of specific contexts of their teaching practice (Fives & Buehl, 2012). Therefore, researchers (e.g., S. Borg, 2003; Fives & Buehl, 2012) also agree that the distinction between teacher beliefs and knowledge is not always clear and that these two concepts are closely connected or interwoven. Overall, teacher beliefs reflect both their judgment and their interpretation of knowledge (Ashton, 2015), and thus filter new theoretical and practical input to form personal/professional knowledge (Fives & Buehl, 2012; Mansfield & Volet, 2010). Tillema (1998) summed up this relationship, commenting that "Belief change is concomitant to knowledge construction" (p. 220).

Another characteristic of teachers' beliefs is that they are considered to contain evaluative and affective components (Ashton, 2015; Meirink et al., 2009; Nespor, 1987; Pajares, 1992; Rokeach, 1968). The evaluative and affective nature of teacher beliefs is evident in belief formation and change (Pajares, 1992; Tillema, 1998). In particular, teachers' beliefs are likely to be formed or changed on the basis of their interpretation of information they gain from knowledge sources in a specific context and under a specific condition. Their interpretation, in turn, is influenced by a number of factors relating to their evaluation of the experiences which is based on their values (Pajares, 1992; Richardson, 1996, 2003) and their emotions towards learning experiences (Boekaerts & Pekrun, 2016; Eilam & Poyas, 2009; Fives & Buehl, 2012; Pajares, 1992; Tillema, 1998). In this sense, teacher beliefs are based on evaluation, judgement, and affect (Pajares, 1992), which distinguishes teachers' beliefs from their knowledge. As noted by Nespor (1987), beliefs rely "more heavily on affective and evaluative components" than knowledge (p. 319).

A further characteristic of teacher beliefs is that they are defined by their implicit and explicit nature. It is generally accepted that teacher beliefs are tacit or implicit because these beliefs can guide teachers' behaviours and teaching practice without their cognitive awareness (S. Borg, 2011a; Clark-Goff & Eslami, 2016; Kagan, 1992; Nespor, 1987). However, it is evident that teachers can also be aware of and are able to clearly identify and state some of their beliefs. For example, Basturkmen (2012) found that teachers could, to some extent, state the beliefs that guided their practices. Kuzborska (2011) and Phipps and Borg (2009) also identified the high convergence between teachers' stated beliefs and their practices, indicating that they were very aware of their beliefs. The research, therefore, shows that teacher beliefs can be explicit and guide teachers' instructional practices more consciously. In addition, Buehl and Beck (2015) indicate that the relationship was found to be clearer in qualitative studies where in-depth data were collected from multiple sources, than in quantitative studies where only self-report was used. Therefore, teacher beliefs are considered to exist in a complex and interconnected system (Buehl & Beck, 2015) in which some beliefs are implicit while others are explicit (Fives & Buehl, 2012; Rokeach, 1968; Smith, 2016).

The level of consistency across beliefs is also an aspect that defines teacher beliefs. As discussed above, a teacher's beliefs exist in a system in which individual beliefs are interconnected or integrated in complex ways (Bryan, 2003; Fives & Buehl, 2012; Fives & Gill, 2015; Nespor, 1987; Rokeach, 1968). The interaction among beliefs within the system may support or hinder the enactment of beliefs, and changes in one belief may influence others (Fives & Buehl, 2012; Pajares, 1992). Within a belief system, some beliefs are implicit while others are explicit (Fives & Buehl, 2012); some beliefs tend to be stable while others are more changeable (Tanase & Wang, 2010); and some beliefs are more central than others (Pajares, 1992). As they exist in these different "nests" (Bryan, 2003), individual beliefs are not required to be consistent within the system (Nespor, 1987; Tanase & Wang, 2010). Consequently, teachers' belief systems vary in the level of consistency across individual beliefs, and, as Pajares (1992) notes, one of the motives for changes in teachers' beliefs is their desire to reduce the inconsistency across their beliefs.

In addition, teacher beliefs are characterized by different levels of stability and changeability. There has been a widespread view that teacher beliefs are "relatively

stable and resistant to change" (Kagan, 1992, p. 66). However, recent studies have suggested that teacher beliefs can be placed at different points along a continuum of stability and changeability. Toward one end of the continuum, researchers, such as Nettle (1998), Richardson (2003), Tatto (1998), and Kagan (1992), agree that there is stability in teacher beliefs. Toward the other end of this continuum, however, researchers, such as S. Borg (2011a), Debreli (2012), Teng (2016), and Tillema (1998), have found that teacher beliefs are changeable. Between these two ends of the continuum, other research (e.g., Chai et al., 2006; Chai, Teo, & Lee, 2009; Mattheoudakis, 2007; Tanase & Wang, 2010) shows that, within a teacher's belief system, some beliefs are more susceptible to change than others, indicating there may be variation in the changeability of different beliefs of pre-service teachers. For example, MacDonald, Badger, and White (2001) found that pre-service teachers in their study changed their beliefs about behaviourist theories on language learning and grammatical language input, but their belief about the relationship between intelligence and language learning was maintained. These different perceptions about stability and changeability in teacher beliefs (Buehl & Beck, 2015; Fives & Buehl, 2012), that have been identified recently, appear to create additional challenges for defining this construct, thus illustrating its complexity.

One possible reason for the wide variety of research findings regarding stability and changeability in teacher beliefs may be due to whether the beliefs being examined are *core* or *peripheral*. According to Pajares (1992), beliefs exist as a system, varying along "a central-peripheral dimension" (p. 318). In this system, *central* or *core beliefs* are stable, while *peripheral beliefs* are more vulnerable to change (Phipps & Borg, 2009). In other words, "the more central a belief, the more it will resist change" (Pajares, 1992, p. 318). *Core beliefs*, which are constructed under the primary influence of learning experiences (Lortie, 2002), are thought to be incorporated first into the belief system, before *peripheral beliefs* (Pajares, 1992; Rokeach, 1968). This means that the earlier a belief is formed, the more resistant it is to change and that *initial core beliefs* that pre-service teachers bring to a teacher education program tend to be stable.

In addition, changes in pre-service teachers' beliefs can occur due to new input from their teacher education programme. When entering the teacher education programme, pre-service teachers may hold some initial beliefs that are unclear and/or

inappropriate (Lortie, 2002; Richardson, 2003). These beliefs may be contradictory to the input that the teacher education programme provides (Tanase & Wang, 2010), thus changes in these beliefs are necessitated. However, as the processes of initial belief change and new belief formation are gradual, pre-service teachers' beliefs are not always well-established or fully formed during the teacher education programme (Tillema, 1998). These beliefs, therefore, may not be strong and thus may be susceptible to change again for a range of reasons. For example, teachers' beliefs may change because they confront new experiences (Murphy & Mason, 2006; Pajares, 1992; Richardson, 1996); they are dissatisfied with existing beliefs (Johnson, 1994; Murphy & Mason, 2006; Pajares, 1992); and/or they recognize better or more suitable alternatives (L. Li, 2012; Murphy & Mason, 2006).

Another possible reason for the varied results of research into stability and changeability of teacher beliefs is how changes in teacher beliefs are identified. For example, in a study conducted by Bramald, Hardman, and Leat (1995), while survey statistics showed that the majority of students did not significantly change their beliefs during their pre-service training, interviews gave the opposite result. In addition, three studies on pre-service teachers' belief change after their practicum (i.e., Mattheoudakis, 2007; Özmen, 2012; Yuan & Lee, 2014) produced different results. While Mattheoudakis (2007), who used quantitative data, found subtle changes in pre-service teachers' beliefs, Özmen (2012) and Yuan and Lee (2014), who used mixed methods and qualitative methods respectively, found significant changes. This variability suggests that the selection of research methods is critical to the research results, which requires researchers' careful consideration. Methods for studying teacher beliefs will be discussed in more detail in Chapter Three.

As changeability in teacher beliefs has become increasingly evident, questions arise about *how* and *why* teacher beliefs change. In the two following sections, the literature on these aspects will be explored further.

2.5. Pre-service teachers' belief change

Despite a plethora of studies in pre-service teachers' belief change, *how* pre-service teachers' beliefs change over time has not yet been adequately explored (Levin, 2015; Yuan & Lee, 2014). Among the few studies that have attempted to explore *how* pre-service teachers' beliefs change, one researcher identified the process of

how one belief changes into another belief (Tillema, 1998), while others focused on identifying discrete categories of belief change (e.g., Cabaroglu & Roberts, 2000; L. Li, 2012; Yuan & Lee, 2014). In this section, the belief change process and various belief change categories that have been identified will be examined.

Tillema (1998) proposed a theory of belief change process in which he suggested that a belief change process consists of four successive stages: *coherence check*, *discrepancy recognition*, *reconstruction need*, and *solution paths*. These stages represent how new information integrates or matches with pre-service teachers' existing beliefs. The model developed by Tillema (1998) indicates that belief change requires *deep processing*. However, the choices in each stage, which were said to determine how existing beliefs change, could be perceived to over-simplify the processes of interpreting new information and integrating new information into existing beliefs.

Changes in beliefs may occur in a different manner for each pre-service teacher, and each belief may change in a different manner as well (Tillema, 1998). In an effort to explore the nature of belief development, Cabaroglu and Roberts (2000) found that pre-service teachers' beliefs changed in a wide range of ways. As shown in Table 2.2, they have identified eleven categories of belief change, including *no change*. Some categories can cause confusion because they appear to be part of a longer change process rather than a simple change in themselves. For example, Cabaroglu and Roberts (2000) indicate that *disagreement* can lead to *reversal*, and *awareness*/*realization* can "precede other changes in pre-service teachers' beliefs" (p. 94). In a similar vein, *linking-up* can be a stage within the process of *elaboration*.

Table 2.2: Categories of belief change
(Adapted from Cabaroglu & Roberts, pp. 394 - 397)

Belief change	Description
Awareness/ realization	The pre-service teacher understands the construct of teaching better and recognizes that previously held beliefs are no longer appropriate in the new context, possibly leading to belief change.
Consolidation/ confirmation	The pre-service teacher's existing beliefs converge with newly presented information, fostering the previously held beliefs.
Re-labelling	The pre-service teacher perceives no change in the belief but adopts a new term for it.
Addition	The pre-service teacher recognizes new useful information or knowledge and adds it to his/ her existing beliefs.
Elaboration/ polishing	The pre-service teacher refines his/ her existing beliefs to elaborate knowledge and connect with new input.
Re-ordering	The pre-service teacher re-prioritizes his/ her existing beliefs.
Linking up	The pre-service teacher synthesizes constructs and makes new connections between his/her existing belief and new input.
Disagreement	The pre-service teacher rejects the existing belief and replaces it with an alternative that he/she perceives as more realistic.
Reversal	The pre-service teacher immediately rejects the previously held belief and adopts an opposite belief.
Pseudo change	The pre-service teacher continues to hold an unsuitable or irrelevant belief with a hope to use it when applicable.
No change	No change in the pre-service teacher's existing beliefs occurs, even to the smallest extent.

Drawing on the framework of Cabaroglu and Roberts (2000), L. Li (2012) identified *confirmation/consolidation*, *realization*, *expansion*, and *integration/addition* in her participating pre-service teachers' beliefs. She also added a new category, *localization/reconstruction,* referring to pre-service teachers' adjustment of their beliefs which stemmed from the cultural context of their origin, and were then later aligned with the new context. This sort of change may be both context- and participant-specific because participants in Li's (2012) study were Chinese pre-service teachers taking a one-year language teacher education programme in the UK. However, this category is similar to *elaboration* which was identified by Cabaroglu and Roberts (2000) as involving adjustment and refinement of the pre-existing beliefs.

Also based on the framework of Cabaroglu and Roberts (2000), a study by Yuan and Lee (2014) classified pre-service teachers' beliefs as *confirmation*, *realization*, *disagreement*, and *elaboration*. In addition, Yuan and Lee added *integration* and *modification* to their list. They stated that while *integration* refers to the "process of refining and reorganizing of prior and newly acquired beliefs into a comprehensive and integrated system" (p. 9), *modification* indicates that pre-service teachers' beliefs were "modified and refined through field learning activities" (p. 9). However, their descriptions show that these two categories are similar to *linking-up* and *elaboration* identified by Cabaroglu and Roberts (2000).

Furthermore, Yuan and Lee (2014) revealed two change processes that occurred within pre-service teachers' beliefs: from *confirmation* and *realization* to *integration*, and from *disagreement* to *modification*. The identification of these two processes extended the study of Cabaroglu and Roberts (2000). Given the combination of those categories forming these two belief change processes, questions about other combinations and thus other belief change processes arise. Over the time of a teacher education programme, a belief may undergo a change process which is comprised of discrete changes taking place at different times. For example, in Debreli's (2012) study on two pre-service teachers' belief changes over a methodology course and a practicum, a belief could have been *confirmed* after the course but *modified* after the practicum, forming a *confirmation – modification* change process. These studies suggest that it is quite possible to trace changes in pre-service teachers' beliefs to identify tendencies and causes of changes. However, the

pre-service teachers' belief change process is an area that previous researchers have not paid sufficient attention to. The current study thus focuses on this area within an ESP teacher education programme.

Overall, the examination of the literature on pre-service teachers' belief change indicates that little is currently known and understood about this field. As "teachers' beliefs change over time and in response to specific experiences" (Fives & Buehl, 2012, p. 490), there is a need for further research to have a better understanding of nature as well as sources of pre-service teachers' belief change. Pre-service teachers in different teacher education programmes generally hold different initial beliefs about knowledge, teachers, teaching, learners, and learning, depending on their prior learning experiences. These beliefs can then change differently as a result of the teacher education programme and other personal factors. The following section explores literature on the influences on changes in pre-service teachers' beliefs and their belief change.

2.6. Influences on pre-service teachers' belief changes

The literature indicates that changes in pre-service teachers' beliefs are influenced by many factors. Pre-service teachers usually enter teacher education programmes with initial beliefs (Pajares, 1992; Richardson, 2003) derived from their prior learning experiences (S. Borg, 2013; He, Levin, & Li, 2011; Johnson, 1994; Mak, 2011; Martínez Agudo, 2014). During the teacher education programme, prior learning experiences will continue to contribute to the process of their belief change (Chan & Elliott, 2002; L. Li, 2012; Richardson, 2003). New knowledge input and the experiences pre-service teachers gain from the teacher education programme, together with various personal factors, also facilitate the advancement of pre-service teachers' initial beliefs (Lahtinen & Pehkonen, 2013) and the formation or addition of new beliefs (S. Borg, 1999, 2011b, 2013). In this section, the range of influences on pre-service teachers' belief change is discussed in more depth.

2.6.1. Prior learning experiences

Prior learning experiences are considered to be an important factor in pre-service teachers' belief change during their teacher education programme. Having accumulated over 13,000 hours at school by the time they graduate high school (Lortie, 2002), these experiences make a significant contribution to their initial

beliefs about teaching, learning, and teachers. According to Lortie (2002), especially those students with the intention of becoming teachers will proactively have learned how to teach through observing and interacting with teachers. As a result, pre-service teachers' prior learning experiences are called their "apprenticeship of observation," which has been found to have a long-lasting effect on their beliefs, even after they enter teacher education where they are provided with new knowledge and experiences of teaching, learning, and teachers' roles (Lortie, 2002).

Pre-service teachers' prior learning experiences, as well as their initial beliefs, tend to function as a filter that influences their interpretation of the new information and experiences that occur during the teacher education programme (Fives & Buehl, 2012; Mansfield & Volet, 2010; Richardson, 2003). Changes in their beliefs have been found to differ depending on how strong their prior learning experiences are. Pre-service teachers' prior learning experiences have often been considered to hinder belief change (Pajares, 1992; Richardson, 2003). One reason put forward for this change inhibition is that the initial beliefs, which were informed by their prior experiences during schooling, may be "so powerful as to be impossible to change during the short teacher education programme" (Richardson, 2003, p. 12). Thus, deeply entrenched initial beliefs may inhibit pre-service teachers' acknowledgment and acceptance of new information and experiences, particularly if these are different from their prior learning experiences (Freeman & Johnson, 1998; Mansfield & Volet, 2010). Alternatively, pre-service teachers may be satisfied with their prior knowledge and experiences and thus reject new information and experiences (Pajares, 1992). They may also refuse to engage in further effort to achieve deeper understandings of the nature of teaching, learning, and teachers (Mansfield & Volet, 2010) as well as new concepts that they have not gained from their prior experiences as learners (Richardson, 2003).

However, pre-service teachers' prior learning experiences are not always the most influential factors and do not always hinder belief change during teacher education. Some prior experiences result in weak initial beliefs, as Mansfield and Volet (2010) noted. These experiences, therefore, might not be powerful enough to prevent changes in beliefs as a result of new input from the teacher education programme.

2.6.2. Teacher education

Teacher education is regarded as an intentional source of pre-service teachers' belief change because it aims to "encourage teachers to explore their own beliefs and thinking processes" (J. Richards & Farrell, 2005, p. 6). Therefore, belief change and development have become an increasingly important goal in pre-service teacher education (Tillema, 2000). In addition, it is important, especially for teacher educators, to understand the effectiveness of teacher education in terms of how it impacts beliefs of pre-service teachers and therefore in what ways it facilitates their belief changes.

As noted earlier with regard to teacher beliefs, changes in pre-service teachers' *core beliefs* are believed to "produce greater changes in the rest of the belief system than changes in less central beliefs" (Rokeach, 1968, p. 23), regardless of why these changes take place and what patterns they follow. Therefore, it is important that teacher educators identify initial *core beliefs* of pre-service teachers and exert sufficient influence on beliefs that may be "an unreliable guide to the nature of reality" (Pajares, 1992, p. 326). It is also important that they "examine pre-service teachers' beliefs and modifications of these beliefs during teacher preparation programmes" (Chai et al., 2009, p. 352). However, it is notable that changing strongly held initial or prior beliefs is difficult (Mansfield & Volet, 2010; Richardson, 2003), especially when prior beliefs conflict with new input from the teacher education programme (Gill, Ashton, & Algina, 2004).

Research indicates that practicum teaching experiences tend to be the most influential factor in changing pre-service teachers' beliefs. For example, Debreli (2012) found that the practicum promoted more changes in pre-service teachers' beliefs than the coursework in which theory input was provided. In addition, studies conducted in practicum-based contexts have revealed more belief changes than those conducted in coursework-based contexts (e.g., M. Borg, 2005; Tanase & Wang, 2010; Yuan & Lee, 2014). In other words, belief changes are more evident after pre-service teachers engage in actual classroom practices. According to Bråten and Ferguson (2015), pre-service teachers tend to "believe more in practically-derived than in theory-based sources of knowledge" (p. 13). Pre-service teachers, through engaging observation, practice teaching, and reflective practices, are likely to undergo significant belief change processes during this period, including accepting

and rejecting ideas, becoming more aware of their previously held beliefs, modifying existing beliefs, and adopting new beliefs (Debreli, 2012; Pajares, 1992; Richardson, 2003; Yuan & Lee, 2014). In addition, in a teacher education programme, coursework which provides conceptual tools (Grossman, Hammerness, & McDonald, 2009) "is considered as a basis of pre-service teachers' school-based professional learning" (M. M. H. Cheng, Tang, & Cheng, 2014, p. 154). Pre-service teachers' beliefs are thus more likely to change as a result of their later application and adaptation in practice teaching and during reflection in fieldwork.

As part of the practicum, mentoring teachers, peers, learners, school policies, and the syllabus can play critical roles in pre-service teachers' belief change (M. Borg, 2005; Farrell, 2008; Nettle, 1998; Yuan, 2016; Yuan & Lee, 2014). For example, Yuan's (2016) study revealed that mentorship created conflicts in pre-service teachers' beliefs about teacher identities. In addition, the study of Izadinia (2016) found that pre-service teachers' beliefs were influenced not only by mentoring teachers' academic support but also by their emotional support. Furthermore, theoretical and applied knowledge about subject matters, pedagogy, curriculum, teaching, and learning as well as opportunities for reflection, either individually or with peers, during the practicum can also bring about constructive belief change (S. Borg, Birello, Civera, & Zanatta, 2014; Özmen, 2012; Tatto & Coupland, 2003; Tillema, 2000). These studies suggest that researchers should take into account different components of the teacher education programme that facilitate critical changes in pre-service teachers' beliefs to have a deeper insight into how and why pre-service teachers' beliefs change.

As Torok and Aguilar (2000) and Tillema (1998) assert, knowledge change can lead to belief change. Input from different sources in the teacher education programme, both theoretically and practically, can bring about changes to pre-service teachers' initial beliefs about teaching, learning, and teachers, which were previously constructed from their experiences as learners. Therefore, it is likely that teacher education will have a critical impact on pre-service teachers' beliefs.

2.6.3. Other individual factors

Belief change is considered to result from the interplay between the individual pre-service teacher and the context (E. L.-Y. Tang, Lee, & Chun, 2012). Factors relating

to individual pre-service teachers play an important role in changes in their beliefs about teaching, learning, and teachers. In addition to the effect of prior learning experiences described previously, these factors may include reflection (Basturkmen, 2012; Farrell, 2008), emotions (Ashton & Gill, 2003; Gill & Hardin, 2015), learning approaches, and motivation (Rodriguez & Cano, 2007; Tanriverdi, 2012; Vermunt & Endedijk, 2011). Each of these factors is discussed below.

Reflection has been widely discussed as an important aspect of teacher education (Farrell, 1999; Griffiths, 2000; J. Richards & Farrell, 2005; Yayli, 2009). Reflection refers to pre-service teachers critically examining their learning experiences and gaining better understandings of teaching and learning (J. Richards & Farrell, 2005). These understandings, in turn, enable them to reflect on their prior beliefs about teaching and learning (Richardson, 2003). In this sense, reflection can lead to "changes in or additions to beliefs" (Basturkmen, 2012, p. 283) and facilitate pre-service teachers' professional development process (Richardson, 2003). In addition, Tillema's (2000) study revealed that, in a teacher education programme, reflection undertaken after practical teaching experiences might bring about positive belief change and more stable new beliefs. Due to its importance in changing pre-service teachers' beliefs, Richardson (2003) suggests that reflection should be considered, on its own or in combination with practice teaching, to be critical to belief change in teacher education. In addition, a teacher education programme which develops pre-service teachers' ability to "reflect and evaluate new concepts and practices helps pre-service teachers to learn how to teach" and thus should be promoted (E. L.-Y. Tang et al., 2012, p. 104).

The role of emotions on pre-service teachers' belief change is a further individual factor that has been increasingly acknowledged (Gill & Hardin, 2015). Research shows that emotions play a critical role in motivating changes in pre-service teachers' beliefs during their teacher education programme (Ashton & Gill, 2003; Gill & Hardin, 2015; Yuan & Lee, 2016). In the journey to gain knowledge and skills required of teachers, pre-service teachers experience both positive and negative emotions that influence "their interpretation of various learning experiences" and "the growth of teacher knowledge and reflective abilities" (Yuan & Lee, 2016, p. 819). For example, in defining their learning experiences with different teachers, as either positive or negative, pre-service teachers involve emotions in their evaluation

of teaching and teacher competencies (Yüksel & Kavanoz, 2015). In this way, individual emotions can contribute to changes in pre-service teachers' beliefs about teaching and learning.

The literature further indicates that there is a relationship between pre-service teachers' beliefs, motivations, and approaches to learning (e.g., Chan & Elliott, 2004; Rodriguez & Cano, 2007; Tanriverdi, 2012). Tanriverdi (2012) found that pre-service teachers who believed in innate ability were more likely to be surface-motivated and prefer a surface learning approach, while those who believed in learning effort were more likely to be deep-motivated and adopt a deep learning approach. If the pre-service teachers take a *deep* approach they will attempt to maximize their understanding, and use strategies focused on the meaning of what they are learning, while those taking a *surface* approach tend to use rote learning strategies and materials to meet the minimum course requirements (Rodriguez & Cano, 2007; Tanriverdi, 2012). Hence, it is understandable that pre-service teachers who adopt these different approaches in their journey to become teachers have different learning motivations and experiences. Their beliefs about knowledge, teaching, and learning thus differ. However, once pre-service teachers change their ways of learning and their learning motivations, their beliefs about knowledge, teaching and learning may also change.

2.7. Research questions

Despite the growing importance of ESP in education today (Anthony, 2017; Basturkmen, 2014), internationally there are not many pre-service ESP teacher education programmes (Basturkmen, 2014). In addition, despite the dramatic increase in the number of studies on pre-service teachers' beliefs and belief change over the past two decades (Ashton, 2015), little is known about the beliefs of pre-service ESP teachers. One might argue that pre-service ESP teachers' beliefs and belief change can be inferred from those of pre-service language teacher beliefs that have been explored extensively (e.g., Basturkmen, 2012; S. Borg, 2003, 2006; Zheng, 2009). However, as ESP and EGP differ in many aspects, including objectives, teaching methodology, and teacher competencies, as presented in the first two sections in this chapter, ESP teachers' beliefs and their belief changes are likely to be distinctive. Therefore, this study aims to trace changes in the beliefs of pre-service ESP teachers in an ESP teacher education programme as well as identifying

factors that influenced these changes. This study is guided by four research questions:

1. What were the pre-service ESP teachers' initial beliefs about ESP teaching?
2. How did the pre-service ESP teachers' initial beliefs about ESP teaching change after the ESP teaching methodology course?
3. How did the pre-service ESP teachers' beliefs about ESP teaching change after the practicum?
4. What influenced changes in the pre-service ESP teachers' beliefs about ESP teaching?

2.8. Chapter summary

This chapter has examined the literature around two constructs, ESP and teacher beliefs. In its over 50 years of development, ESP has been considered to differ from EGP in a number of aspects, including aims, specificity, learners' needs, and the relationship between teachers and learners. These differences lead to distinctive features in ESP teaching, regarding its objectives, methodology and teacher competencies. The primary objectives of ESP are related to subject-specific language, although ESP courses can be designed with a number of other objectives, including subject knowledge and critical awareness. ESP methodology is considered to be a combination of the teaching techniques, strategies, and activities used in the teaching of both English language and the specific discipline. Among the distinctive competencies of ESP teachers, their subject knowledge has attracted the most attention in the literature, particularly in relation to controversies over how much subject knowledge they need and who should teach ESP.

Overall, the review of previous research reveals that teacher beliefs are critically important to their approaches to learning to teach and their perceptions of teaching practices. Teacher beliefs have been characterized in relation to teacher knowledge and by their evaluative and affective nature, their implicit and explicit nature, their consistency, as well as their level of stability and changeability. However, although pre-service teachers' belief change is central to teacher education programmes, to date little has been understood about this process. Nevertheless, research into the stable and changeable nature of pre-service teachers' beliefs indicates a wide range

of factors may influence these changes, including their prior learning experiences, input from the teacher education programme, and other individual features.

The current study fills gaps in the existing literature on changes in pre-service ESP teachers' beliefs, as well as deepening understanding of the factors contributing to those belief changes. In the chapter that follows the decisions regarding the research methodology for the study will be presented and justified.

CHAPTER THREE
METHODOLOGY

3.1. Introduction

In this chapter, the research methodology and research design for the current study are described and justified. In the first section, the methodological theory underpinning this study which is oriented in the qualitative research paradigm will be explored. Next, an overview of the specific design of this research will be presented. As part of this, the case study method is described, and overviews of the research setting, participant selection process, the research procedure, and data collection tools are provided. In addition, the data analysis, the researcher's positioning, how quality was ensured throughout the research process as well as relevant ethical considerations will be outlined. A brief summary will be provided at the end of the chapter.

3.2. The qualitative research methodology

Qualitative research, which is relevant to a wide range of disciplines and professions (Denzin & Lincoln, 2018; Ormston, Spencer, Barnard, & Snape, 2014; Yin, 2016), is the approach of choice for this study on changes in pre-service ESP teachers' beliefs about ESP teaching. This decision was based on the research tradition in the field of teacher beliefs, and on the characteristics of qualitative research that were found relevant to the current study.

The literature shows that qualitative research has been widely employed in the field of teacher beliefs (Schraw & Olafson, 2015) to enrich and deepen their understandings of this construct (Olafson, Grandy, & Owens, 2015). In addition, as teachers' belief change is a complex and situated process (Cabaroglu & Roberts, 2000), its study requires "in-depth, holistic, contextually sensitive understandings" that qualitative research can bring about (Patton, 2015, p. 91). This is because qualitative research takes account of the context in which teacher beliefs emerge and change (Cabaroglu & Roberts, 2000; Olafson et al., 2015; Yuan & Lee, 2014). As a result, this approach is considered to be "ideally suited" for investigating the construct of teacher beliefs as well as teachers' belief change (Olafson et al., 2015, p. 128).

Qualitative research is generally described as "a naturalistic, interpretive approach, concerned with exploring phenomena 'from the interior' and taking the perspectives and accounts of research participants as a starting point" (Ormston et al., 2014, p. 3). This definition suggests that qualitative research attends to actual settings of the phenomenon under study, focuses on meaning and understanding, and analyzes data inductively. Qualitative research is also characterized by its concern with process and its descriptive data (Bogdan & Biklen, 2007; Denzin & Lincoln, 2018; Ormston et al., 2014). How each of these characteristics (i.e., focus on meaning and understanding, concern with process, attention to actual settings, collection of descriptive data, and use of inductive data analysis) underpins the current study will be explained below.

Focus on meaning and understanding

The current study aimed to explore how the research participants interpreted their learning experiences and the input from the ESP teacher education programme to formulate their beliefs about ESP teaching. Qualitative research is ideal for this study as it focuses on understanding how people make sense of their lives and life experiences (Bogdan & Biklen, 2007; Denzin & Lincoln, 2018; Merriam & Tisdell, 2016; O'Reilly & Kiyimba, 2015; Ormston et al., 2014; Patton, 2015; Yin, 2016). It aims to capture research participants' circumstances, experiences, histories, perspectives, and beliefs to be able to provide an in-depth understanding and interpretation of the research participants' social world (Ormston et al., 2014). In particular, qualitative research is primarily concerned with "understanding how people interpret their experiences, how they construct their world, and what meaning they attribute to their experiences" (Merriam & Tisdell, 2016, p. 6). This fits with the aim of the current study on understanding the pre-service ESP teachers' beliefs and belief change. The pre-service ESP teachers' beliefs that emerged as a result of the qualitative data collection method process reflected the insiders' views and perspectives. Consequently, this study supports the theory that qualitative research is interpretive (Denzin & Lincoln, 2011).

Concern with process

Qualitative research is also relevant to the current study in that it focuses on the process of meaning-making of research participants (Bogdan & Biklen, 2007; Merriam & Tisdell, 2016). In qualitative research, the phenomenon is examined to

perceive not only the outcomes or final products but also where, how and under what circumstances these outcomes or products come into being (Bogdan & Biklen, 2007; Patton, 2015). These features became visible, and were central to, the current study which aimed to trace how the pre-service ESP teachers' beliefs changed over the time of the research. The focus was not only on *what* the participants believed about ESP teaching, but also on the process of *how* and *why* they changed or maintained their beliefs. Thus, the "cumulative and evolutionary nature of student teachers' belief change" was able to be recorded by gathering qualitative data (Yuan & Lee, 2014, p. 3).

Attention to actual settings of the phenomenon under study

The ESP teacher education program is the central context for the present study. Data were gathered in such a way that no direct intervention was made in the context of the research participants' journey to become ESP teachers over the time of the study. In this way, as emphasized by Bogdan and Biklen (2007), Denzin and Lincoln (2011, 2018), Patton (2015), and Yin (2016), the nature of the phenomenon under study, pre-service ESP teachers' beliefs and belief change, can be explored. According to Bogdan and Biklen (2007), in qualitative research, the phenomenon is best understood when it is observed and discovered in the contexts in which it occurs. Yin (2016) also asserts that "the events and ideas emerging from qualitative research can represent the meanings given to real-world events by the people who live them" (p. 9).

Collection of descriptive data

Data used in this study took the form of words, rather than numbers, because they were collected through in-depth interviews, stimulated recall interviews, reflective journals, and observations. These data, hence, were descriptive, which was a significant feature of qualitative research (Bogdan & Biklen, 2007; Merriam & Tisdell, 2016; Ormston et al., 2014). As descriptive data are "detailed, rich and complex" (Ormston et al., 2014, p. 4), they enable researchers to "unlock a more comprehensive understanding of what is being studied" (Bogdan & Biklen, 2007, p. 5). Accordingly, in the current study, the researcher's understanding of the complex and under-researched area of pre-service teachers' beliefs and belief changes was facilitated.

Employment of the inductive data analysis strategy

The final characteristic of qualitative research that was found pertinent to the current study is that qualitative data are analyzed inductively (Bogdan & Biklen, 2007; Denzin & Lincoln, 2011, 2018). As a result, emergent categories and theories are expected (Ormston et al., 2014). The current research did not aim to prove any hypothesis. Rather, the beliefs of the participating pre-service teachers at different times over the research were captured, which fostered the identification of the belief change processes. Therefore, although a wide range of data analysis strategies were employed, a large amount of qualitative data were analysed inductively, which resulted in the uniqueness of the research findings, as noted also by Ormston et al. (2014). The process of inductive data analysis will be described in detail later (see Section 3.4).

3.3. Research design

Within the qualitative research paradigm, the case study method (Yin, 2014) or approach (Creswell, 2013) was chosen. In this section, the reasons for choosing this method/approach and the design of the current case study research, including the research setting, the selection of participants, the research procedure, and research tools, are presented. Table 3.1 provides an overview of the research design for the current study.

Table 3.1: Overview of the study

Research focus	• Identify initial beliefs of the pre-service teachers in an ESP teacher education programme; • Explore their belief change processes; and • Identify factors that influenced changes in their beliefs about ESP teaching.
Research methodology	Qualitative case study
Research participants	12 final-year pre-service ESP teachers
Data collection methods	• Semi-structured interviews • Simulated recall interviews • Reflective journals • Observations
Research procedure	• Phase 1 focus: The ESP teaching methodology course (November 2015 – December 2015) • Phase 2 focus: The practicum (February 2016 – April 2016)

3.3.1. The case study method

In the research methodology literature, case study is considered as a research approach (Creswell, 2013; Crowe et al., 2011; Gall, Gall, & Borg, 2007), a research method (Merriam & Tisdell, 2016; Yin, 2014), and a type of research design and analysis (Duff, 2008; Tight, 2017). In the current study, the view that case study is a research method that guides the research design, data collection, and data analysis (Yin, 2014) was adopted. The choice of case study as the research method was based on the suitability of this method for the nature of this study and on the teacher belief literature.

According to Yin (2014), the first and the most important condition for case study research is the kind of research questions. A case study approach is relevant in research that answers *how* and *why* questions about a contemporary set of events over which the researcher has little or no control (Yin, 2014). Similar questions have guided previous research into teacher beliefs. Researchers argue that case studies encourage exploration of *why* and *how* pre-service teachers' beliefs changed in their real-life contexts (L. Li, 2012; Tanase & Wang, 2010). The current study also aimed

to answer these two key *exploratory questions* (Yin, 2014) about pre-service teachers' beliefs change over the two key components in their ESP teacher education programme: the teaching methodology course and the practicum. This case study research thus provides insightful descriptions of, and explanations for, the process and dynamics of belief change of the ESP pre-service teachers through multiple sources of information. As Tanase and Wang (2010) note, it is the collection and analysis of data from multiple sources that enable researchers to "tell the story of the participants from different angles" (p. 1240).

The related literature indicates that case studies are popular in research into pre-service teachers' belief change. Previous research in this area has identified and traced changes in beliefs about different aspects of teaching and learning of an individual pre-service teacher (e.g., M. Borg, 2005) or more than one pre-service teacher (e.g., Mansfield & Volet, 2010; Tanase & Wang, 2010; Yuan & Lee, 2014) in real-life contexts. Case study research allows a teacher's belief system to be considered as "a real-life, contemporary bounded system" that can be explored over time (Creswell, 2013, p. 97). Thus, case study is relevant to the present study which explored the change in twelve pre-service teachers' belief system during an ESP teacher education programme in Vietnam.

Research design is driven by the "intended purpose" (Patton, 2002, p. 12) of the study. There are two main types of designs for case studies: the *single-case* design and the *multiple-case* design (Yin, 2014). The current study used a *multiple-case* study design in which the belief system of each of the twelve participating pre-service ESP teachers represented a case. Although teachers differ in their beliefs about knowledge, teaching, learning, teachers, and learners, they also share common beliefs (Bryan, 2003; Chai et al., 2006; Clark-Goff & Eslami, 2016). Similarly, although individual beliefs follow different change processes (Cabaroglu & Roberts, 2000; Yuan & Lee, 2014), there are likely to be similarities as well as differences in belief change processes among the pre-service teachers. The *multiple-case* study design facilitated the capture of the distinctive change process of each participant's beliefs as well as the identification of common features of their beliefs, belief change, and influencing factors. In this way, the evidence from twelve cases becomes compelling, as noted by Yin (2014).

In the current *multiple-case* study research, the replication procedure (Yin, 2014) was followed. All participants went through the same data collection procedure and the same process was used for the data analysis for each case. This procedure facilitates "systematic comparison and accumulation of the findings of the cases" (George & Bennett, 2005, p. 67). Studying multiple cases with regard to belief change processes, therefore, can provide better insights into the phenomenon under study, and also greater confidence and certainty in the study's findings, as noted by Ary, Jacobs, Sorensen, and Walker (2014) and Yin (2012).

3.3.2. The research setting and participant selection

The understanding of contexts is of paramount importance (Yin, 2014). A detailed description of the research setting and the selection process of research participants ensures the transferability of the findings of qualitative case study research (Shenton, 2004). Thus, the setting for the current study and the participant selection process is described below.

The research setting

The study was conducted at the Faculty of Foreign Languages of the University of Technology and Education where the only pre-service ESP teacher education programme in Vietnam is offered. Since its start in 2006, a cohort of 30 to 95 high school graduates has been admitted to the programme each year. Admission is based on the sum of their scores for university entrance examinations in mathematics, literature, and English. This process indicates that pre-service teachers have different levels of English language competence when they enter the programme. Therefore, the programme is designed in such a way that their English language knowledge and competence are developed together with the development of their professional knowledge and skills.

Aiming to provide ESP teachers for vocational schools, technical colleges, and universities, the four-year pre-service ESP teacher education programme with eight 15-week semesters consists of two main areas of focus: General Education and Professional Education. General Education courses, which are mostly about politics, philosophy, psychology, and physical education, are taught in Vietnamese. By contrast, English language is used as a means of instruction in most Professional Education courses which are specific to the goals of this programme. In particular, the Professional Education area includes courses on language skills, linguistics,

literature and culture, translation, teaching methodology, testing and assessment, ESP, subject knowledge, and Japanese (a second foreign language). Courses of the two areas (General Education and Professional Education) are evenly distributed throughout seven semesters of the programme. The last semester in the final year is saved for the practicum and a graduation thesis or graduation courses (see Appendix A for more detail).

The pre-service ESP teacher programme focuses on three key knowledge areas that ESP teachers are expected to possess: "language knowledge", "subject content knowledge", and "pedagogical knowledge" (Górska-Poręcka, 2013, p. 31). This programme thus contains four key components that distinguish it from general English language teacher education programmes in other universities in Vietnam. As detailed in Appendix A, these were five ESP courses, four courses on ESP-related subjects, an ESP teaching methodology course, and an ESP lesson to teach during the practicum. The five ESP courses were offered from semester three to semester seven. These courses were intended to provide pre-service teachers with an overview of ESP teaching and learning and general input in relevant fields, in terms of language, communication contexts, and subject matters. Subject knowledge for these ESP courses was concurrently provided in four subject-related courses (i.e., Basic Information Technology, Basic Business, Environment Technology, and Basic Mechanical Engineering). These courses were taught in the Vietnamese language.

The ESP teaching methodology course and the practicum that formed the focus for this study were offered in semesters seven and eight of the final year. The ESP teaching methodology course was five weeks long. The aim of this course was to provide pre-service teachers with an overview of ESP teaching and learning and to familiarize them with ESP teaching. This course comprised one theory lesson and a four-week micro-teaching session. The theory lesson provided pre-service teachers with basic knowledge of ESP teaching, including the difference between ESP and EGP, roles of ESP teachers, course and syllabus design, and materials evaluation. In the micro-teaching session, they worked in groups to choose and teach a simulated ESP lesson to their classmates.

The practicum was eight weeks long. During the practicum, pre-service teachers were exposed to ESP teaching in a tertiary context through observing ESP lessons

taught by experienced teachers and by other final-year pre-service teachers in the ESP teacher education programme. They also learned about how to teach ESP through teaching a single ESP lesson to either ESP students or ESP student teachers, in addition to three EGP lessons. ESP students were those who majored in subject fields other than English and are thus referred to as *real ESP learners* in this thesis, while ESP student teachers majored in English and are thus referred to as *unreal ESP learners*.

These two components of the ESP teacher education programme, which are summarized in Table 3.2, were critical in the programme because they aimed to equip pre-service teachers with theory and practice about ESP teaching. The intention of the programme is that, following the ESP teaching methodology course and the practicum, pre-service teachers should have sufficient knowledge and experience to teach ESP courses.

Table 3.2: Participants' teaching and learning experiences

	ESP teaching methodology course	**Practicum**
Length	5 weeks	8 weeks
Components	+ Attending one theory lesson + Teaching one ESP lesson to classmates	+ Observing ESP teachers + Observing peers + Teaching one ESP lessons to ESP students or ESP student teachers
Aims	Providing theoretical input about ESP teaching	Providing practical input about ESP teaching

The participant selection

There were 87 final year pre-service teachers in the 2015 – 2016 academic year. The number of cases chosen for the current study was based on Yin's (2014) suggestion that a group of six to ten cases can provide compelling insights which may involve both similar and contrasting results. As the literature shows that belief change involves complicated processes, ultimately twelve pre-service ESP teachers were chosen to participate in the study, to allow for data to include a range of individual responses. It was also considered that, in the event that some participants left the research, the remaining number would still be within the range suggested (i.e. six to ten cases), thus ensuring the trustworthiness of the findings. However, none of the

twelve participants left during the study, so data from all twelve participants were included in the analysis.

Purposeful sampling was employed in this study, in order to select "information-rich cases for in-depth study" (Patton, 2015, p. 264). To enable this, a criterion-based case selection strategy (Patton, 2015) was adopted. Three criteria were used in the participant selection process to ensure the relevance between the cases and the research purposes. The first criterion was that, at the time of the study, the participants were final-year students who had finished at least three out of five ESP courses in the ESP teacher education programme, so that they had similar ESP learning experiences. An additional criterion was that they had also completed two English language teaching methodology courses, which provided them with knowledge of general principles of English language teaching and the techniques for teaching English for General Purposes (EGP). These courses provided prerequisite knowledge and skills that the pre-service ESP teachers needed to have, before learning about the distinctive features of ESP teaching. The final criterion was that the participants should be intending to work as ESP teachers after graduation. These criteria ensured that they had not only been provided with comprehensive information, but that their engagement in critical reflection during interviews and in their reflective journals was beneficial to their future career.

In order to have twelve participants who met the three criteria mentioned above, the selection process involved the following steps. As the pre-service ESP teachers were organized into three *ESP teaching methodology* classes, which were taught by three different teachers, invitations to participate in the research were distributed through these teachers. When pre-service teachers responded to the invitation via email, two academic advisors at the Faculty of Foreign Languages were consulted to ensure that the respondents were those who were intending to become ESP teachers. The first twelve pre-service teachers who met the criteria were confirmed as participants in the study. These final twelve participants were also in the same *ESP teaching methodology* class, in order to minimize the influences from different lecturers' teaching styles and requirements. For those who wanted to participate in the study but were not eligible, an email stating the specific reasons together with a thank-you note was sent to each of them.

The twelve participating pre-service teachers, all of whom are female, had similar ESP teaching and learning experiences. As high school graduates, they had no experience teaching in either EGP or ESP before entering the ESP teacher education programme. During their time as students in this programme, eight of the participants gained some experience in teaching EGP as private tutors, and four participants were working as English teachers at English language centres. None of them had experiences in teaching ESP but all had gained some ESP learning experience from the five ESP courses in the ESP teacher education programme. Among the five ESP courses offered, three were compulsory and two were elective. As shown in Table 3.2 below, the twelve participants had all taken part in the three compulsory ESP courses, including English for Information Technology (IT), English for Electrical and Electronic Engineering (EE) and English for Mechanical Engineering (ME), and a common elective course, which was English for Environment Technology (ET). The other elective course was English for Nutrition and Food Industry (NF), which was taken by two participants, and English for Business (BU), which was taken by the other ten participants. The participants' teaching and learning experiences prior to the study are summarized in Table 3.2. All participant names have been changed to maintain anonymity.

Table 3.3: Participants' teaching and learning experiences

Participants	**Teaching experiences**	**ESP learning experiences**	
		Compulsory courses	**Elective courses**
Châu	Teaching assistant at an English language centre	ME, EE, IT	ET, BU
Giang	Teaching children/ young learners at an English language centre	ME, EE, IT	ET, BU
Hoa	Private tutor of EGP	ME, EE, IT	ET, BU
Huệ	Private tutor of EGP	ME, EE, IT	ET, BU
My	Private tutor of EGP	ME, EE, IT	ET, NF
Nga	Private tutor of EGP	ME, EE, IT	ET, BU
Ngọc	Teaching children/ young learners at an English language centre	ME, EE, IT	ET, BU
Nhi	Teaching children/ young learners at an English language centre	ME, EE, IT	ET, BU
Thiên	Private tutor of EGP	ME, EE, IT	ET, BU
Thu	Private tutor of EGP	ME, EE, IT	ET, BU
Thùy	Private tutor of EGP	ME, EE, IT	ET, BU
Trà	Private tutor of EGP	ME, EE, IT	ET, NF

3.3.3. Research procedure

As already noted, this study traced the belief changes of twelve pre-service ESP teachers through two critical periods in their teacher education programme: the ESP teaching methodology course, when they learned how to teach ESP theoretically; and the practicum, when they learned about becoming ESP teachers through practical experiences. Accordingly, the study was conducted over two phases, each of which focused on one of the two components of the teacher education programme: the *ESP teaching methodology course* and the *Practicum*.

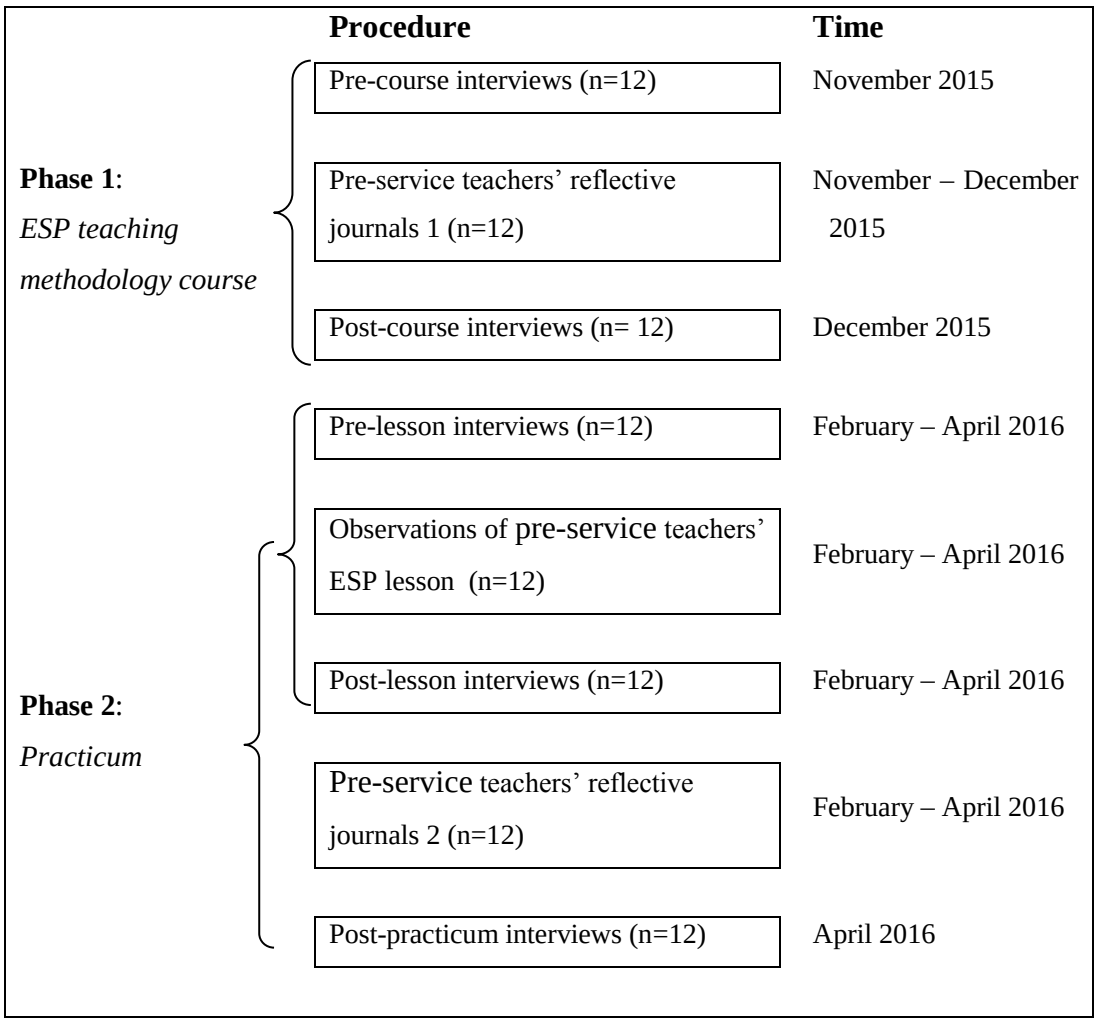

Figure 3.1: The research procedure

Figure 3.1 outlines the time frame and the procedure for the collection of qualitative data in the two phases of the study. Each of the research phases will then be described in more detail.

Phase 1: ESP teaching methodology course

In Phase 1, the twelve participating pre-service ESP teachers' initial beliefs about ESP teaching were identified and changes in these beliefs were traced through interviews and reflective journals. The first interviews were conducted before the ESP teaching methodology course started, during the week from 9th to 13th November. Data gathered from this research tool were used to answer the first research question on initial beliefs about ESP teaching.

In order to answer the second research question concerning changes in the participants' beliefs about ESP teaching after the input from the methodology course,

data from reflective journals and post-course interviews were collected. During the five-week methodology course, each of the twelve pre-service teachers wrote three reflective journal entries at three critical points in time when input about ESP teaching was provided in different ways (see Section 3.3.4 for more details). The post-course interviews took place after the methodology course finished, in the week from 21st to 26th December. Data from different sources were compared to explore the consistency of information as well as to identify critical points during this period that brought about participants' belief changes which helped to answer the final research question.

Phase 2: Practicum

In Phase 2, data were gathered not only from the semi-structured interviews and reflective journals but also from stimulated recall interviews and the researcher's observations of participants' teaching of an ESP lesson as part of the ESP teacher education programme. Data from these sources were used to answer research questions 3 and 4, which are about changes in the participants' beliefs about ESP teaching after the practicum experience and factors influencing these changes.

During the eight-week practicum, each of the twelve pre-service teachers also wrote four reflective journal entries (see Section 3.3.4 for more details). In addition, as each of the participants taught one ESP lesson, they were asked to send the final draft of their ESP lesson plan to the researcher before they delivered this ESP lesson in class. The lesson plan of individual participants informed the researcher of the lesson objectives, lesson content, and teaching activities, on which interview questions were based. The researcher then interviewed each pre-service teacher individually. Following the pre-lesson interview, the participants' ESP teaching was observed and video-taped, which informed the researcher in planning topics to be discussed in the stimulated recall interview that followed the observation. The stimulated recall interviews were conducted after the participants' ESP lessons to deepen the researcher's insight into changes, if any, in their beliefs as well as the role of the practicum teaching experience in these changes.

The final interviews took place from 19th to 26th April, after the practicum ended. The aim of these interviews was to explore the participating pre-service teachers' beliefs about ESP teaching after the practicum as well as to identify key factors that

most influenced their beliefs throughout the ESP teaching methodology course and the practicum of the ESP teacher education programme (see Section 3.3.4 for more details).

3.3.4. The data collection tools

The qualitative case study method employed in this study enabled the researcher to gain an in-depth understanding of change processes of the twelve pre-service ESP teachers' beliefs about ESP teaching over the time of an ESP teaching methodology course and the teaching practicum. Pajares (1992) suggests that pre-service teachers' beliefs can be inferred from the combination of their statements, intention, behaviour, thoughts, and practices. Therefore, data on the participants' beliefs about ESP teaching were collected from four sources, including semi-structured interviews, class observations, stimulated recalls, and reflective journals, over the six months of the study. These different data sources when triangulated enabled the researcher to gain a deeper insight into the participants' belief change through exploring divergence and convergence in the information obtained by different data collection methods.

Table 3.3 shows how the research questions were linked to the selected data collection methods. In responding to the first question about the pre-service teachers' initial beliefs, data was from the first interviews. The data to respond to the remaining three questions, which constituted the core of this study, came from more than one source, including the semi-structured interviews, class observations, stimulated recalls, and the participants' reflective journals. These tools are described in detail below.

Table 3.4: Research questions and data collection tools

	Research questions	Data collection tools
Phase 1	1. What were the pre-service ESP teachers' initial beliefs about ESP teaching?	• Semi-structured interviews
	2. How did the pre-service ESP teachers' initial beliefs about ESP teaching change after the ESP teaching methodology course?	• Reflective journals • Semi-structured interviews
Phase 2	3. How did the pre-service ESP teachers' beliefs about ESP teaching change after the practicum?	• Reflective journals • Observations • Stimulated recalls • Semi-structured interviews
Phase 1 & 2	4. What were the critical factors that influenced changes in the pre-service ESP teachers' beliefs about ESP teaching?	• Semi-structured interviews • Reflective journals

The semi-structured interviews

In-depth semi-structured interviews were employed in this study. This tool allowed the researcher to be guided by prepared questions, but also to remain open to flexibly adapt to particular participants and situations as they arose within the interviews (Hatch, 2002; Punch & Oancea, 2014). The choice to use semi-structured interviews was based on the researcher's understanding of the relationship between interpretivist perspectives of qualitative research, the purpose of interviewing and the nature of the phenomenon under study. The decision to use in-depth interviews provided an opportunity to understand the participants' experiences, the meanings they connected to those experiences, and how they constructed a view of the reality of their context (Marshall & Rossman, 2016; Seidman, 2006; Yin, 2012). This ongoing meaning-making, together with the interactive nature (Legard, Keegan, & Ward, 2003), of interviews was intended to *unearth* the pre-service teachers' beliefs, which are their implicit and unconsciously held assumptions about teaching, learners and other professional matters (Kagan, 1992; Nespor, 1987). For this reason,

according to Schraw and Olafson (2015), interviews are the most common method for collecting data on teacher beliefs.

In order to trace the belief change of the pre-service ESP teachers, four audio-recorded semi-structured interviews were conducted: pre- and post-course, pre-lesson, and post-practicum (see Figure 3.1). As Brinkmann and Kvale (2015) emphasize, qualitative research interviews should be considered as "a specific form of conversation" (p. 25). In the current study, the interviews were intended to be *conversations* about the pre-service teachers' beliefs about ESP teaching, and aimed to explore how these beliefs reflected their learning experiences over the time of the ESP teacher education programme. In addition, as understanding how interviewees think is central to interviews (Bogdan & Biklen, 2007), the Vietnamese language was used to allow participants to express their beliefs in the most comfortable manner. The use of the participants' first language (Brinkmann & Kvale, 2015) alleviated any stress related to the interviews by ensuring the participants, who were English major students training to become ESP teachers, did not feel that their knowledge of ESP teaching or English language competence was being judged. Therefore, they felt comfortable to communicate their beliefs about ESP teaching.

The length of each interview varied from half an hour to about one hour and a half. This duration was dependent on how much knowledge and experience in teaching and learning ESP the participants were able to draw on to inform their beliefs about ESP teaching at the time of the interviews. As time went on, they gradually had more to share. By the end of the study, they had gained more knowledge and experiences to support their beliefs than they had at the start of the study, when they had only experienced taking ESP courses in the role of ESP learners. Therefore, while most of the first pre-course interviews were about thirty minutes long, most of the post-practicum interviews lasted over an hour.

Pre-course, post-course, and post-practicum interviews covered the same key themes so that comparisons could be made to ascertain changes in the participating pre-service teachers' beliefs about ESP teaching over the time of the study. These themes were initially drawn from the literature on ESP teaching and ESP teacher education. Interviews, therefore, largely focused on the pre-service teachers' beliefs about ESP objectives, methodology, ESP teachers' competencies, and who should

teach ESP. In addition, the participants were asked to identify important factors, events or incidents during the course or the practicum that significantly influenced their beliefs about ESP teaching. This reflection encouraged participants to comment on any particular effects that the teacher education course had on their belief changes, providing answers to the final research question. For example, the participants were asked to distinguish ESP and EGP; identify teaching approaches and teachers suitable for teaching ESP; comment on opinions about ESP teaching; prioritize ESP teachers' roles and competencies, and influencing factors; and give their own opinions about ESP objectives, methodology, and teachers. Each aspect was asked about in more than one way to check the consistency of the participants' answers, which would indicate that they stated what they genuinely believed, as suggested by Shenton (2004) (see Appendix B for interview questions).

Pre-ESP-lesson interviews during the practicum were personalized because they were largely based on the individual participants' ESP lesson plans. Questions for these interviews, as a result, were finalised after the pre-service teachers sent their lesson plans to the researcher. In general, each participant was asked to discuss their plan in terms of lesson objectives and teaching activities (see Appendix C for general questions). The resulting data, together with the participants' lesson plans, were referred to when reporting on the subsequent lesson observations and in the post-lesson interviews which are described below in detail in the section on stimulated recalls.

According to S. Borg et al. (2014), pre-service teachers' beliefs can be better understood through their explanations for their stated beliefs or belief statements. The participants in the current study, through sharing reflections and in collaboration with the researcher, were encouraged to articulate their beliefs about ESP teaching. These interviews, therefore, became a *platform* for the participants not only to share their knowledge and experiences concerning ESP teaching and learning but also to express their concerns, expectations, disappointment, and even frustration regarding their process of learning to become ESP teachers. As the in-depth interviews (i.e., pre- and post-course interviews, pre-lesson interviews, and post-practicum interviews) provided such comprehensive data about the pre-service teachers' beliefs about ESP teaching, they became the main source of data in this study.

The stimulated recall interviews

Stimulated recall interviews were used to help the participating pre-service teachers to recall their thoughts and decision-making processes (Calderhead, 1981; Gass & Mackey, 2017) which took place while they were teaching their single ESP lesson during the practicum. This introspective data collection method (Gass & Mackey, 2017) encouraged the participants to reflect on how their beliefs informed their teaching practices. The stimulated recall interviews using video recordings were important in assisting to elicit explanations or elaborations from the pre-service teachers on their teaching practices, thus further illuminating their beliefs about ESP teaching.

A stimulated recall interview with each participant was held within 48 hours of them teaching their lesson, as recommended by Gass and Mackey (2000). This procedure assisted the participants in more accurately recalling the rationale for their actions within the lesson they had just taught. Stimulated recalls were conducted with the support of video recordings of the pre-service teachers' lesson and the researcher's observation notes. Each participant was asked to watch the video recording of their own teaching. They could stop at points that they considered were critical in their lesson to discuss their actions and intentions, and to add any further reflections. In addition, critical points that needed further confirmation or clarification were sometimes prompted by the researcher's questions, based on her observation field notes. Although drawing on common themes, specific questions for each simulated recall interview were personalized because they were prepared by the researcher after each participant had taught their ESP lesson. Questions focused mainly on the rationale for the pre-service teachers' on-the-spot decision-making, their judgements on their plans, and their evaluations of their first ESP teaching (see Appendix D for an example of general questions). This process helped the researcher to better understand the participants' beliefs about ESP teaching during the practicum.

The reflective journals

Participants' reflective journals were used as an introspective tool in this study. The purpose of this data collection tool was to complement other qualitative methods (Marshall & Rossman, 2016; Schraw & Olafson, 2015) to understand the pre-service teachers' belief change, and to help to reveal unobservable influential factors. As Phelps (2005) suggests, pre-service teachers' journals help to actively explore

aspects of their belief changes that may not be identified in interviews due to the interviewees' ability and/or willingness to articulate their beliefs. In addition, Schraw and Olafson (2015) support the use of reflective journals in research on teacher beliefs as these can "capture evolving beliefs and reactions to instructional activities" (p. 93).

At the start of each of the two research phases, participants were provided with an individual booklet which contained instructions, guiding questions, and spaces for reflective journal entries (see Appendix E). These booklets were intended to help them to focus their critical reflections. In Phase 1 of the study, the participants were asked to reflect on their knowledge and beliefs about ESP teaching at three points in the course: after the theory lesson about ESP teaching, after observing their classmates' micro-teaching lessons, and after teaching their own micro-teaching lesson. At Phase 2, the participants were also asked to write about their knowledge, experiences, and beliefs at four points in time: after observing experienced teachers' ESP lessons, after observing peers' ESP lessons, after planning their own ESP lesson, and after teaching their own ESP lesson. The final pages of both booklets were blank for participants to write, whatever and whenever they liked, about their emerging beliefs, new knowledge or even to note their concerns. Their free writing in this part of the journals was important because it provided the researcher with more information about the participants' feelings, thoughts and concerns, which in turn reflected changes in their knowledge and beliefs expressed in their own words.

The participating pre-service teachers were free to write their reflections in whichever language they preferred, namely Vietnamese or English. They were later invited to share their reflective journal booklets with the researcher when the methodology course and the practicum had each finished. Information from participants' journals was used as additional input for subsequent interviews, and supplemented data from other interviews to identify belief changes and influencing factors. Data from these journals also helped to identify critical times or important incidents during this period that might bring about belief changes.

The teaching observations

Unstructured observations were conducted during Phase 2 of the study, *Practicum*, when the participating pre-service teachers were teaching their single ESP lesson. As

Simons (2009) notes, observations provide "rich description and a basis for further analysis and interpretation" (p. 55). Observations also provided knowledge of the contexts, and information on specific decisions, incidents or behaviours that can be used as "reference points for subsequent interviews" (Merriam, 2009, p. 119). Therefore, observation data supplemented other data sources to enable the researcher to gain a deeper understanding of the implicit beliefs that guided the participants' teaching decisions and behaviours, which could not be obtained solely by interviews.

In observing each participant's teaching of an ESP lesson, the focus was on their decision-making and reactions to unexpected situations. No predetermined categories and classifications were used, and unstructured narrative records were kept to facilitate the post-lesson stimulated recall interviews. The video recordings of the participants' teaching supported these interviews and, together with field notes, informed comparisons between pre-service teachers' stated beliefs and their practices. These comparisons assisted in identifying their core, unconscious beliefs about teaching, and also helped to confirm, negate, explain and/or elaborate the change process of their beliefs during this important period of the teacher education programme. This is because teachers' beliefs have profound impacts on their instructional decisions, as noted by S. Borg (2003) and Farrell and Lim (2005).

3.4. The data analysis

In qualitative research, data analysis "transforms data into findings" (Patton, 2015, p. 521). The analysis process in this study followed a complex and interwoven process that involved moving back and forth to make sense out of qualitative data collected by different tools and from multiple sources, as recommended by Merriam (2009).

As interviews provided a primary source of data for the current research, transcribing these data was a preliminary part of the data analysis. Data of the pre-course, post-course, pre-lesson, and post-lesson interviews were transcribed during the data collection process, while the final interviews were transcribed after the data collection process. During the transcription process, apart from verbal data which informed key findings, close attention was also paid to paralinguistic features of the interviews, such as hesitation and tone of voice. These features, which were noted while interviews were transcribed, signalled participants' level of confidence, or tentativeness, when stating about their beliefs. According to Brinkmann and Kvale

(2015), linguistic and paralinguistic features are important for interpreting the meaning of statements. Therefore, the information about the paralinguistic features of the interviewees was helpful in enabling the researcher to define whether the participants were stating their beliefs or just restating what they had recently learned, and whether they really held the beliefs they stated or not.

In addition, as suggested by Marshall and Rossman (2016) and Shenton (2004), and also required by the Massey University Code of Research Ethics (Massey, 2015), prior to analysis, the interview transcripts were shared with the research participants. The participants were provided with an opportunity to edit and confirm whether their meaning and intent were correctly understood. They were also asked to sign the Transcript Release Authority Form to confirm their agreement to the use of these interview transcripts (see Appendix F).

As Vietnamese language was used in the interviews and in most entries of the reflective journals, translation to English was necessary at some points in writing the thesis and reporting on this study. In order to reduce the influence of an interpreter on data, the researcher, who was also the interviewer and shares the first language of the participants, translated the data. Marshall and Rossman (2016) affirm that because absolutely accurate translation is impossible, the focus should be on "generating insightful, credible, and meaningful data through translation process" (p. 210). Thus, only coded pieces of data were translated during the data analysis process. This encouraged the researcher to be more conscious of connotation and meaning of the data that supported the emerging themes.

Data analysis was undertaken simultaneously with data collection, as suggested by Creswell (2014), Merriam (2009), and Yin (2014). This means that the subsequent data collection, which was based on the findings of previous data, became more focused and, as a result, more efficient. For example, as soon as the first data collection (the pre-course interview) had been completed, transcription and categorization were commenced in preparation for later cross-case comparison and interpretation. Once initial beliefs of all participating pre-service ESP teachers were identified, this guided further investigation to find out more about any change patterns that were emerging, as well as to explore the underlying rationale for these. Subsequent data gathered were also compared with the previous data, in order to

identify belief changes of individual participants. This procedure continued until all data had been collected.

Once the data collection had been completed, more comprehensive data analysis was conducted. At this stage, the qualitative analysis software package, *NVivo (11)*, was used to facilitate the process of analysing a large amount of qualitative data. After the *NVivo* project for this study was set up, the transcripts of the 48 semi-structured interviews and 12 stimulated recall interviews, 102 reflective journal entries, and the researcher's observation field notes were imported into in twelve case folders, one for each participant (see Appendix G).

The data analysis process started with analysing individual cases, one by one, in order to identify individual participants' initial beliefs about ESP teaching, the distinctive processes of their belief changes over time, and the specific factors influencing these beliefs. Cross-case analyses, to analyse differences and similarities among cases, was subsequently conducted, to identify the general trend of these aspects. The two data analysis processes (within-case analysis and cross-case analysis) are described in detail below.

3.4.1. The within-case analysis process

The qualitative data analysis process required the researcher not only to read and re-read the interview transcripts and reflective journals, as Bogdan and Biklen (2007) suggest, but also to reiteratively code and recode the data. In analysing a single participant, each piece of data was carefully read and then coded. The coded piece of data was allocated to a node, which was named to represent the descriptive or inferential information identified. In this way, texts with similar messages or ideas were placed under an individual node.

During the multiple-case study analysis, differences in the participants' ability to articulate their beliefs at times challenged the researcher. For example, it was found that many pieces of data contained more than one idea, and these data thus needed to be coded under more than one node. In addition, similar messages from one participant, or different participants, could be coded differently at first. These situations required the researcher to revisit previous nodes and coding processes, and thus recoding and regrouping was an important part of the data analysis process. The iterative process of data analysis provided deep insights into themes and sub-themes

of data, as also noted by Patton (2015). The increased understanding of the qualitative data throughout the analysis process facilitated the researcher's ongoing interpretation of the data.

In the within-case analysis process, "method triangulation" (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014, p. 545) was used. As described in Section 3.3.4, the in-depth semi-structured interviews provided primary data for the current study. These data were compared and contrasted with data from reflective journals to deepen the researcher's understanding of the participants' beliefs. As the nature of data produced by these two tools differed (i.e., one is spoken while the other is written and continually reflective), both congruence and contradiction were found. Where contradiction was found, contexts were taken into account and other sources (i.e., observations and stimulated recalls) were referred to ensure that this contradiction was part of their belief change process. Data from observation and stimulated recalls added strong evidence of the participants' beliefs and belief changes during the practicum. Data collected across all research tools also provided the researcher with a holistic picture of the participants' beliefs about ESP teaching, how these beliefs changed over time, and factors influencing these changes.

The research questions were used as a guiding framework for analysing and interpreting the data of individual participants. Within each case, three main nodes were created relating to the four research questions: *Beliefs*, *Belief changes*, and *Influencing factors*. Under each of these nodes were multi-level sub-nodes that represented each participant's beliefs at various times, belief changes after the ESP teaching methodology course and after the practicum, as well as factors that contributed to these changes (see Appendix H for an example).

Data about *beliefs* of each participant at times were analysed chronologically, deductively, and inductively. As Yin (2014) notes, chronological analysis is particularly suitable for case studies that focus on answering questions of *why* and *how* as well as tracing events over time. In the current study, changes in beliefs about ESP teaching of each participant were traced and specific influencing factors were identified over the time of the ESP teaching methodology course and the practicum. Therefore, data sources were arranged in chronological order and analysed accordingly. That is, the within-case analysis started with the first interview to

answer the first research question about the initial beliefs about ESP teaching of a participant. This was followed by the analysis of the first reflective journal and the second interview to identify the participant's beliefs after the methodology course and factors bringing about these changes. This analysis process continued with subsequent data, ending with the data of the final interview taking place after the practicum. In addition, a participant's beliefs at different times were categorized into *Objectives, Methodology*, and *Teacher competencies*, key aspects widely discussed in ESP literature. Under these three categories were sub-nodes that emerged from the inductive analysis of each participant's data (see Appendix H for an example).

Data about *belief changes* were analysed comparatively and inductively, as recommended by Bogdan and Biklen (2007) and Merriam (2009). Each participant's beliefs about four aspects of ESP teaching (i.e., *Objectives, Methodology*, *Teacher competencies*, and *Who should teach ESP*) at the start of the study, after the methodology course and after the practicum, were compared. This comparison resulted in findings about different changes in their beliefs over time. Thus, the sub-nodes of belief changes emerged as a result of both comparative and inductive analysis of each participant's data. Under the two broader nodes of *Changes after methodology course* and *Changes after practicum* were sub-nodes indicating specific belief changes, including *Confirmation*, *Modification*, *Fluctuation*, *Elaboration*, *Reprioritization*, and *Reversal* (See Appendix I for an example).

The sub-nodes under *Influencing factors* were identified both deductively and inductively. Deductive analysis was used to identify contextual factors relating to the ESP teaching methodology course and the practicum that were already mentioned in the related literature and included in the context. In particular, the sub-nodes related to the methodology course included *Theory lesson*, *Observing classmates*, *Practice teaching*, and/ or *Course teacher*; and those related to the practicum were *Observing teachers*, *Observing peers*, *Teaching ESP lesson*, and/ or *Mentoring teachers*. Unexpected contextual factors, such as *ESP learners* or *Subject content (knowledge)*, and internal factors emerged as a result of the inductive analysis (See Appendix J for an example). Consistent with the findings of Miles, Huberman, and Saldaña (2014), this inductive data analysis process led the researcher to uncover factors that were not predetermined and were specific to individual participants.

3.4.2. The cross-case analysis process

The cross-case analysis process was conducted after the within-case analysis was completed. The primary purpose of this comparative analysis process was to answer the first and the last research questions which were about the pre-service teachers' initial beliefs and critical factors that influenced their belief changes. Therefore, "data source triangulation" (Carter et al., 2014, p. 545) was used. Data from the twelve participants were analysed together, compared, and contrasted to identify the trends in their initial beliefs and influencing factors.

In the cross-case analysis process, data from the twelve participants were also analysed both deductively and inductively. In particular, the two main nodes, *Initial beliefs* and *Influencing factors*, were based on the two research questions. Also drawing on the relevant literature, the sub-nodes under these nodes were similar with those in the within-case analysis, such as (*initial beliefs* about) *Objectives*, *Methodology*, *Teacher competencies*, and *Who should teach ESP*. Similarly, deductive analysis was also used to identify sub-nodes under *Influential factors*, which was mainly based on findings from within-case analysis.

However, *Consistency*, which was found to be important within a participant's belief system, emerged as a result of inductive cross-case analysis. Inductive analysis also enabled the researcher to identify the specific trends in the participants' initial beliefs (see Appendix K for an example). Consequently, the cross-case analysis process provided a holistic view of the pre-service teachers' initial beliefs.

3.5. The researcher's positioning

In qualitative research, the positioning of the researcher is critical in three main ways: the access to research contexts, the nature of researcher-researched relationships, and the research processes (Berger, 2013). All these aspects are central to the quality of qualitative research. Therefore, it is important to identify and be aware of the researcher's positioning and to mitigate as far as possible any potential issues to the research process.

The researcher's positioning is considered to include a wide range of personal characteristics, such as age, gender, race, personal experiences, preferences, biases, theoretical, political and ideological stances, and emotional responses to participants (Berger, 2013). In the current study, the researcher's positioning included her

worldview and work experience. In this section, these characteristics are discussed in relation to her different roles throughout the research process.

As researchers' ontological and epistemological beliefs reflect their world-view (Brinkmann, Jacobsen, & Kristiansen, 2014; O'Reilly & Kiyimba, 2015; Ormston et al., 2014), the congruence between this worldview and methods for data collection and analysis should be clear and acknowledged (O'Reilly & Kiyimba, 2015). According to Ormston et al. (2014), behind the research aims and questions stand the researcher's perspective, experience, and interests, which are motivated by their worldview. In the current study, the researcher's worldview was reflected in the employment of qualitative research, and influenced the research aims, the selection of participants, and the methods for data collection and analysis, as carefully described in Sections 3.2, 3.3 and 3.4. This careful description, apart from clarifying the researcher's views and insights into the construct under study, also contributed to ensuring the quality of this qualitative research.

The researcher's work experiences and previous position in the research context played a critical role in the current research. According to Creswell (2014), it is important that the researcher has a connection with the researched and experience in the field of the study. The researcher had experiences in both ESP teaching and ESP teacher education at the Faculty of Foreign Languages of the University of Technology and Education. She also contributed to the design of ESP and methodology courses as well as the ESP teacher education programme, the setting of the current study. These work experiences and position facilitated the researcher in gaining permission from the faculty and the university for the research to be carried out at this unique setting, the first and only ESP teacher education programme in Vietnam at the time of the study. More importantly, the researcher's experiences and position enabled her to stand somewhere in the middle of the *insider-outsider* continuum that Dwyer and Buckle (2009) propose, as discussed below.

The researcher had the role of an insider due to her in-depth insight into the research context, including the ESP teacher education programme as well as difficulties that pre-service ESP teachers were facing. This insight, which stemmed from her previous work and position, allowed her to be rapidly accepted and trusted by the participants because of their respect for her as a course teacher. This was because

some of the participants had attended a course on introducing to the ESP teacher education programme delivered by the researcher when they just entered the programme. The participants thus were open with the researcher and this openness facilitated her collection of in-depth data which an outsider researcher might not be able to reach. However, the researcher was fully aware that this status might bring about confusion of her different roles (i.e., teacher, teacher trainer, course designer, and researcher). Her insider experiences had the potential to her interpretations of the research data. These strengths and drawback of the insider status of qualitative researchers are also noted by Dwyer and Buckle (2009). In order to minimize potential drawbacks, the researcher had carefully designed the study, collected rich data through a wide range of tools, and conducted the multi-phase analysis of data with the researcher's meticulous care and attention, as described in Sections 3.3 and 3.4.

The researcher was considered as an outsider researcher in that, despite her deep insights into the research context, she had the role of a teacher and a course designer in the ESP teacher education programme. She had not experienced this programme in the role of a pre-service teacher which her participants held. Although this status might add the objectivity to the research (Dwyer & Buckle, 2009), she might not understand all problems that pre-service ESP teachers encountered. In addition, as a teacher in the ESP teacher education programme, the researcher tended to interpret the data provided by the participants from the perspective of a teacher rather than a researcher. The social and cultural distance between teachers and students might also impede the participants' straightforwardness in sharing their learning experiences in the teacher education programme. Being fully aware of these issues, the researcher endeavoured to create a close rapport with the participants from the start of the study as well as during the data collection process. This relationship, together with participants' understanding of the research objectives, assisted in establishing a collaborative relationship between the researcher and participants.

According to Rose (1985), "There is no neutrality. There is only greater or less awareness of one's bias" (p. 77). During the research process, the researcher was aware of and made every effort to balance her status as an insider and an outsider. This positioning helped her to be as neutral as she could in order to facilitate the

confirmability of this study. Confirmability and other issues that ensure the quality of this qualitative study will be discussed in the section that follows.

3.6. Ensuring quality in qualitative research

In order to ensure the quality of qualitative research conclusions, or the trustworthiness of the qualitative research findings, four issues were addressed: credibility, transferability, confirmability, and dependability, as recommended by Shenton (2004). In this section, how these issues were addressed in the current study, to ensure the trustworthiness of its findings, is presented.

3.6.1. Credibility

Credibility refers to the "truth value" (Miles et al., 2014, p. 312) of a study or the confidence that research users may have in the research results. In order to ensure that the current study produced credible findings, the researcher employed well-established research methods, iterative questioning, member checks (Shenton, 2004), and triangulation among research tools and data sources (Miles et al., 2014), as well as carefully examining previous research findings (Miles et al., 2014).

In particular, this qualitative case study research employed in-depth semi-structured interviews, reflective journals, stimulated recalls, and observations. These tools, especially in-depth interviews, have been recommended by research theorists and researchers in the field of teacher beliefs. Key questions in the semi-structured interviews and the reflective journals varied in forms, and the participants' beliefs were also unearthed through different questions in both spoken and written forms. Then, the transcripts of all interviews were sent to participants to check whether their words matched their actual intentions. In the processes of within-case and cross-case analysis, two triangulation strategies were used as described in Section 3.4. Finally, previous research on teachers' beliefs and belief changes was carefully examined before the current research was conducted in order to identify critical gaps in the field and to facilitate reflection while writing the research report and discussing and making sense of the research findings.

3.6.2. Transferability

Transferability is the aspect of research quality that refers to the degree to which the findings and conclusions of a study can be applied to other situations and populations (Shenton, 2004). However, as qualitative case studies may be unique

regarding its context and participants, researchers cannot always ensure the transferability of their research findings. Rather, it is the readers who may find whether the research findings are consistent with their own experiences or there is congruence between the research context and their own, which indicates the transferability or the applicability of findings (Miles et al., 2014). To facilitate this, in the current study, the participants, the research context, and the research process were described in detail, as Miles et al. (2014) suggest. "Thick description" (Miles et al., 2014, p. 314) of the findings was also included so that research readers could "assess the potential transferability and appropriateness for their own settings" (Miles et al., 2014, p. 314) or "make transferability inferences" (Shenton, 2004, p. 70).

3.6.3. Confirmability

Research quality is also assured by attending to confirmability, or taking care that the research findings really do originate from the participants' experiences and ideas, rather than from the preferences of the researcher (Shenton, 2004). In order to promote confirmability in the current qualitative research, the researcher employed different strategies, including triangulation (Shenton, 2004), detailed descriptions of research methods and procedure (Miles et al., 2014; Shenton, 2004), researcher's self-awareness of potential issues, and relevant links between findings and data (Miles et al., 2014).

In particular, triangulation was used not only to understand changes in the pre-service teachers' beliefs about ESP teaching but also to "test validity through the convergence of information from different sources" (Carter et al., 2014, p. 545). As described in Section 3.4, two types of triangulation were used: method triangulation and data source triangulation (Carter et al., 2014), ensuring that the research findings were genuine and drawn from the participants. In addition, confirmability was ensured by the explicit and detailed description of individual research methods and research procedure along with the sequence of data collection, analysis, and presentation. By providing a complete picture of the research process, the researcher could reflect on her role and minimize bias in interpretation of the data collected from the participants who had been her students, as suggested by Dwyer and Buckle (2009). Finally, the researcher's use of NVivo in analysing qualitative data ensured that the explicit links between the findings and supporting data were made. This data

analysis strategy was of paramount importance to the presentation of the research findings.

3.6.4. Dependability

Dependability is a further factor that denotes research quality. Dependability refers to "whether the process of the study is consistent" over time and across researchers and methods (Miles et al., 2014, p. 312). In order to achieve this, the current study adopted two key practical strategies recommended by Miles et al. (2014). First, as shown in Section 3.3, this study employed case study research design to answer the questions *why* and *how* the pre-service ESP teachers changed their beliefs about ESP teaching. This congruence between the research questions and the research design is suggested by Yin (2014) and has been found in previous studies on teachers' belief change (e.g., L. Li, 2012; Yuan & Lee, 2014). Second, the researcher's positioning in the study was described explicitly, as seen in Section 3.5. This description enabled other researchers to visualize strategies use in the current study to balance the researcher's roles as well to resolve issues emerging as a result of role confusion.

3.7. Ethical considerations

"Ethics are central to social research" (Leavy, 2017, p. 24) and ethical considerations are critically important to ensure that a study is not harmful to anyone who was involved in the research process. This study involved human participants, so it was necessary to take ethical considerations into account. The Massey University Code of Ethical Conduct for Research, Teaching and Evaluations Involving Human Participants (Massey, 2015) was consulted to identify ethical issues that the proposed research involved. A preliminary assessment showed that this was a low risk project because it met the guidelines set out in Massey University's "Screening Questionnaire to Determine the Approval Procedure." After consultation with supervisors, an application for a Low Risk Notification was submitted to the Research Ethics Office for approval for this project. An acknowledgment letter from the Ethics Director was received on 7th October 2015 (see Appendix L).

Drawing on the Massey University Code of Research Ethics (Massey, 2015), the qualitative research procedures in this study took account of the key principles of *respect for persons*, *informed and voluntary consent*, and *privacy and confidentiality*.

How each of these principles was applied in the current research is outlined in the sections below.

3.7.1. Respect for persons

In this research, it was evident that differences in the participants' knowledge and experiences contributed significantly to their individual beliefs. Therefore, during the processes of data collection and analysis it was important for the researcher to respect the participants' beliefs about ESP teaching and English language competence, and not to make judgements. Showing this respect also encouraged the participants to be open and share their true beliefs about their knowledge, experiences, and beliefs, regardless of whether these beliefs were "right" or "wrong."

Leavy (2017) indicates that cultural sensitivity is important in the communication between the researcher and research participants. As the participants in the present study knew that the researcher was a lecturer at the Faculty of Foreign Languages in their university, perceptions of cultural and social distance were understandable. Therefore, the researcher's use of language in both written and verbal communication with participants was taken into careful consideration, as suggested by Leavy (2017). Respect and appreciation for their participation were shown in written documents, such as the Information Sheet (see Appendix M), the Consent Form (see Appendix N), as well as in the Guidelines for the pre-service teachers' Reflective Journals. Friendly and understandable language was used, and an informal atmosphere was sustained in the interviews, and these considerations encouraged the participants to overcome the cultural and social barriers that exist between students and teachers in Vietnam, and to share openly with the researcher.

From the very beginning of the study, the participants were informed that if they decided to withdraw from participating in the study, that would be respected, and they had no responsibility to provide any reasons for their withdrawal. This statement was provided in the Information Sheets, in the Consent Form, and was also restated verbally in the first meeting between the researcher and the participants. That none of the participants withdrew during the research process, perhaps demonstrates that levels of trust developed during the study, and that the participants perceived the personal and professional benefits from taking part in the research.

3.7.2. Informed and voluntary consent

The research setting was the Faculty of Foreign Languages of the Ho Chi Minh City University of Technology and Education. Therefore, before the study was conducted and the researcher made any official contact with the potential participants, permission had to be gained from the faculty dean and the university principal. These personnel all returned signed Consent Forms (see Appendices O and P) after reading the Information Sheet (see Appendix M) which had been previously sent to them via email together with invitation letters (see Appendices Q and R). They agreed to the faculty taking part in the study and the University's name being disclosed in this doctoral thesis.

The Information Sheet that contained important information about the study was sent to the research participants through the class teacher of the ESP teaching methodology course. This information was given to them again, verbally, in the first meeting with the researcher, after all of the participants had been confirmed, and at the start of the first interview with each participant in the study. In the Information Sheet (see Appendix M), contact details of the researcher and her two supervisors were also provided in case participants wished to clarify anything about the study. Together with the Information Sheet, a Consent Form (see Appendix N) was also given to the participants. After time to consider, each participant returned the signed consent form to the researcher, before the start of the first interview. In the Consent Form, they agreed to participate in the study, for their interviews to be sound recorded, and for their practicum teaching to be video recorded. They were also informed that they could have the audio and video recordings returned to them after the study if they wished.

In addition, students in ESP classes which the participating pre-service teachers taught during the practicum were also informed of the study orally in class and by the Information Sheet (see Appendix R and T) and given a Consent Form (see Appendix U) before the start of the lesson. All of the students in these classes were happy to be part of the study and signed the form, agreeing to their learning in that ESP lesson being video recorded. It was made clear that the video recordings would not be used in any future presentations or publications on the study.

3.7.3. Privacy, anonymity and confidentiality

As suggested in the Massey University Code of Research Ethics, the participating pre-service teachers' privacy, anonymity and confidentiality were respected. According to Miles et al. (2014), these three terms refer to the control over associated information, the lack of identifiers of the individuals and organizations studied, and the protection of information, respectively.

In the current study, information about teachers and other pre-service teachers was sometimes included in the data collected, regarding sources of the participants' beliefs and belief change. Therefore, it was important that information about individuals other than the research participants was kept private and only data related to the participants and relevant to the study were analysed. In addition, in order to protect the anonymity and confidentiality of the participants in the study, it was made clear that pseudonyms would be used in all research reports. Furthermore, identifiers of the participants were removed from data, and their background information was written in such a way that they could not be identified by other people.

However, the issue of anonymity with regard to the institution where the study was conducted was more problematic, as this was the only university in Vietnam that provided a pre-service ESP teacher education programme. Therefore, permission to disclose the university's name was sought for and gained from the university's principal.

3.8. Chapter summary

This chapter has described the methodology underpinning the current study, and justified the selection of a qualitative multiple-case study approach. This approach was drawn not only from the literature on teacher beliefs and pre-service teachers' belief change, but it was also shown to be best suited to the exploratory nature of this study.

Following on from the qualitative case study approach, the research setting and the participant selection process was outlined, along with the description of the research procedure, the tools used in the data collection, and the analysis strategies. The methodological aspects that ensured the trustworthiness of this qualitative research

were clearly outlined. In addition, the researcher positioning was carefully described, and ethical considerations explicitly related to this study were explained.

In the chapter that follows, research findings on the pre-service teachers' beliefs before the study, changes in their beliefs over the time of the study, and the different factors that contributed to these changes, will be presented.

CHAPTER FOUR
FINDINGS

Introduction

In this chapter, the research findings are presented under two main parts. In the first part, the key findings are discussed concerning the twelve participating pre-service ESP teachers' beliefs about ESP teaching at the start of the study. In the second part, the changes in ten pre-service ESP teachers' beliefs over time and the different factors influencing the progression of their belief changes are explored. At the end of each part, a brief review of key points is provided, and an overall summary is provided at the end of this chapter.

Part One: Initial beliefs

In this study, the twelve participating pre-service teachers' beliefs about ESP teaching at the start of the study are considered as initial beliefs. Analysis of the data gathered from the first interviews revealed the pre-service teachers' initial beliefs about ESP objectives, ESP teachers and ESP methodology, as well as the level of consistency within the pre-service teachers' wider belief system. These initial beliefs are presented below, beginning with their beliefs about ESP objectives.

ESP objectives: Teaching subject knowledge or English language?

At the start of the study, all participating pre-service teachers considered that ESP teaching entailed both teaching English language and providing subject knowledge. In their opinions, both of these two key components of ESP lessons and courses were critical to learners' future jobs. These components were also considered to be mutually dependent. For example, Thu said, "ESP courses provide students with both subject knowledge and terminology because, without the relevant subject knowledge, learners don't know how to use the language in job-specific reality."

However, three different beliefs about the balance of subject and language knowledge in ESP teaching were evident in the initial interviews. These three different beliefs are explained below.

Firstly, half of the twelve participants (Giang, Huệ, My, Nga, Ngọc, and Thu) prioritized the language focus in ESP teaching. This belief appeared to arise because these pre-service teachers understood that ESP learners who majored in different

fields needed "[specialized] English language to understand subject-related materials and convey their prior subject knowledge" (My). They also shared that this belief came about because their prior ESP courses in the ESP teacher education programme had provided them with only the most important knowledge of the subject matter and in fact just "scratched the surface of the discipline" (Huệ). Therefore, they considered teaching subject knowledge as an additional part of ESP courses, rather than the central focus.

Secondly, in contrast to those who thought language was a priority, Châu, Hoa, Thùy, and Trà saw subject knowledge as the primary aim of ESP teaching. Believing that ESP learners did not know much about specific subject areas, they defined teaching ESP as "teaching the specific knowledge of different disciplines" (Hoa) "at a deeper level" (Thùy) so that learners could "apply the subject knowledge to reality" (Hoa). They also defined the main responsibility of ESP teachers as "providing subject knowledge" (Trà) and "helping learners understand and be interested in the field that they are teaching" (Thùy).

A third view was held by Nhi and Thiên who believed that ESP course objectives should be driven by learners' needs. In particular, they recognized that ESP learners fitted into two groups: English major students in ESP teacher education programmes and students majoring in other disciplines. In their opinion, these two groups of ESP learners had different background knowledge and therefore had different needs to be addressed in the ESP courses. Consequently, they believed that subject knowledge should be the key focus in ESP courses for prospective ESP teachers, whereas "students who have good knowledge of the subject matter would need to learn discipline-related terms in English" (Thiên).

It is important to note that the participants held different views about the English language to be taught in ESP courses. Some of them (i.e., Hoa, Nga, Nhi, and Thu) believed that discipline-related terms should be taught while some others (i.e., Châu, Huệ, Ngọc, and Thùy) emphasized both discipline-related terms and language skills, such as reading and speaking. Only two participants (Giang and My) appeared to be aware of the importance of attending to discourse. These student teachers stated that the language knowledge and skills taught in ESP courses should be "discipline-specific" (Giang) and there should be "a link between the language and the contexts

in which it is used" (My). They believed that this knowledge could foster learners' "communication in their jobs" (Giang).

In summary, although both English language and subject knowledge were considered important, there was variation in the participants' initial beliefs about the primary aim of ESP teaching. Half of the twelve participants believed that the primary focus was teaching English language whereas four participants emphasized the teaching of subject knowledge. The remaining two participants referred to the differing needs of ESP learners whom they defined as English and non-English major students.

ESP teacher competence: Subject knowledge or English language competence?

At the start of the study, most of the participating pre-service teachers emphasized that ESP teachers needed to have both subject knowledge and English language competence. However, they did not consider these two competencies of teachers were of equal importance. Rather, they tended to place different importance on each competence in relation to ESP teaching.

In particular, the need for ESP teachers to have good subject knowledge garnered more attention from the participants than ESP teachers' English language competence. There was strong consensus among the twelve pre-service teacher participants in this study about the importance of ESP teachers' subject knowledge. While all participants agreed that ESP teachers needed to have some knowledge in the field of their ESP courses, eleven insisted that ESP teachers needed to have an *expert* level of subject knowledge. In their opinion, considerable expertise enabled teachers to "search for relevant information and select suitable content for ESP courses" (Hoa) to provide learners with sufficient, suitable and precise subject knowledge. They also believed that deep subject knowledge supported ESP teachers' pedagogical competence so that they could "explain subject knowledge and terminology in an accessible way" (Thùy) and "answer learners' subject-related questions satisfactorily" (Thiên). Furthermore, eight out of the twelve participants prioritized ESP teachers' subject knowledge because they believed that it was subject knowledge that particularly distinguished ESP teachers from those teachers who target general English courses.

Participants' emphasis on ESP teachers' subject knowledge also tended to influence their views on who should teach ESP. Nine of the twelve participants viewed subject teachers as the most suitable for teaching ESP. Another two participants (Nga and Nhi), however, stated that *either* subject *or* English teachers could teach ESP. These eleven pre-service teachers believed that subject teachers' expertise in the field, as well as their understanding of teaching contexts and job requirements, were critical for their teaching of the subject knowledge included in ESP courses. For example, Huệ said, "Only those who fully understand a discipline can explain discipline-related issues to strangers to the field."

While participating pre-service teachers had a strong belief that subject teachers should teach ESP, there was more variation in their views about the importance and the level of the English language proficiency required of ESP teachers. For example, Giang and My emphasized that ESP teachers needed a high level of proficiency in English. This belief seemed to stem from the view that "teaching ESP is mainly providing learners with the English language to understand subject-related materials and convey their prior subject knowledge" (My). Hoa and Huệ, on the other hand, emphasized the need for teachers to have knowledge of discipline-related terms rather than overall English language competence. They believed that knowledge of relevant terminology would contribute significantly to teachers' understandings of the subject knowledge included in ESP courses and discipline-related materials, which in turn was crucial for their ESP teaching. Consequently, both of these pre-service teachers suggested that ESP teachers should be able to explain discipline-related terms not only in English but also in Vietnamese.

Overall, it was found that a large group of participating pre-service teachers (Châu, Nga, Ngọc, Nhi, Thiên, Thùy, Thu, and Trà) placed less emphasis on ESP teachers' English language competence. For instance, when considering who should teach ESP, Thiên stressed English teachers' strengths regarding their language fluency and knowledge of vocabulary, but she still preferred subject teachers to teach ESP. In fact, all eight of these participants tended to overlook the role of teachers' English language competence in ESP teaching, although they commented that subject teachers with a low level of English language competence would be a disadvantage. For example, Thu commented: "I feel that subject teachers… don't have adequate English pronunciation." However, this group of participants seemed to believe that

this disadvantage could be overcome without too much effort. In their opinions, subject teachers "*just* need to improve their English competence to convey their knowledge better" (Thiên).

In summary, at the outset of this study, the participants generally appeared to consider that subject knowledge was the distinctive feature of ESP teachers. They believed that this competence significantly influenced ESP teachers' teaching process and distinguished ESP teachers from EGP teachers. This belief brought about the preference of the majority of the participants for subject teachers to teach ESP and, as a result, less attention was paid to the role of ESP teachers' English language competence.

Motives for needing a specialized ESP teaching methodology

Initially, most of the participating pre-service teachers held similar beliefs about the need for a specialized ESP teaching methodology. Ten out of the twelve participants believed that ESP needed its own teaching methodology, which was different from the teaching methodology for English for General Purposes (EGP), as ESP teachers had to deal with the subject knowledge included in ESP courses. In their opinion, the inclusion of the subject knowledge, which they variously described as "boring" (Nga and Nhi), "abstract" (My), "difficult" (Giang and Trà), and "complicated" (Thùy), rendered ESP teaching more demanding than EGP teaching. Consequently, they considered that ESP teaching methodology had to comprise of more than just general language teaching techniques as it required teaching techniques which "are based on specific disciplines" (Ngọc).

Those pre-service teachers who believed in the need for a specialized ESP teaching methodology also identified different activities and techniques that they thought could aid learners' understanding and retention of subject knowledge as well as enhancing learners' motivation. For example, Nhi was convinced that visual aids, such as pictures and videos, and games were particularly helpful in that they made subject knowledge accessible and "created a competitive classroom atmosphere." On the other hand, Châu put more emphasis on experiential learning activities, believing that practical tasks promoted active learning through ESP learners exploring the subject knowledge by themselves. Furthermore, Hoa shared her belief about the value of field trips: "Field trips created more chances for us to discuss the lesson

content in depth and to work in groups, which fostered our understanding of the lesson content and widened our subject knowledge."

In addition, it is worth noting that, although half of the participants (Giang, Hoa, Huệ, Nga, Nhi, and Thùy) talked about how to teach language knowledge, they did not see a need to create a specialized teaching methodology to teach language knowledge. Instead, they were more concerned about selecting techniques which they thought were most suitable from their prior language teaching methodology courses for teaching discipline-related terms. For example, whereas Nhi highlighted visual aids, such as videos and pictures, Huệ, Nga, and Thùy preferred using simple English language and Vietnamese equivalents to explain terms which were "abstract and difficult to be understood" (Thùy). Taking a broader view, Giang and Hoa suggested using a combination of "different techniques, such as teachers' and students' presentation, explanations, pictures, and videos" (Giang). They shared that, in their experience, these techniques had helped them to remember discipline-related terms more easily and for a longer period of time.

Overall, the majority of the participating pre-service teachers acknowledged that a specialized ESP teaching methodology was needed to serve the teaching of subject knowledge rather than just language knowledge. They also seemed to view the teaching of these two aspects of ESP courses as separate components. Therefore, they preferred activities that prioritized the teaching of subject knowledge.

Consistency across initial beliefs within the belief system

Examining the initial beliefs of the pre-service teachers revealed that there were different levels of consistency across their beliefs about ESP objectives, methodology, teacher competencies and who should teach ESP. On the basis of these findings, the participants were divided into three groups according to how consistent their beliefs were: those with highly consistent beliefs, those with less consistent beliefs, and those with inconsistent beliefs. Table 4.1 provides an overview of the initial beliefs of these three groups of the participants, showing the level of consistency that existed across the initial beliefs of each group.

Half of the twelve participating pre-service teachers (Châu, Hoa, Thùy, Trà, Giang, and Nhi) held highly consistent initial beliefs about ESP objectives, methodology, teacher competencies and who should teach ESP. In this group, their beliefs about

ESP objectives seemed to act as a focal point for forming their other beliefs. In particular, Châu, Hoa, Thùy, and Trà believed that the aim of ESP teaching was to provide subject knowledge. Thus, they stated that specialized ESP teaching techniques that were different from those used for teaching EGP were needed, and they highlighted teachers' expertise in the field as the primary competence needed for ESP teaching. Consistent with these beliefs they also felt that subject teachers were the most suitable for teaching ESP.

Table 4.1: An overview of the participants' initial beliefs

Groups	***Participants***	***Beliefs about***			
		Primary ESP objectives	***ESP methodology***	***ESP teachers' primary competence***	***Who should teach ESP***
Highly consistent beliefs	Châu	Subject knowledge	ESP ≠ EGP	Subject knowledge	Subject teachers
	Hoa	Subject knowledge	ESP ≠ EGP	Subject knowledge	Subject teachers
	Thùy	Subject knowledge	ESP ≠ EGP	Subject knowledge	Subject teachers
	Trà	Subject knowledge	ESP ≠ EGP	Subject knowledge	Subject teachers
	Giang	Language skills	ESP = EGP	Language competence	English teachers
	Nhi	Learner-needs-driven	ESP ≠ EGP	Pedagogical competence	Either subject or English teachers
Less consistent beliefs	My	Language knowledge	ESP ≠ EGP	Language competence	Subject teachers
	Nga	Discipline-related terms	ESP ≠ EGP	Language competence	Either subject or English teachers
	Thiên	Learner-needs-driven	ESP ≠ EGP	Subject knowledge	Subject teachers
Inconsistent beliefs	Huệ	Discipline-related terms	ESP = EGP	Subject knowledge	Subject teachers
	Ngọc	English language competence	ESP ≠ EGP	Subject knowledge	Subject teachers
	Thu	English language competence	ESP ≠ EGP	Subject knowledge	Subject teachers

As shown in Table 4.1, Giang and Nhi did not focus on subject knowledge like other pre-service teachers in this group. Giang held beliefs consistently centred on English language. She believed that ESP needed a specialized teaching methodology to teach discipline-related language skills and terms and that this required English teachers to have a high level of English language proficiency. However, Nhi's beliefs showed a consistent perception that ESP teaching was driven by learner needs. She felt strongly that ESP objectives were dependent on whether ESP learners were English or non-English major students. As a result, she emphasized that, regardless of whether ESP teachers were English or subject teachers, it was their pedagogical competence that counted because ESP required a specialized teaching methodology.

Less consistent initial beliefs were held by My, Nga, and Thiên. Contradictions were observed in one of their initial beliefs about ESP objectives, methodology, the primary competence ESP teachers needed for ESP teaching, and who should teach ESP. For example, My appeared to hold a strong belief that the aim of ESP teaching is to provide discipline-specific language knowledge which required a specialized teaching methodology and teachers with a high level of English language proficiency. However, she still considered subject teachers were best suited for teaching ESP, which seemed to be in contradiction with her other beliefs.

Similarly, less consistency was found across Thiên's beliefs. Her belief about the learner-needs-driven objectives of ESP teaching seemed to be consistent with her belief about the need for a specialized teaching methodology. Her emphasis on teachers' subject knowledge also corresponded with her belief that ESP should be taught by subject teachers. However, inconsistency can be seen between her beliefs about ESP objectives and who should teach ESP. For example, as she believed that learners' needs were language rather than subject related, it was not clear why Thiên believed that a subject teacher could meet these needs.

In comparison to the first two groups of ESP pre-service teachers, the initial beliefs of Huệ, Ngọc, and Thu were the most inconsistent. Unlike the pre-service teachers in the first group with highly consistent beliefs, these pre-service teachers' beliefs about ESP objectives did not appear to be central to the system of their beliefs about ESP teaching. In particular, Huệ's beliefs that ESP objectives and methodology were language-focused directly conflicted with her stated beliefs that subject teachers

should teach ESP due to their expert subject knowledge. Similarly, although Ngọc and Thu believed that the primary aim of ESP teaching was to teach English language, they emphasized techniques for teaching subject knowledge and ESP teachers' subject knowledge and believed that subject teachers should teach ESP. This shows that their beliefs about ESP objectives were in significant conflict with their beliefs about ESP methodology, ESP teachers' key competence, and who should teach ESP. As a result, it was unclear whether these three pre-service teachers really believed that the primary aim of ESP was to teach English language and it was also unclear which of their beliefs were more deeply held.

The analysis of the consistency across initial beliefs seems to indicate that when the pre-service teachers' belief about ESP objectives was at the centre of their belief system, this influenced their other beliefs and created more consistency across their beliefs.

Overview of the pre-service teachers' initial beliefs

The twelve pre-service ESP teachers were able to make clear statements about ESP teaching at the start of the study. Nonetheless, they differed in their beliefs about ESP objectives. Some emphasized the teaching of subject knowledge; some prioritized the teaching of English language; and others were concerned about the needs of ESP learners, who they defined as English and non-English major students. On the other hand, most of the participants tended to hold similar general views on ESP teachers' key competence, as well as who should teach ESP and how best to teach ESP. These pre-service teachers highlighted the importance of ESP teachers' subject knowledge and therefore believed that subject teachers were better suited to teach ESP. The participants appeared to believe that teachers' expertise in the relevant field was critically important because the subject knowledge included in ESP courses required specialized teaching methodology. Consequently, many overlooked the importance of ESP teachers' English language competence as well as the teaching of subject-specific English language in ESP courses.

Overall, when looking at the combination of individual beliefs about different aspects of ESP teaching, there was a difference in the cohesiveness of the overall belief systems of the participants. The participants were categorized into three groups according to the level of consistency across their beliefs. Those participants

who believed that the primary aim of ESP was to teach subject knowledge were found to be more likely to hold more consistent beliefs than the participants who believed that the primary aim of ESP courses was to teach English language. In contrast, those participants who held inconsistent beliefs did not appear to have taken the primary ESP objectives into serious consideration when identifying their preferences in ESP methodology, teachers' key competence and who should teach ESP. This finding suggests that when the pre-service teachers' initial beliefs about ESP methodology, teacher competencies and who should teach ESP were linked to their beliefs about the primary ESP objective, there was likely to be greater consistency across these aspects in their beliefs.

Part Two: Changes and factors

This part of the chapter presents the core findings of this study in two sections. In the first section, belief changes of ten participating pre-service ESP teachers are presented in ten vignettes. In the second section, the wide range of factors that influenced the participants' belief changes are identified and described. At the end of this part, an overview is provided of the findings about belief changes and influencing factors.

Vignettes

In this section, the findings concerning how participating pre-service teachers' beliefs changed over the time of the study are detailed. The data discussed in this section were gathered from five interviews, including pre-course, post-course, pre-lesson planning, post-lesson reflection, and post-practicum, as well as the two reflective journals from each participant. These findings were analysed to identify specific changes in the pre-service teachers' beliefs about ESP teaching. These findings indicated that there was a wide variation in the way that participants' beliefs changed and in the factors that brought about these changes.

The findings in this section are presented through ten vignettes. These ten vignettes were selected to provide insights into particular aspects of the belief change process. The vignettes are presented in groups. The first set of vignettes shows insight into belief development processes. After that, three vignettes are presented that provide insights into setbacks participants experienced in their beliefs change process.

Finally, four vignettes illustrate how personal influences were involved in the participants' belief changes.

Insights into different belief development processes

The findings show that there were three main processes through which participants' beliefs became stronger by the end of the study. These belief *development* processes are illuminated through the three vignettes recounted below. Firstly, the vignette about My's beliefs demonstrates a straightforward process in which her beliefs were informed by the ESP teaching methodology course and then strengthened by practicum experiences. Next, the vignette about Nga's beliefs demonstrates a spiral process in which her beliefs were formed after the methodology course but then revised and finally strengthened by practicum experiences. Lastly, the vignette about Nhi's beliefs demonstrates a deepening process whereby her initial beliefs were not only expanded but also strengthened by her reflections on both the methodology course and the practicum.

My: The process of forming and strengthening beliefs

My's initial beliefs about ESP teaching changed after the ESP teaching methodology course. These newly formed beliefs were then strengthened after the practicum, as shown in Table 4.2. In fact, she was the only participant whose belief change followed such a straightforward process whereby her beliefs did not undergo as many changes as other participants over the time of the study. This vignette explores My's belief change process further and provides insights into the particular ways in which the methodology course and the practicum influenced her belief changes.

Table 4.2: Changes in My's beliefs

My's beliefs	***At the start of the study***	***After the ESP teaching methodology course***	***After the practicum***
Primary ESP objective	Discipline-related terms and grammar	Discipline-specific language competence	Discipline-specific language competence
ESP methodology	Specialized teaching methodology	EGP teaching methodology	EGP teaching methodology
Who should teach ESP	Subject teachers	English teachers	English teachers

After the ESP teaching methodology course, My formed new beliefs to align with her improved understanding of ESP teaching. In particular, she reported that the theory lesson transformed her initially conflicting beliefs that ESP focused on teaching "discipline-related terms and grammatical structures" and should be taught by subject teachers. She now shared: "the course teacher convinced me that English teachers are more suitable for teaching ESP [than subject teachers]…. and that ESP teachers teach learners how to convey their subject knowledge in English language." As a result, My's beliefs now showed more consistency, in that she believed that the primary aim of ESP was to develop learners' English language competence to communicate in discipline-related contexts and should, therefore, be taught by English teachers.

The micro-teaching session in the methodology course also contributed to a change in My's initial belief that ESP required teachers to use specialized teaching techniques. While observing classmates' practice ESP lessons, My noticed that they used EGP teaching activities and techniques that she had learned in her previous teaching methodology courses. This insight fostered her belief that ESP programmes did not need a specialized teaching methodology and could be taught using EGP teaching approaches.

The later practicum provided My with ESP teaching experiences which fitted with the beliefs she had formed after the methodology course. During the practicum she observed ESP lessons taught by both subject and English teachers and identified the difference in their teaching. She shared that "whereas the subject teachers mostly focused on subject knowledge, the English teachers' limited subject knowledge kept them from going far from developing learners' language competence." This gave My the impression that English teachers were more likely to help students to attain their ESP learning goals, which confirmed her recently formed belief that English teachers were more suitable for teaching ESP than subject teachers.

The planning and teaching of an ESP lesson to non-English major students in the practicum, which My considered as "real ESP teaching experiences," also strengthened her existing beliefs about ESP objectives, methodology and who should teach ESP. She taught a single ESP lesson about grammar to students majoring in Mechatronics and felt that "there was no difference between ESP and EGP lessons

regarding the lesson procedure and teaching techniques." For My, the biggest challenge in planning and teaching this lesson centred around how to include the relevant subject knowledge in examples and practice materials, in order to illustrate the use of the language in relevant subject-related contexts. This insight illustrates the confirmation of her belief that ESP teaching focused on the English language used in specific professional contexts, a belief that had emerged after the methodology course.

Through this vignette, the process in which My's beliefs were informed and strengthened over the time of the study is illustrated. Her belief change process suggests that the ESP teaching methodology course fostered the emergence of new beliefs, whereas the practicum provided the contexts in which these beliefs could be confirmed and strengthened. Consequently, by the end of the study, My believed that ESP should be taught by English teachers and, as a result, she aimed to develop learners' discipline-specific language competence through EGP teaching approaches. These later beliefs were also stronger and more consistent than her initial beliefs.

Nga: The process of forming, reforming and strengthening beliefs

Nga's beliefs about the objective of ESP changed significantly over the time of the research. As shown in Table 4.3, after the ESP teaching methodology course, she formed new beliefs which replaced her initial beliefs. These emerging beliefs, however, did not last long and were soon replaced by newer beliefs which finally became stronger over the practicum. That her beliefs were formed, revised and strengthened constituted a spiral process in Nga's belief change. This vignette explores her belief change process further and provides deeper insights into the influence of the methodology course and the practicum on her belief changes.

Table 4.3: Changes in Nga's beliefs

Nga's beliefs	***At the start of the study***	***After the ESP teaching methodology course***	***After the practicum***
Primary ESP objective	Discipline-related terms	Discipline-specific language competence	Discipline-specific communicative competence
ESP methodology	ESP ≠ EGP	ESP = EGP (AL)	ESP = EGP (CLT)

The ESP teaching methodology course fostered the emergence of Nga's new beliefs about ESP teaching. She discussed how she learned from the theory lesson that ESP teaching enabled learners to "communicate in their specific work contexts or explain discipline-related terms." Therefore, she no longer believed that ESP focused on simply teaching discipline-related *terms.* Rather, she elaborated this objective. She now emphasized the broader development of learners' discipline-specific language *competence*, which was comprised of discipline-related language skills as well as knowledge and use of terminology. In addition, after the methodology course, Nga reversed her belief about how to teach ESP. She no longer believed in the need for a specialized ESP teaching methodology. Instead, she now stressed that "ESP and EGP are similar regarding teaching methodology." She, therefore, linked her new knowledge about ESP objectives with her prior knowledge of EGP teaching methodology and formed a belief that the Audio-Lingual approach (an EGP teaching approach) was particularly pertinent to ESP. She explained that the "Audio-Lingual approach helps students to acquire knowledge and to develop their ability to communicate." However, these newly emerging beliefs about ESP objectives and methodology were modified again after the practicum.

During the practicum, Nga revised her beliefs again, and these new beliefs were strengthened by her experiences of teaching an ESP lesson. In particular, Nga noticed that speaking activities were absent in the ESP lessons she observed in the practicum, as well as in materials used in ESP courses in the teacher education programme. For example, she shared that experienced ESP teachers "focused on subject knowledge rather than communication," and that "ESP materials and peers' lessons have shown me that ESP aims to teach vocabulary and grammar." These reflections encouraged Nga to believe that ESP teaching should focus on developing learners' discipline-specific communicative competence, which was comprised of both subject knowledge and discipline-specific language competence. Nga also seemed to take this emergent belief into account when choosing an EGP teaching approach suitable for teaching ESP. She no longer preferred the Audio-Lingual approach, as she had said previously, but she now emphasized the suitability of the Communicative Language Teaching (CLT) approach. From her perspective, "CLT encourages more interactions between teachers and students," which she believed

could promote ESP learners' ability to communicate their subject knowledge, something, which in her view, was missing from the lesson she observed.

These new beliefs were evident in the single ESP lesson that Nga taught for students who majored in Home Economics in the practicum. In planning this lesson, her mentoring teacher advised and helped Nga to use teaching techniques and activities that she had previously used in the EGP lessons she had taught in the practicum. In addition, she ended her lesson with a speaking activity designed to encourage her students to talk about the subject knowledge they had just learned about. This activity interested the students, and later she received positive feedback from her mentoring teacher. Consequently, after the practicum, she became more confident in her beliefs that the focus of ESP teaching should be on learners' discipline-specific communicative competence and therefore ESP should be taught through EGP approaches.

The vignette above shows that although Nga formed new beliefs after the ESP teaching methodology course and after the practicum, the beliefs that emerged later tended to be stronger. Her later beliefs originated firstly from retrospective reflection on her observation of *real ESP lessons* and were then confirmed in her lesson for *real ESP learners*, who were non-English major students, and further supported by pedagogical advice and positive feedback she gained from her mentoring teacher. In addition, Nga's explanation for her choice to utilize EGP teaching approaches for ESP reveals that she had reflected on her prior knowledge of EGP teaching methodology and integrated it with her understanding of ESP objectives. In this sense, her reflection played a critical role in the spiral process of forming her beliefs about ESP teaching.

Nhi: The process of expanding, deepening and strengthening beliefs

Throughout the study, Nhi's beliefs about how to teach ESP focused on how to motivate ESP learners. These beliefs were expanded, deepened, as well as strengthened after both the ESP teaching methodology course and the practicum, as summarized in Table 4.4. This vignette explores Nhi's belief change process over this time, and also provides insights into how the methodology course and the practicum influenced these changes.

Initially, Nhi emphasized that ESP learners would be motivated by games and competitive activities, which she believed not only engaged learners but also made the lesson content more accessible and memorable. This belief arose because, in the teacher education programme, she had been impressed by an ESP teacher who used game-like activities to "make technical concepts simple and comprehensible." For Nhi, this way of teaching appeared to be more effective than traditional teaching approaches, which she believed encouraged rote learning.

Table 4.4: Changes in Nhi's beliefs

Nhi's beliefs	***At the start of the study***	***After the ESP teaching methodology course***	***After the practicum***
ESP methodology	✓ Games and competitive activities	✓ Games and competitive activities ✓ Suitability for learners' needs: + the lesson content + teaching approaches	✓ Games and competitive activities ✓ Suitability for learners' needs: + the lesson content + teaching approaches + teacher's subject knowledge and methodological knowledge

After the ESP teaching methodology course, Nhi's belief about ESP methodology was further elaborated. She broadened her perspective on how to motivate ESP learners. She now thought that "ESP learners have different needs for learning ESP" and that "learners' needs influence teachers' decisions on the ESP course content and teaching approaches." As a consequence, Nhi came to believe that ESP learners were motivated not only by game-like activities, as she had initially believed, but also by aligning the course content and teaching approaches with their needs.

The practicum experience further deepened, strengthened and expanded Nhi's developing beliefs that emerged after the input from the ESP teaching methodology course about how to motivate ESP learners. In the first few weeks of the practicum, she observed ESP lessons taught by four experienced teachers but felt that students in these classes were not interested in the lessons. In her opinion, this was because teachers focused on the Vietnamese meanings of terms and did not provide students

with an opportunity to speak English in class. This teaching approach consequently "inhibited their learning of the discipline-specific English language." As a result, the experience strengthened Nhi's beliefs that learners were not inspired when the teaching approaches used in a lesson did not help them to achieve their learning objectives.

A further development took place in the seventh week of the practicum, when Nhi was assigned to teach a reading lesson in an English for Mechanical Engineering course for students majoring in Automobile Technology. In planning this lesson, she wanted to demonstrate that teachers could motivate ESP students by both fulfilling their needs and using games. As the aim of this ESP course was to enable students to read English materials related to their field of interest, Nhi focused her lesson on developing their vocabulary and reading skills. In order to achieve these objectives, she "modified the teaching procedure and activities provided in the course book." In particular, she included some games to "promote students' active learning" and "create a relaxing learning atmosphere in which they learn with a lot of fun." As a result, unlike the students in the ESP teachers' classes that she had observed, she felt that her students enthusiastically engaged in her reading lesson.

In addition, while adapting activities and designing suitable games for her ESP lesson, Nhi became aware of the importance of both teachers' subject knowledge and pedagogical knowledge in teaching ESP. She did a lot of research on the internet as well as consulted a subject teacher and a student majoring in the field to ensure that she understood key terms and the subject knowledge of the lesson. She also received pedagogical support from her mentoring teacher to plan her lesson in such a way that the activities were logically organized and the games were meaningful. These hands-on experiences enabled Nhi to become aware that motivational ESP lessons and courses required not only ESP teachers' understanding of learners' needs but also their knowledge of the subject matter and relevant teaching methodology. This deeper insight into the nature of ESP teaching strengthened and deepened her developing beliefs about how to teach ESP. She said, "Real teaching [in the practicum] brought about my deeper understanding of learners' subject knowledge and needs as well as what and how to teach ESP." However, despite this acknowledgment, Nhi still felt that teaching just one ESP lesson in the practicum

was not sufficient and she would have liked to have had additional opportunities to practise teaching ESP.

The vignette about Nhi's belief change illustrates how the ESP teaching methodology course and the practicum exerted different influences on her beliefs. Whereas the input from the theory course expanded her understandings of how to motivate ESP learners, real teaching experiences in the practicum not only extended but also strengthened and deepened these understandings. Accordingly, she gained a clearer view of, and a deeper insight into, ESP teaching which subsequently resulted in her having stronger and clearer beliefs about how to teach ESP. In this sense, the practicum played a particularly critical role in sustaining the development of her beliefs.

Insights into setbacks to belief development

Whereas the three vignettes described in the previous section illustrate how beliefs of the participating pre-service teachers developed over the time of the study, there were situations in which some participants' beliefs remained unchanged, fluctuated or became confused or inconsistent. These processes have been termed as *counter-development* processes because these participants' beliefs did not become stronger or clearer over time. This was also because the ESP teaching methodology course and the practicum were unlikely to bring about more confidence in the participants' beliefs about ESP teaching. The *counter-development* processes of belief changes were caused by a number of reasons. The following vignettes of Thùy, Giang, and Châu were selected to shed light on these belief change processes in relation to the primary causes.

Thùy: Confusing input

Over the time of the study, Thùy became confused about how to teach ESP lessons. This sense of confusion was attributed to the input she received from the ESP teaching methodology course as well as to a dilemma that arose in the practicum. The confusion resulting from these experiences meant that she seemed to be unable to form clear beliefs about how to teach ESP throughout the period of this research. Thùy's vignette explores the reasons for her confusion as well as the influences on her beliefs.

After the ESP teaching methodology course, Thùy felt unclear about what should be included in an ESP lesson as well as how to teach an ESP lesson. She reported that she received two contradictory instructions on what should be included in an ESP lesson from the course teacher. In particular, throughout the methodology course, Thùy had held a strong belief that an ESP lesson should centre on teaching just one language item or skill. She attributed this belief to the course teacher's initial instruction in the theory lesson at the start of the methodology course. This belief then guided her evaluation of her classmates' lesson as well as the planning and teaching of her practice ESP lesson in the subsequent micro-teaching session.

However, Thùy recounted, "In the final class of the course, the teacher advised that we could get students to listen, then read and do grammatical exercises in an ESP lesson." For her, this procedure was different from what she had believed and very similar to the procedure for teaching EGP lessons. This new information also appeared to hinder her from making a clear distinction between teaching ESP and EGP. In addition, Thùy felt uncertain about how to teach ESP when she noticed her classmates' practice ESP lessons "were taught in quite different ways" and that "no typical lesson or model was provided." Consequently, she became confused, stating in the post-course interview that "I haven't been able to distinguish ESP from EGP. I don't know how to teach an ESP lesson either."

In the practicum, Thùy faced what for her was a challenging situation, which further contributed to her confusion on how to teach ESP lessons. She was assigned to teach a reading lesson about safety signs as part of a course in English for Electrical and Electronic Engineering. However, she was struggling to identify what to teach in the lesson and how to teach it. In particular, although her mentoring teacher expected her lesson to focus on the reading text and vocabulary, she found that this language knowledge was too easy for her students as they were English major students. Further confusion arose as, while she believed that the aim of ESP was to develop learners' communication rather than provide subject knowledge, her students seemed to be interested in understanding the subject knowledge which was unfamiliar to them. To resolve this dilemma, Thùy planned to use a Pre-While-Post reading procedure in order to provide the subject knowledge, a technique that was commonly used for teaching reading skills. She shared that she just wanted to "make the lesson structure look good" as well as "please my mentoring teacher."

However, Thùy's ESP lesson turned out to be less effective in reality than she had expected. For example, she shared that whereas the Pre-reading vocabulary activity was too easy to be meaningful, the Post-reading game, which required students' memorization of the newly-learned subject knowledge, was too challenging. As a result of this unsuccessful practicum teaching experience, Thùy became confused about "how to use the procedure for teaching [general English] language skills to teach a subject-content-focused ESP lesson." Therefore, Thùy was still uncertain about how to teach ESP, although she was clear that ESP learners' needs played a decisive role in what to teach.

This vignette shows Thùy's uncertainty about how to teach a specific ESP lesson as well as how to teach ESP in general. After the ESP teaching methodology course, she was unable to determine whether teaching ESP and EGP were different and was also unable to describe how an ESP lesson should be taught. Similarly, after the practicum, she still did not know how to include subject knowledge in an ESP lesson. For Thùy, the confusion she experienced in both the methodology course and the practicum hindered her from gaining a more in-depth understanding of ESP teaching, and from developing clearer beliefs about how to teach ESP.

Giang: The contrast between two ESP teaching experiences

Giang was one of just two participating pre-service teachers who held many beliefs about ESP teaching that remained unchanged after the teaching practicum. Her story explores her situation further and provides insights into the reasons why her beliefs were not influenced by the teaching practicum in the same way that this experience influenced other participants' beliefs.

During the time of the practicum, Giang experienced two contrasting ESP teaching contexts. One of these contexts was the practicum in the ESP teacher education programme, while the other was her part-time job as an ESP teacher at a foreign language school. In fact, she was the only participant who had exposure to ESP teaching in a real context, other than the practicum, during the time of the study. Before the practicum, Giang believed that the aim of ESP was to teach discipline-specific English language through general English teaching approaches and this belief remained unchanged following the practicum. In order to understand the

reasons for this persistence in Giang's beliefs, her two ESP teaching contexts (see summary in Table 4.5) will be explored in further detail below.

Table 4.5: Giang's ESP practical teaching experiences

	Practicum experiences	***Real teaching experiences***
ESP course	English for Electrical and Electronic Engineering	English for Business
Lessons taught	One 45-minute lesson	Fifteen 90-minute lessons
Time period	Eight weeks	Five weeks
ESP learners	Third-year pre-service ESP teachers	Business students and people doing business-related jobs

Giang believed that ESP focused on English language related to learners' academic or professional fields. However, this belief was in conflict with the ESP teaching experiences that she gained in the teacher education programme. In the practicum, she was assigned to teach a reading lesson for a course on English for Electrical and Electronic Engineering for third-year pre-service ESP teachers. Having taken the same course in the teacher education programme herself, Giang viewed this as an "unreal ESP teaching context" for "*unreal ESP learners*" who needed subject knowledge. Therefore, she focused her lesson on teaching the subject knowledge of the reading text provided in the course materials. Giang also did not employ any of the general English language teaching approaches that she believed were appropriate for teaching ESP. Instead, her lesson became similar to a lecture about subject knowledge in which she "explained everything to be safe." Giang also preferred this approach because of her lack of subject knowledge, despite feeling that this prevented her students from learning actively which she thought would be much more helpful. For example, because she was afraid that she would not be able to answer students' subject-related questions, she did not get them to explore the subject knowledge by themselves, which she believed would have been more beneficial to their learning.

In contrast to the practicum experiences, which conflicted with her existing beliefs about ESP teaching, Giang found that her *real ESP teaching* experiences as a part-time ESP teacher fitted better with her beliefs. From the fourth week of the

practicum, Giang had started a part-time job teaching a course in English for Business to business students and people working in the business field at a foreign language school. By the end of the time of the present study, she had taught 15 out of the 24 lessons in this course. From this experience, Giang observed that *real ESP learners*, who aimed to develop specific English language competence, appeared to be willing to share their deep subject knowledge and work experiences with her and with each other. Thus, she reflected that there was no need to teach subject knowledge in the same way as she had in her practicum lesson. Instead, she was able to teach in a way that supported her initial beliefs about ESP teaching. For example, she focused on "providing terms and organizing activities for learners to practise the language items they have learned." In addition, Giang felt that the main materials for the course she was teaching were well-designed with "logical, interesting activities that helped learners develop the English language used for specific [business] situations." For her, having this resource available enabled her to focus her attention on using general English language teaching techniques in her ESP class.

This vignette highlights two reasons that Giang's existing beliefs about ESP teaching were unchanged. Firstly, her experiences in teaching *real ESP learners* in the foreign language school fitted with her belief that ESP teaching should focus on developing learners' discipline-specific English language competence through general English language teaching approaches. Secondly, the experiences which Giang accumulated from teaching 15 ESP lessons to *real ESP learners* were much more influential than the teaching of a single ESP lesson to *unreal ESP learners*, pre-service ESP teachers, in the practicum. Therefore, her practicum experience in the teacher education programme did not seem to influence any change in her beliefs about ESP teaching.

Châu: The convergence of ESP learning and teaching experiences

After the ESP teaching methodology course, Châu's initial beliefs about ESP teaching remained unchanged, and at first even appeared to be strengthened by her teaching experiences during the practicum. However, these beliefs changed and became less consistent when she later reflected on her knowledge and experiences in ESP teaching (see Table 4.6). This vignette provides an insight into the reasons for the sudden changes in Châu's beliefs, which emerged as a result of her later reflection on the practicum, and disrupted the consistency across her emerging beliefs.

Table 4.6: Changes in Châu's beliefs

Châu's beliefs	***At the start of the study***	***During the practicum***	***After the practicum***
ESP learners	Pre-service ESP teachers	Pre-service ESP teachers	Non-English major students
Primary ESP objective	Subject knowledge	Subject knowledge	Specialized English language competence
Who should teach ESP	Subject teachers	Subject teachers	Subject teachers vs. English teachers

At the outset of the study, Châu believed that ESP courses should be taught by subject teachers to enable English major students to have "deep insight into specific fields" so that they could teach ESP after graduation. These beliefs became stronger after she had planned and taught an ESP lesson during the practicum because this teaching experience was similar to her own prior ESP learning experiences which had informed her initial beliefs.

In particular, in the practicum, Châu was assigned to teach a reading lesson for a course on English for Electrical and Electronic Engineering, to third-year pre-service ESP teachers. As these prospective ESP teachers had limited subject knowledge, she focused her lesson on teaching subject knowledge rather than on developing reading skills. She had even prepared explanations of the subject knowledge in Vietnamese, in case her students did not understand the subject knowledge through the activities she had planned. Her mentoring teacher, who was experienced in teaching both EGP and ESP, also encouraged her to explain subject knowledge explicitly before conducting practice activities. Consequently, teaching this practicum lesson strengthened Châu's initial beliefs that ESP teaching aimed to provide subject knowledge for pre-service ESP teachers and that ESP teachers should be subject teachers who had expert subject knowledge.

However, while reflecting in the interview after the practicum, Châu quickly changed her previously strongly held beliefs about ESP teaching. This change was triggered by her sudden awareness that *real ESP learners* would not be prospective ESP teachers, as she had initially thought. Instead, she found that they were more likely to be non-English major students who had already gained adequate subject

knowledge before taking ESP courses. As a result of this understanding, Châu modified her original belief that the primary aim of ESP was to teach subject knowledge. She now stated that ESP teaching should "focus on discipline-related terms or the language that [non-English major] students will use in their academic or professional fields."

However, this change in Châu's belief about ESP objectives then appeared to contribute to fluctuation in her beliefs about ESP teachers. She now vacillated between prioritizing the importance of teachers' subject knowledge and their language competence, as well as between who was best to teach ESP, English teachers or subject teachers. These vacillations imply that Châu had become confused as she tried to adjust her initial beliefs (about ESP teacher competencies and who should teach ESP) to be consistent with her emerging beliefs about ESP learners and objectives. However, it appears that her initial belief that ESP should be taught by subject teachers who had expertise in specific fields was a strongly held belief, as it appeared to be more resistant to change. As a consequence, Châu's beliefs became inconsistent. By the end of the final interview, she stated that the aim of ESP was to equip non-English major students with discipline-specific English language, and that subject teachers were more suitable for teaching ESP than English teachers.

The process of Châu's belief changes suggests that, although the convergence between her ESP learning and teaching experiences originally seemed to strengthen her initial beliefs about ESP teaching, these beliefs were still emergent and therefore not resistant to change. This may be because Châu acquired these experiences through *unreal ESP teaching contexts*, which were designed for pre-service ESP teachers rather than for *real ESP learners*. Therefore, once she acquired more understanding about the nature of *real ESP learners* through reflecting on all experiences in learning and teaching ESP, her initial beliefs about ESP teaching, which had previously appeared to be strong, changed quite suddenly. The change in her belief about ESP learners brought about immediate changes in her beliefs about ESP objectives and who should be ESP teachers. In turn, this change disrupted the consistency of her wider belief system. Nevertheless, despite these confusing experiences, Châu appreciated the "valuable lessons" about how to teach ESP that

she had gained over the time of the study when she was encouraged to be highly reflective.

Involvement of internal factors in belief change processes

In addition to the ESP teaching methodology course and the practicum, personal influences also played a role in the development and change of participating pre-service teachers' beliefs. In this section, the change processes of four participants' beliefs about ESP teaching will be presented to illustrate the influence of two important personal influences, which worked in combination with the influence of the ESP teaching methodology course and the practicum. Whereas the belief change processes of Hoa and Thu were greatly influenced by the effects of the approaches to learning to become ESP teachers they adopted, changes in the beliefs of Trà and Huệ were related to their motivation for becoming ESP teachers. The four vignettes that follow will explore the personal causes for their belief changes further.

Hoa: A pragmatic approach to learning to become an ESP teacher

Hoa was one of four participating pre-service teachers (i.e., Hoa, Giang, Ngọc, and Thiên) who was pragmatic about learning to become a qualified ESP teacher. In both the ESP teaching methodology course and the practicum, she paid more attention to accumulating practical activities and techniques which she could use to teach ESP lessons required by the teacher education programme, rather than forming a consistent and coherent overview of how to become an ESP teacher. This vignette illustrates Hoa's pragmatic approach and provides an insight into the change process of her beliefs about ESP methodology.

During the ESP teaching methodology course, Hoa's practical approach to gaining knowledge and skills to teach ESP resulted in specific changes to her beliefs about how to teach ESP. These emerging beliefs then, in turn, encouraged her to adjust the focus of how she went about learning to teach ESP. In particular, Hoa initially believed that ESP teaching methodology was comprised of specialized techniques and activities which were different from those used for teaching EGP. Therefore, at the start of this course, Hoa expected to learn more teaching techniques and activities which she could use for teaching specific ESP lessons. However, while observing ESP practice lessons, she noticed that her classmates used "the same language teaching techniques and strategies" as those she had learned for teaching EGP and

which she had previously used in practice EGP lessons. This observation seemed to encourage a reversal of her initial belief. Hoa then believed that "ESP and EGP are taught in similar ways" and she, therefore, stopped seeking specialized techniques and activities for ESP. Instead, she focused on how EGP teaching techniques and activities were employed in ESP lessons, in order to prepare for teaching her practice ESP lesson in the micro-teaching session of the methodology course. As part of this process, she observed how classmates made ESP lessons understandable and interesting and looked for what made "a typical ESP lesson."

In the practicum, Hoa observed ESP lessons taught by teachers and peers in order to prepare for teaching her ESP lesson, as required by the ESP teacher education programme. Observing ESP teachers' lessons assisted her to identify a suitable approach to planning her lesson. She noticed that the ESP teachers who were subject teachers focused on teaching grammar and discipline-related terms in Vietnamese, whereas those who were English teachers "used videos, pictures and simple English" to teach subject knowledge. Hoa preferred the latter approach because she believed that her practicum students, who majored in ESP teacher education, needed subject knowledge.

Observing her peers' lessons also equipped Hoa with further specific teaching techniques and activities that were relevant to her ESP lesson, and that could be used right away. For instance, one day before teaching her ESP lesson, Hoa observed a peer's lesson that was similar to the one she had to teach. She was particularly impressed by an activity which she felt "enhanced students' understanding of subject knowledge as well as aroused their interest." She thus revised her original plan, including this activity in her lesson. This activity, as well as her lesson, received praise and positive feedback from her mentoring teacher, so she felt proud of her teaching. Because of the perceived effectiveness of her pragmatic approach to learning to teach ESP, Hoa considered observing peers and teachers to be more influential to her beliefs about ESP teaching than her hands-on teaching experience. She explained, "Without having observed teachers and peers, I couldn't have identified good teaching techniques and strategies to use in my ESP lesson."

This vignette shows how Hoa took a pragmatic approach to learning to become an ESP teacher. She observed lessons to find relevant activities and techniques for her

own lessons. This approach was practically helpful in that it enabled her to deal with teaching ESP lessons in the methodology course and the practicum. In addition, in reflecting on her observational experiences, Hoa came to believe that ESP and EGP shared a similar teaching methodology. Therefore, it appears that her belief about how to teach ESP, which emerged after the ESP teaching methodology course and was confirmed after the practicum, was a result of her pragmatic approach to learning how to teach ESP.

Thu: A proactive approach to learning to become an ESP teacher

Thu was one of seven participating pre-service teachers (Châu, Huệ, Nga, Nhi, Thu, Thùy, and Trà) whose beliefs about how to teach ESP were significantly influenced by their initial belief that ESP learners comprised of English and non-English major students. However, unlike other pre-service teachers, Thu actively enquired into the differences in teaching these two groups of ESP learners, which ultimately helped to clarify her beliefs about how to teach ESP. This vignette further explores how Thu's proactive approach to learning how to teach ESP influenced a key change in her belief about ESP teaching.

Before the practicum, Thu believed that ESP learners who were English and non-English major students should be taught differently, but when asked more about this she could not clearly articulate the difference. This may have been because she had been exposed only to the learning and teaching of ESP as a prospective ESP teacher in the teacher education programme, but "had no opportunity to work with students of other majors." Therefore, whereas Thu was confident that she could identify how to teach ESP to English major students, she began to be curious about teaching non-English major students. For example, she wondered about whether new subject knowledge should be taught; how to teach subject knowledge if needed; and whether course materials were the same for English and non-English major students.

In the practicum, Thu attempted to understand how to teach ESP to non-English major students who she now considered to be the *real ESP learners*. After observing teachers' lessons for both prospective ESP teachers and students of other majors, she noticed that the main pedagogical difference was the amount of English language used in ESP classes. From her perspective, non-English major students could not learn ESP in English because their language competence was not as high as that of

prospective ESP teachers. Thu also conferred with her friends who had taught non-English major students because she had taught only prospective ESP teachers, who majored in English in the practicum. She reported that her friends had different viewpoints on teaching non-English major students. Some of them considered "it wasn't stressful because students didn't judge teachers' language competence;" some emphasized the challenge that "teachers have to spend much time and energy on understanding the deep subject knowledge;" and others shared their difficulty in dealing with course materials that they had never used before. For Thu, these different pieces of information helped her to begin to answer her earlier questions regarding how to teach non-English major students and to visualize the preparation process of ESP teachers.

Learning more about *real ESP learners*, which came from observing teachers' lessons and through her friends sharing their practicum teaching experiences, enabled Thu to gain a deeper insight into the nature of ESP teaching. After the practicum, she was not as concerned about the differences in teaching ESP to English and non-English major students as she had been before. Rather, Thu now tended to consider that the aim of teaching ESP was teaching the discipline-specific English language to students of majors other than English. Thus, she came to believe that "ESP should be taught through different teaching strategies and approaches that suit the lesson objectives, learners' needs and knowledge, and course materials."

This vignette shows how Thu's proactive approach to finding out more about learning to become an ESP teacher enabled her to have a deeper insight, which then resulted in clearer beliefs about ESP teaching. Her inquiry into the difference between teaching ESP to English and non-English major students was firstly initiated by her curiosity. Afterwards, however, she critically reflected on her understanding of who ESP learners were, as well as on her observational experiences in teaching non-English major students. This process appeared to be critical in helping to clarify her beliefs about ESP teaching.

Trà: Gaining confidence to teach ESP

Trà's belief changes were directly related to her desire and effort to be able to teach ESP confidently. The vignette that follows provides an insight into the reasons for her initial loss of confidence, and how her subsequent efforts to become a confident

ESP teacher brought about changes in her beliefs about ESP teaching which are summarized in Table 4.7 below.

Table 4.7: Changes in Trà's beliefs

Trà's beliefs	***After the methodology course***	***After the practicum***
ESP methodology	Unsure about teaching approaches	Inductive teaching approach
ESP teacher competencies	- Understanding learners - Pedagogical competence - Subject knowledge	- Subject knowledge - Pedagogical competence - Language competence

Trà had been "always very confident when teaching practice EGP lessons" in the previous teaching methodology courses. Therefore, when observing her classmates' practice ESP lessons, she confidently thought that she "could teach as well as them, or even better than them." However, Trà's confidence became lower when she came to plan and teach her practice lesson in the ESP teaching methodology course. At that time, she felt overloaded with subject knowledge when planning her lesson and was then disappointed about her lesson which she thought students found boring and incomprehensible. She was also confused about how to teach ESP because she felt she had taught this lesson in the same way as she had learned in the teacher education programme. Trà, therefore, attributed this "failure" to her insufficient pedagogical skills and subject knowledge, saying that "I didn't give good instructions, couldn't either control the class or manage group activities, and didn't have enough subject knowledge." Nonetheless, she still stated that ESP teachers' knowledge of learners' needs was the most important, an understanding that she appeared to gain from the theory lesson. As a result of this experience, Trà conceded, "The practice ESP lesson has changed my beliefs about my ability to teach ESP." This experience, however, seemed to provide a strong motive for her to work hard to re-gain her confidence.

In the practicum, Trà appeared to make every effort to become confident about her understanding of ESP teaching and about her ability to teach ESP. In particular, she actively used every opportunity to learn more about how to teach ESP. For example, she observed peers' lessons and explored how to create an exciting learning

atmosphere. She also observed lessons taught by ESP teachers who were subject teachers and learned how to explain subject knowledge. In addition, she learned from ESP teachers who were English teachers how to involve students in activities and how to encourage them to explore subject knowledge by themselves. Furthermore, Trà attended a meeting with the dean of the Faculty of Foreign Languages and raised questions about how to teach ESP. She was excited and greatly impressed by his idea of getting students to explore knowledge independently, because it coincided with what she deduced from observing teachers' lessons. In her interview, she, therefore, emphasized that this input had influenced the teaching of her ESP lesson in the practicum and had "brought about a dramatic change" to her belief about how to teach ESP.

Trà also put a lot of effort into lesson planning in order to teach with confidence when she delivered her single ESP lesson about the vocabulary of physical forces for prospective engineers. For example, she did a lot of research on the internet to learn about the terms, and she located suitable pictures, videos, and examples which illustrated the meaning of these terms. She even sought help regarding the subject knowledge from her mother who was a physics teacher. With this preparation, Trà confidently delivered her lesson in such a way that her students were motivated to be involved in teaching and learning activities. In class, she then asked students to work on group activities to explore the meaning of terms by themselves first and gave explanations later when needed, which she believed deepened their understandings. For her, this procedure not only created an exciting classroom atmosphere but also worked better in facilitating students' long-term learning than the traditional deductive lessons in which teachers were "knowledge providers" and students were "passive listeners." This lesson was considered to be a "successful" and "typical ESP lesson" by her peers, which boosted her confidence. Consequently, Trà emphasized that inductive teaching was suitable for ESP and ESP teachers ultimately needed subject knowledge and pedagogical competence. At the end of the study, she stated, "I think my beliefs now are more correct."

This vignette shows how Trà's determination to teach ESP lessons with confidence encouraged her to gain a deep insight into ESP teaching. This effort, in turn, brought about significant changes in her beliefs about ESP methodology and teacher competencies. Early in the study, after the ESP teaching methodology course, Trà

acknowledged that she was confused about how to teach ESP lessons, but that she believed teachers' understanding of learners was the most important. By contrast, after the practicum, she had come to believe that ESP should be taught inductively and that ESP teachers' subject knowledge and pedagogical competence were of utmost importance. The clarification of her beliefs about how to teach an ESP lesson and the reprioritization of her beliefs about teacher competencies imply that Trà's independent efforts to gain confidence to teach ESP were critically important to her belief change.

Huệ: Increasingly consistent beliefs versus decreasing motivation

Huệ was the only participating pre-service teacher whose beliefs about ESP became stronger and more consistent, but whose motivation for becoming an ESP teacher decreased at the end of the study. It was interesting that her enthusiasm and eagerness to explore the nature of ESP teaching, during the ESP teaching methodology course, did not result in significant changes in her initial beliefs. By contrast, the practicum experiences brought about clearer and more consistent beliefs in particular areas; but, at the same time, some of these experiences demotivated her. This vignette explores these changes in her beliefs and motivation, which are summarized in Table 4.8.

Table 4.8: An overview of Huệ's beliefs and motivation

		The ESP teaching methodology course	***The practicum***
Beliefs about	**Objectives**	Discipline-specific language	Discipline-specific language
	Methodology	ESP vs. EGP	ESP = EGP
	Teachers	Subject teachers	English teachers
Motivation for learning to teach ESP		High + theory lesson + discussions with classmates + further reading	Low + students + mentoring teacher

In the ESP teaching methodology course, Huệ appeared to be a highly motivated pre-service teacher. She made use of every opportunity to learn about ESP teaching. For example, she observed classmates' simulated ESP lessons and eagerly discussed

with them whether teaching techniques were used properly and what approaches should be used. Furthermore, pedagogical questions which remained unanswered after these discussions inspired her to research ESP methodology on the internet. For Huệ, these efforts were aimed not only to answer her friends' questions but also to identify approaches suitable for her practice ESP lesson, improving her understanding of ESP teaching.

Despite her enthusiasm and efforts to learn how to teach ESP well, Huệ's initial beliefs that the objective of ESP was to develop learners' discipline-specific English language competence and that subject teachers were best suited for ESP teaching remained unchanged. However, with regard to pedagogy, she became uncertain due to the similarity between ESP and EGP teaching methodology and reported she "felt vague about ESP methodology." Nonetheless, Huệ still appeared to be optimistic about her progress in learning how to teach ESP. She shared that "although I was confused [about ESP methodology], I found discussions helpful because they contributed to our clearer understanding of teaching activities and lesson procedures."

Following the methodology course, the practicum appeared to deepen Huệ's understanding of ESP teaching. For instance, her initial belief that ESP aimed to teach discipline-specific English language was confirmed because it was evident in the ESP lessons she had observed. These lessons, together with her single ESP lesson, also encouraged her to reverse her initial belief about ESP methodology and the suitability of subject teachers for teaching ESP. She now stated that ESP and EGP shared similar teaching approaches and that English teachers were a better choice. Consequently, Huệ's beliefs about ESP objectives, methodology and teachers became more consistent and therefore seemed to be growing stronger.

Despite the increased consistency in her beliefs, however, Huệ's motivation for learning to teach ESP dropped significantly. Her experiences in planning and teaching a lesson for third-year pre-service ESP teachers, which focused on describing components of simple machines, seemed to be the primary cause of her decreased motivation. Initially, assuming that the students had gained the subject knowledge prior to her lesson, Huệ planned to use the existing activities, which were originally designed for students who major in the field. However, the subject

knowledge was incomprehensible to her students, which required her to give further explanations, leaving her less time for language-focused practice activities. Although Huệ believed that this situation was unavoidable, she admitted that this increased her nervousness and anxiety. She said, "Students looked bored and unfriendly, because the activities were too difficult, or because they didn't trust me [to teach them]. I am only one year senior to them. But I needed to get them involved and finish the lesson." Huệ also felt overwhelmed and demotivated by the attitude of her mentoring teacher who "looked dissatisfied and annoyed." Consequently, Huệ shared after teaching this lesson: "I don't know how I can survive the practicum. I'm feeling really disappointed …. Now I no longer care about how to teach ESP and try to think that disappointment is sometimes good." She expressed her loss of motivation for becoming an ESP teacher after graduation.

This vignette shows the contrasting changes in Huệ's beliefs and motivation as a result of the different influences of the ESP teaching methodology course and the practicum. Whereas her beliefs about ESP teaching changed to become stronger and more consistent in accordance with the increase in her insights into ESP teaching, her motivation for becoming an ESP teacher decreased following her practicum experiences. In Huệ's case, it appears that the ESP teaching methodology course was less informative, although more motivating than the practicum. This vignette also suggests that although a pre-service teacher's belief development was critical in the teacher education programme, emotion could be a decisive factor for a career choice after graduation which should be taken into account. Among the reasons for Huệ's demotivation in the practicum was her perception of her limited understanding of students' needs and background knowledge as well as her feelings about the mentorship.

Teasing out the factors influencing belief changes

Over the time of the study, participating pre-service teachers' beliefs were influenced by a wide variety of factors. These factors can be grouped into two categories: contextual factors related to the ESP teacher education programme, and internal factors associated with individual participants. In this section, an overview is provided of how these varied factors influenced the pre-service teachers' beliefs over the time of the study.

Contextual factors

The ESP teaching methodology course and the practicum were two critical components of the ESP teacher education programme. However, each of these components exerted different influences on the development of the participating pre-service teachers' beliefs about ESP teaching. The methodology course provided the pre-service teachers with mostly theoretical input, whereas the practicum subsequently exposed them to the reality of ESP teaching. The impacts of these contextual factors are now explored in further detail.

The ESP teaching methodology course

The first explicit input provided by the five-week ESP teaching methodology course contributed to different changes in the participating pre-service teachers' initial beliefs about ESP teaching. In general, after the methodology course, most participants confirmed their initial belief that although ESP teachers needed both subject knowledge and English language competence, subject knowledge was more important than language competence. They also expanded their wider belief system by including more ESP teacher competencies, such as understanding of learners' needs and the ability to develop course syllabi and materials. These findings suggest that the new input about ESP teacher competencies, provided by the methodology course, supported and expanded the participants' initial knowledge and understanding gained from their prior experiences as learners in the five ESP courses during the teacher education programme.

In addition, some fluctuation was observed in the beliefs about ESP objectives, methodology and who should teach ESP of participants, such as Thiên, Thu, and Thùy, after the methodology course. For example, Thiên vacillated between subject knowledge and language competence as the primary objective of ESP teaching. She was also unable to define whether ESP could be taught in the same ways as EGP as well as whether ESP should be better taught by subject or English teachers.

The influence of the methodology course on the participants' initial beliefs appeared to be a combined result of its two key components: the theory lesson and the micro-teaching session. The single theory lesson that participants attended was teacher-led, and the data suggests this mainly helped them to distinguish the field of ESP from EGP, and ESP teachers from EGP teachers. The micro-teaching session, on the other

hand, offered a chance for groups of pre-service teachers to plan and teach a single simulated ESP lesson to their classmates. However, they could also observe their classmates' lessons while participating as learners, and they were able to listen to the course teacher's brief feedback on these lessons. The data show that these two components of the methodology course exerted different influences on the change in the pre-service teachers' initial beliefs. Their specific influences will be outlined below.

The theory lesson

The most noticeable influence of the theory lesson was that the pre-service teachers had a clearer concept of the competencies required of ESP teachers. After this lesson, most of the participants came to believe that ESP teachers should understand ESP learners' needs and be able to design or develop course syllabi and materials, points which they had not mentioned previously. In addition, the lesson seemed to reinforce many participants' confidence about their belief that ESP teachers should understand the subject knowledge of ESP lessons or courses. However, their beliefs about this aspect varied. For example, whereas Hoa emphasized that the lesson confirmed her belief that ESP teachers "must have a deep understanding of the subject matter," Huệ commented that "ESP teachers do not need expert subject knowledge." This difference in perception and understanding implies that the pre-service teachers interpreted information from the theory lesson in different ways.

The theory lesson also deepened many participants' understandings of ESP objectives and thus their initial beliefs were either confirmed (e.g., Châu and Giang) or modified (e.g., My, Huệ, Nga, Ngọc, and Nhi). For example, after learning "from the theory lesson that teaching ESP is similar to teaching the EGP but focuses on specific discipline-related topics," Giang's initial belief that the primary aim of ESP was to teach English language became stronger. Similarly, Nhi reported being informed that "ESP learners are both students and working people who need the English language used for their jobs." She, therefore, became convinced that the primary aim of ESP was teaching the discipline-specific English language. It is important to note also that the change in these pre-service teachers' beliefs about ESP objectives sometimes led to changes in their beliefs about other aspects of ESP teaching. For instance, due to her emerging beliefs about ESP objectives, Nhi now

viewed that ESP could be taught through EGP approaches. My also strengthened her belief that English teachers were the most suitable for teaching ESP.

However, the theory lesson also brought about confusion for many pre-service teachers (e.g., Châu, Hoa, Huệ, Nhi, Thiên, Thu, Thùy, and Trà). It appears that what they gained from this lesson was contradictory to their initial understanding of one or more specific aspects of ESP teaching, and that the new input was not strong enough to replace their initial beliefs. For example, explaining her inconsistent answers about ESP objectives and who should teach ESP, Thu admitted that she sometimes simply re-stated what she had learned from the theory lesson rather than expressing her genuinely held beliefs. Some participants, such as Thùy and Thiên, reported that the theory lesson itself contained conflicting content. For instance, Thùy felt that the course teacher gave inconsistent instructions about how to teach ESP lessons. She then became confused and unable to define which approach would be more appropriate. Thus, these pre-service teachers stated both their initial beliefs and newly-gained knowledge in the same interview. Although this finding gave an impression that they simultaneously held two conflicting beliefs, it also suggested that they were unable to resolve the confusion caused by the apparently conflicting input.

The micro-teaching session

The influence of the micro-teaching session on the participating pre-service teachers' initial beliefs was not as noticeable as the impact of the theory lesson. During the four-week micro-teaching session, each group of pre-service teachers chose an ESP lesson that they would teach in about 30 minutes. In doing this, they tended, as they were advised, to draw upon lessons in available ESP course books or from any ESP courses they had taken in the teacher education programme.

It is important to note that learners in the simulated lessons during the micro-teaching session were participants' classmates who were English major students. While these lessons provided a context for the participants to practice and experience being both a teacher and a learner of an ESP lesson, some participants (e.g., Giang, My and Thùy) felt that this was of little help. As Thùy stated, they neither needed much effort to make the language and subject knowledge comprehensible to their classmates, nor were they able to experience the importance of some of the teacher

competencies they had just learned about in the theory lesson. However, some other participants considered that this practice teaching was important. Their reasons varied, however. For instance, Thu and Châu explained that the micro-teaching session enabled them to become more aware of the gaps between theories about ESP teaching and its practice. Huệ also noted it helped her to understand the roles of ESP teachers, while Ngọc said it assisted her to gain more subject knowledge. In addition, many participants (i.e., Hoa, My, Nga, Ngọc, Nhi, and Thiên) appreciated that the micro-teaching session allowed them to apply what they had learned. Thus, although the practice teaching of an ESP lesson seemed unlikely to result in any immediate change in their beliefs, it appeared to promote the development of the pre-service teachers' thinking about ESP teaching.

While being learners in their classmates' lessons, the pre-service teachers were also observing their teaching. Many participants reported this combination of participation and observation encouraged them to reflect on their understanding of how to teach ESP. For example, Huệ shared that, after each lesson taught by her classmates, she and other pre-service teachers discussed the strengths and weaknesses of that lesson as well as how it could be improved. This was helpful in that, as she stated, "the discussions contributed to our clearer understanding of teaching activities and lesson procedures." In addition, many participants, such as Hoa, My, Nga, Ngọc, Nhi, and Thiên, acknowledged that they had learned a number of useful teaching activities and techniques from their classmates' simulated ESP lessons. Indeed, these activities and techniques, and the reflection on what they had learned, confirmed Giang's initial belief and informed the belief of many participants, that ESP could be taught through EGP approaches.

Ultimately, the freedom to choose the ESP lessons to teach in the micro-teaching session confused some participants. Thiên, Thu, Thùy, and Trà admitted that they felt lost because classmates' micro-teaching lessons were taught in varying ways. For instance, Thu shared that this variety gave her a feeling that her classmates "had no clear image of how their lessons should be taught." She, therefore, became doubtful about whether her lesson "was taught in the right way." These pre-service teachers seemed to be looking for, and to need, a model of an ESP lesson to refer to when planning, teaching and evaluating their ESP lessons.

The practicum

During the eight-week practicum, the participating pre-service ESP teachers were required to observe ESP lessons taught by experienced teachers, to observe ESP lessons taught by peers who were also final year pre-service teachers, and to teach an ESP lesson. The observed ESP lessons were for either English major students who were prospective ESP teachers, or non-English major students, most of whom were doing their undergraduate degrees in engineering fields. Thus, the prospective learners of the participants could be either English or non-English major students. Seven of the twelve participants taught English major students who were second- or third-year pre-service ESP teachers, while five participants taught their single ESP lessons to non-English majors. The single ESP lesson they taught, therefore, varied in focus. In addition, during the practicum, the twelve participants were under the mentorship of teachers with different experiences in teaching EGP and ESP. It was likely that most of the mentoring teachers provided significant pedagogical support when the participants were preparing and teaching their ESP lessons. Table 4.9 summarizes the pre-service teachers' practicum experiences. Despite being different, the practicum experiences seemed to offer opportunities for the participants' existing beliefs about ESP teaching to be tested in reality and exerted significant influences on changes in the participants' beliefs about ESP teaching. The participants also considered that the practicum had more influence on their emergent beliefs than the ESP teaching methodology course.

The most noticeable change after the practicum was that many of the participating pre-service teachers' existing beliefs about ESP teaching were confirmed and thus became stronger. In fact, all of the participants confirmed their current beliefs about ESP teacher competencies. Half of them also confirmed their beliefs about ESP objectives, and three participants confirmed their beliefs about ESP methodology. This level of belief confirmation had not happened after the ESP teaching methodology course, which indicates that the change was, to some extent, influenced by a convergence between what the pre-service teachers had theoretically acquired from the ESP teaching methodology course and what they had learned from their practical experiences.

Table 4.9: The participants' practicum experiences

Participants	ESP lesson	ESP students	Mentoring teachers
My	Grammar (Structures with *it*)	Non-English majors (Mechatronics)	Experienced in teaching EGP
Trà	Vocabulary (Forces)		
Ngọc	Reading (Lubricant system)	Non-English majors (Automobile Technology)	Experienced in teaching EGP
Nhi	Reading (Cooling system)		
Nga	Reading (Vitamins: while & post-reading activities)	Non-English majors (Home Economics)	Very experienced in teaching EGP, ESP, and ELT methodology
Châu	Reading (Electric motors)	Pre-service ESP teachers	Very experienced in teaching EGP & ESP
Hoa	Reading (Five alternative power resources)		
Thiên	Reading (Safety)	Pre-service ESP teachers	Experienced in teaching EGP
Thùy	Reading (Safety signs)		
Giang	Reading (Electric motors)	Pre-service ESP teachers	Experienced in teaching EGP and ESP
Huệ	Writing (Describing components of electric motors)	Pre-service ESP teachers	Experienced in teaching EGP, ESP, and ELT methodology
Thu	Reading (Vitamins)	Pre-service ESP teachers	Very experienced in teaching EGP and ESP

In addition, many participants extended and reprioritized their beliefs about ESP teacher competencies after the practicum teaching experience. For example, Nhi added the concept that ESP teachers should design course materials to suit their students' needs to her existing beliefs about ESP teacher competencies. She also rearranged the order of importance of the competencies that she believed ESP teachers needed, giving priority to their English language competence, which she had previously thought was the least important. Furthermore, many participants modified their beliefs about ESP objectives and methodology. These changes in the pre-service teachers' beliefs suggest that there was a degree of divergence between

the beliefs gained from the experiences that the practicum offered and those they had gained from their prior ESP learning experiences and the methodology course.

Changes that occurred in the participants' beliefs about ESP teaching after the practicum appear to be attributable to the combination of different experiences that they went through. These experiences included observing ESP lessons taught by experienced ESP teachers and peers, as well as teaching a single ESP lesson. The particular influences of these major contextual factors on the participants' beliefs about ESP teaching will be outlined below.

Observing experienced teachers' ESP lessons

Most of the participants observed two or three experienced ESP teachers who were English teachers and/or subject teachers. At the University of Technology and Education, ESP courses for pre-service ESP teachers were taught by English language teachers, whereas most of ESP courses for students in other programmes were taught by subject teachers. At the time of the practicum, ESP courses for these two groups of learners were run concurrently. The pre-service teachers themselves, or their mentoring teachers, arranged the observations with the teachers of ESP classes in which they were about to teach in the practicum. In this way, the pre-service teachers could learn not only about ESP teaching from observing the teachers' lessons, but also get to know their prospective learners who they would teach shortly afterward. Some participants also managed to observe ESP lessons taught by other teachers, to learn more about the subject knowledge or the pedagogy. These different observation experiences appeared to result in varying influences on the participants' beliefs.

The most noticeable contribution to the pre-service teachers' developing beliefs, from observing teachers' ESP lessons, was that it enabled them to visualize how ESP was taught in reality. Many of the participants (i.e., Châu, Giang, Hoa, Nga, Nhi, Thu, Thùy, and Trà) acknowledged that this experience bolstered their confidence about their understanding of ESP teaching which, until then, had been informed by their prior learning experiences and the theory methodology course. For example, Thùy emphasized that the observation experience, to some extent, resolved her confusion about how to teach both the language skills and the subject knowledge included in ESP lessons. In addition, some participants (i.e., Hoa, Huệ, My, Ngọc,

and Thiên) reported that the observation provided an excellent chance to learn about ESP teaching in reality. For instance, Hoa commented that observing teachers' lessons at the start of the practicum filled the gaps in her knowledge of ESP methodology and subject knowledge before she taught her own ESP lesson. Furthermore, observing teachers' ESP lessons seemed to strengthen the beliefs about teacher competencies and who should teach ESP of some participants (i.e., Giang, Huệ, My, Nga, and Trà), although they had previously learned about these from the ESP teaching methodology course. These findings show that, despite being learners in ESP classes for five semesters, only in the practicum did the participants really understand how ESP should be taught from the perspective of prospective ESP teachers.

However, some participants (i.e., Châu, Huệ, My, Nhi, Ngọc, and Trà) did not feel that observing teachers' ESP lessons brought about any dramatic change to their beliefs about ESP teaching. For them, some lessons, especially those taught by subject teachers, were boring and confusing due to the teachers' choice of teaching techniques. For example, Nhi shared that "subject teachers don't have good English language competence;" they "talk too much in Vietnamese," and "read new words loudly and explain them in Vietnamese." In her opinion, this teaching approach "inhibited students' English language learning." Consequently, these pre-service teachers felt that observing the subject teachers' lessons, as Châu put it, was "a waste of time."

Observing pre-service teachers' ESP lessons

The participating pre-service teachers observed between three to five ESP lessons taught by other pre-service ESP teachers. As each pre-service teacher was required to teach an ESP lesson during the practicum, the participants could observe as many ESP lessons taught by peers as they liked. All of the participants wanted to learn more about the ESP learners who they were about to teach. However, many purposefully chose to observe ESP lessons that were similar to the lessons they were assigned to teach. In addition, while some participants hoped to learn more teaching techniques, some others just supported friends who were teaching. Therefore, like observing teachers' ESP lessons, this contextual factor (observing peers) had varying influences on the participants' beliefs about ESP teaching.

Despite their varying experiences, by observing other pre-service teachers' ESP lessons, the participants obtained experiences of teaching techniques and activities in ESP lessons related to various disciplines. They were excited to see how their peers conducted varied teaching activities in real classes and each gained differing pedagogical knowledge from these observations. For example, Huệ made a long list of classroom management techniques she believed to be important in ESP classes, and Hoa "adopted activities or techniques that friends conducted successfully in their classes." Nhi learned about the critical importance of teachers' understanding of ESP learners' language levels and their flexibility in choosing teaching strategies and methods. Thus, this practicum experience was of great practical benefit to the participants and brought about many important changes to their beliefs. For example, Ngọc, Nhi, and Thùy agreed that observing other pre-service teachers' lessons strengthened their belief that ESP lessons could be taught with the same techniques and activities used in EGP lessons. Nga also reported that she attributed her emerging beliefs about ESP objectives and methodology to her reflections on observing peers' lessons.

In addition, the observation of peers as part of the practicum experience was beneficial to the participants in that they could understand their prospective learners better. Observing ESP lessons that were taught by both the course teacher and peers, in the ESP class they were assigned to teach later, helped them to have a better understanding of learners' levels and attitude to learning ESP. Many participants, such as Giang, My, Nga, Nhi, and Trà, considered that this understanding helped them to teach a good ESP lesson in the practicum. Drawing on their understandings of learners, as well as the pedagogical "pains and gains" of their peers, these pre-service teachers felt they were able to choose suitable teaching techniques and activities for their ESP lessons. In this regard, their beliefs that ESP teachers should understand learners' diverse needs became stronger.

However, although all participants appreciated the advantages they gained from observing peers' ESP lessons, some participants (i.e., Châu, Ngọc, Thu, and Trà) did not consider this contextual factor to be the key influence on their beliefs about ESP teaching. For example, Ngọc complained that she expected to gain a wide variety of teaching techniques and activities from peers' lessons, but then found that "their lessons were similar." Trà, on the other hand, shared that other pre-service teachers'

lessons did not influence her beliefs because she "usually disagreed with the teaching techniques and activities used in their lessons." However, it is still possible that the practicum experience might have influenced these participants' beliefs in ways that they might not have realized. Consequently, this practicum experience may have been an implicit influence on the pre-service ESP teachers' beliefs and influenced their belief change processes without their conscious awareness.

Planning and teaching an ESP lesson

The practicum provided the participating pre-service teachers with differing experiences of planning and teaching an ESP lesson. These differing experiences can be attributed to the differences in their ESP students, the ESP lessons they had to teach, the mentoring teacher's support and requirements, and other components of the practicum. As will be discussed below, these specific contextual factors were found to be interconnected and to exert varying impacts on the participants' beliefs about ESP teaching.

The background knowledge of ESP students and their attitudes toward learning often challenged the participating pre-service teachers during the practicum. While Châu, Giang, Hoa, Huệ, Thiên, Thu, and Thùy taught prospective ESP teachers, My, Nga, Ngọc, Nhi, and Trà taught students from other majors. It emerged that those who taught prospective ESP teachers struggled with making the subject knowledge comprehensible to those students who had little or no relevant subject knowledge and were consequently not well motivated. For example, Huệ became demotivated and had to adjust some activities in class because her students' lack of subject knowledge and attention spoiled her lesson plan. On the other hand, those who taught students from other majors confronted their students' inadequate English competence in doing language development activities. For example, although My attempted to employ discipline-related contexts in her grammar ESP lesson, she doubted that her learners could understand and use the grammatical structures she introduced. These examples provide insights into the effects of the practicum experiences on beliefs as the participants became more aware of the reality of ESP teaching.

It is important to note that the subject knowledge included in ESP lessons always troubled the participants, regardless of who their learners were. They believed that

they should have good subject knowledge or at least master the subject knowledge of their lesson. They also believed that they needed to feel confident when teaching the subject-specific English language for students of other majors, or when explaining subject knowledge to prospective ESP teachers. These beliefs encouraged the participants to seek deeper subject knowledge from the internet and from subject teachers. However, many were unsure about their newly-gained knowledge, which in turn challenged their pedagogical decisions. For example, Giang decided to lecture on what she understood about the subject knowledge rather than letting learners explore the knowledge. In this way, she avoided questions which might be beyond her current subject knowledge. Overall, it appears that the experience of planning and teaching an ESP lesson deepened the participants' understanding of the importance of ESP teachers' subject knowledge in guiding their pedagogical decisions. As a result, most of the participants highlighted that the practicum experience strengthened their beliefs about the importance of ESP teachers' subject knowledge and their pedagogical competence.

The mentoring teachers' support and guidance, especially when the participants were planning their single ESP lesson, seemed to be a further critically important factor that promoted or hindered their developing beliefs about ESP teaching. Some participants, such as Nga, Ngọc, and Nhi, particularly appreciated their mentoring teachers' methodological and pedagogical support when they started planning their ESP lesson. For example, Ngọc shared that her mentor "was very influential" to her "choice of lesson objectives and teaching activities." Ngọc and Nhi were also helped with planning the subject knowledge of their lessons by the subject teacher whose ESP class these pre-service teachers were about to teach. They, therefore, felt more confident about their lesson, regarding both methodology and subject knowledge. Consequently, their beliefs about ESP methodology and teacher competencies were confirmed and elaborated.

On the other hand, however, many other participants shared that they were provided with little support and guidance during their ESP lesson planning, and received only general comments after their teaching. Some participants, such as Châu, Thùy, and Thiên, were also required to restructure their lesson or change some activities to make their lessons more relevant to the lesson objectives, but the mentoring teacher's instructions or suggestions were unclear in guiding them on how to do this.

Thus, these pre-service teachers felt confused when redesigning their lessons, and indeed became reluctant to conduct their revised activities during the lesson. This confusion tended to bring about fluctuation in their beliefs about ESP methodology.

Ultimately, while planning and teaching their ESP lesson, some of the participants had to try to achieve a balance between their teaching intentions, their learners' expectations, and their mentoring teacher's requirements. For example, Thùy and Thiên had to choose between their learners' expectations to gain subject knowledge and their mentoring teacher's requirement to focus on language knowledge. Châu also had to deal with the difference between her preferred inductive teaching approach and the deductive teaching approach suggested by her mentoring teacher. It could be that these conflicts may reflect specific knowledge conflicts within the teacher education programme. There was a gap, for example, between the theory emphasizing the need to address learners' needs in ESP teaching, which they had learned about, and the reality of doing so in the practicum. Such gaps subsequently decreased the pre-service teachers' confidence and belief in their prior knowledge. However, as they experienced this situation in teaching one ESP lesson, the new experience was not strong enough to replace their prior knowledge and experiences. As a result, beliefs about ESP objectives of Thùy and Thiên as well as Châu's beliefs about ESP methodology fluctuated after the practicum.

Internal factors

As described in the vignettes, the participating pre-service teachers' beliefs about ESP teaching were personalized by internal factors. In the current study, influential internal factors included reflection on prior knowledge and experiences, approaches to gaining knowledge and skills to teach ESP, and motivation for learning how to teach ESP. In particular, it was found that the influence of some internal factors on the participants' beliefs varied across participants. As a result, a specific factor could strongly influence the beliefs of some participants but be unimportant in creating belief changes in others. These factors are briefly highlighted below.

Critical reflection

Reflection appeared to be pivotal to changes in beliefs of many participating pre-service ESP teachers. In reflecting on their prior knowledge and experiences, some participants were able to identify the similarities and differences between their prior

and new knowledge and experiences. For example, when observing practice ESP lessons in the ESP teaching methodology course, Châu recognized the similarity between ESP and EGP teaching by referring to her prior pedagogical knowledge about EGP teaching. In addition, Giang, by comparing her practicum teaching experiences and her extensive *real ESP teaching* experiences at a language school, came to view her practicum as an *unreal context* for ESP teaching. These critically reflective comparisons, between past and present knowledge and experiences, which were gained from different sources, encouraged the participants to deepen their insights into ESP teaching. It was this deeper level of insight that appeared to foster their strongly held beliefs about ESP teaching.

In addition, critical reflection on different aspects of ESP teaching contributed to the consistency that was noted across beliefs about ESP teaching of some participants. In reflecting on the interconnection between individual beliefs within their belief system, some participants felt that their beliefs about ESP teaching should be consistent and also needed to be centered around ESP objectives. For instance, after the ESP teaching course, Nga adjusted her belief about the primary objective of ESP teaching, from being focused on discipline-related terms to being more about broader discipline-specific language competence. She appeared to compare these perspectives, and then to realize the similarity between the primary ESP objective and that of EGP. This encouraged her to take her prior knowledge of EGP teaching methodology into consideration when forming new beliefs about ESP methodology. As a result, her beliefs about ESP objectives and methodology became more consistent after the methodology course. This finding indicates that critical reflection could lead to a more complex integration between a pre-service teacher's prior knowledge and her new knowledge and experiences as well as between her prior and existing beliefs.

It was notable that many participants, such as Châu, Giang, Huệ, My, Nga, Nhi, and Trà, were consciously aware of the importance of reflection in their learning to teach ESP. They considered that "We don't learn from our experiences but from reflection on our experiences" (My, citing a well-known Vietnamese saying). These participants usually valued practical learning experiences, which they viewed as critical chances for reflecting on their practice, over the theoretical input from the methodology course. For example, Châu admitted that, although her ESP lesson in

the practicum was not as good as she had expected, she learned a lot from her "mistakes" through "reflection that contributed to my beliefs about ESP teaching."

Approaches to developing ESP teaching skills

The participating pre-service ESP teachers had differing approaches to developing ESP teaching skills in the teacher education programme. Participants (such as Giang, Hoa, Ngọc, and Thiên) who adopted a more *pragmatic* approach, aimed at practical teaching techniques and activities which served their short-term purpose of teaching the ESP lessons required by the teacher education programme. Many other participants (such as Châu, Huệ, My, Nhi, and Thùy), however, were more concerned about how they could be well prepared for their future jobs as ESP teachers. They, therefore, adopted a more *comprehensive* approach, aiming to gain as much systematic and comprehensive knowledge about ESP teaching as they could. In addition, participants (such as Châu, Hoa, Huệ, Nhi, Thu, Thùy, and Trà) adopted a more *proactive* approach than other participants (such as Ngọc and Thiên) who showed a more *passive* style of gaining knowledge and skills to become ESP teachers. This difference shows how the participants managed to control their process of learning how to teach ESP and prepared for what they considered was most important in this process.

There was also found to be a close connection between the participating pre-service ESP teachers' approaches to learning how to teach ESP and their beliefs about ESP teaching. It appears that their emerging beliefs about ESP teaching were continually shaped as their understandings of ESP teaching grew, and these undesrtandings, to a large extent, reflected how they went about learning to teach ESP. For instance, over the time of the study, Hoa simply tried to gain as many teaching techniques and activities as possible to teach the ESP lessons required by the ESP teaching methodology course and the practicum. Her *pragmatic* approach enabled her to deal with the requirements of the teacher education programme. However, she appeared to lack an overview of ESP teaching as well as a deeper insight into the nature of ESP teaching, which was seen in her stated beliefs about ESP teaching. By contrast, Thu actively explored the difference between teaching ESP to English major and non-English major students, in order to solve her confusion that arose after the methodology course. She then came to understand that teaching these two groups of ESP learners required different preparation and class activities because each group

had different learning needs. Therefore, this *proactive* exploration helped her to gain greater insight into the nature of ESP teaching for her future work, rather than simply working to meet the immediate requirements of the teacher education programme. As a result, she ultimately formed strong and coherent beliefs about ESP teaching.

Motivation for developing ESP teaching skills

Motivation for gaining knowledge and skills to teach ESP was also found to influence some participants' beliefs about ESP teaching during the time of the study. It appeared that the higher the motivation that a pre-service teacher had, the stronger and clearer the beliefs she held afterwards became. For example, Thu's curiosity motivated her to actively inquire about how to teach ESP to non-English major students, which resulted in her developing clearer beliefs about ESP teaching. Similarly, becoming a confident ESP teacher was a motive for Trà to actively explore how to teach ESP, which then deepened her understanding and clarified her belief about how to teach ESP. Hence, these pre-service ESP teachers' motivation influenced their initial decisions to learn to teach ESP and also influenced how they went about this.

However, for some participants, the level of motivation was not always proportionate to the belief development. The change in Huệ's beliefs about ESP teaching and her motivation for learning how to teach ESP was an example of this. After the ESP teaching methodology, although she had unclear beliefs about ESP teaching, Huệ was enthusiastic to keep exploring this field and to become an ESP teacher. Later, the practicum experiences enabled her to hold clearer and stronger beliefs about ESP teaching, but in the end, she no longer wanted to learn about ESP teaching or to teach ESP. This example indicates that a pre-service teacher's belief development may not be entirely dependent upon her motivation for learning to teach. In fact, motivation appeared to be a significant internal factor that contributed to the formation of pre-service teachers' beliefs in their process of developing their knowledge and skills to teach ESP.

Overview of belief changes and influencing factors

Overall, the participating pre-service ESP teachers' individual beliefs changed in a wide variety of ways, suggesting different influences on their beliefs, including various parts of the ESP teacher education programme and internal factors. The

findings regarding the participants' belief change processes can be classified under two key tendencies: *development* and *counter-development*. Beliefs of some pre-service teachers, such as those of Hoa, Huệ, My, Nga, Nhi, and Trà, developed to become stronger, clearer, and/or more consistent over time. By contrast, beliefs of other pre-service teachers, such as those of Châu and Thùy, became less strong and less consistent by the end of the study, and a few participants, such as Giang, held beliefs that appeared to remain untouched. In addition, the variations in the participants' beliefs reflected the diverse and individualistic nature of their belief change processes. The complexity of this process makes it difficult to identify general principles underlying changes across all pre-service teachers' beliefs.

The findings show the different influences of the contextual and internal factors on the participants' beliefs. Within the ESP teacher education programme, both the ESP teaching methodology course and the practicum did exert an influence on the pre-service teachers' belief formation and change. Whereas some participants' initial beliefs were more likely to fluctuate and others appeared to be expanded after the methodology course, beliefs emerging after this course were more likely to be maintained or confirmed. In addition, within the ESP teaching methodology course, the theory lesson initially appeared to be more influential on the participants' beliefs than the micro-teaching session. Nonetheless, all components of the later practicum were found to be important in developing clearer beliefs. As Nhi said, "The practicum was more influential in changing my beliefs than the ESP teaching methodology course."

Internal factors, especially the participants' reflection on their prior knowledge and experiences, approaches to learning to become ESP teachers and motivation for learning to teach ESP, also contributed to their belief changes. These factors also tended to promote stronger belief changes during the methodology course and the practicum, through helping to deepen the participants' understandings of ESP teaching. Thus, there was a close relationship between internal and external factors. As Châu shared, "Observing friends and teaching classmates encouraged reflection which influenced my perception and beliefs about ESP teaching."

Chapter summary

This chapter presented the key findings of the current study in relation to two major aspects: the pre-service ESP teachers' initial beliefs about ESP teaching, and *how* and *why* these beliefs changed over the time of the study. The findings indicate that, at the start of the study, the pre-service teachers held a wide variety of beliefs which related to ESP objectives, methodology, teacher competencies and who should teach ESP. There was a strong consensus among the participants' *initial* beliefs about the importance of subject knowledge in ESP teaching. Most of the participants emphasized that there was a need for a specialized methodology for teaching the subject knowledge included in ESP courses; that ESP teachers should have deep subject knowledge; and that subject teachers were the most suitable for teaching ESP. However, the participants held varying beliefs about ESP objectives, and this resulted in the different levels of consistency across their initial beliefs within their wide belief system.

Both after the ESP teaching methodology course and after the practicum, the participating pre-service ESP teachers' beliefs changed significantly. Many beliefs of the participants became stronger and clearer over the time in this study. However, there were also pre-service teachers who held beliefs that were unclear and indefinite after the methodology course and after the practicum. As these participants held conflicting beliefs, they tended to vacillate between them. Nonetheless, some participants appeared to hold one or more unchanged beliefs over time. Ultimately, there were two key tendencies that were identified in the participating pre-service teachers' belief change processes: *development* and *counter-development*.

It became evident that changes in the participating pre-service ESP teachers' beliefs were a result of a complex interplay of contextual and internal influences. Whereas external factors were comprised of factors concerning the ESP teaching methodology course and the practicum, internal factors referred to the individual participants' reflection on their prior knowledge and learning experiences, and their approaches to developing skills to teach ESP, as well as their motivation for gaining knowledge and skills to teach ESP. However, it also appeared that the influences of these factors on the pre-service teachers' beliefs about ESP teaching were interrelated.

In the chapter that follows, the key findings are discussed in light of existing literature.

CHAPTER FIVE
DISCUSSION

5.1. Introduction

The discussion chapter focuses on three key themes drawn from the findings chapter: (1) the participating pre-service ESP teachers' initial beliefs about ESP teaching which stemmed from their prior ESP learning experiences; (2) changes in the beliefs of the ten participants over the time of the study, illustrating the wide variety of belief change processes and why these changes took place; and (3) the influence of contextual and internal factors on the participants' belief changes. In this chapter, these themes are discussed in depth in relation to previous studies in the field. The first section of this chapter is devoted to discussing specific features of the pre-service ESP teachers' initial beliefs. As these beliefs were newly formed during the ESP teacher education programme, these features were distinctive and unique to individual participants in the current study. In the second section, the participants' belief changes, including the changeability of their beliefs, the six categories of belief change that were identified, and the wide variety of belief change processes will be discussed. In the third section, the discussion will focus on the discrete as well as the integrated influences of contextual and internal factors on belief change. The chapter ends with a brief summary of key points arising from the discussion.

5.2. The features of pre-service ESP teachers' initial beliefs

At the start of the study, the participating pre-service ESP teachers held differing beliefs about ESP teaching and the level of consistency across these beliefs varied. Three aspects of their initial beliefs that emerged from the examination of these findings will be discussed in this section: the significant role that participants' recent learning experiences played in the formation of their initial beliefs; the participants' tendency to prioritize subject knowledge in their initial beliefs about ESP teaching; and finally, the central position that their initial beliefs about ESP objectives held within their wider belief system. These three aspects of the participants' initial beliefs will now be discussed in the light of relevant literature.

5.2.1. The critical role of prior learning experiences

Prior learning experiences appeared to be the only source of the participating pre-service ESP teachers' stated initial beliefs about ESP teaching. In the first interview,

the participants referred to specific experiences that they gained from the ESP courses in the teacher education programme to explain their beliefs about ESP teaching. They also explicitly attributed their initial beliefs to these prior ESP learning experiences. For example, Châu emphasized that ESP courses not only equipped her with knowledge of different fields but also shaped her initial views of ESP teaching. The role of prior knowledge is a distinctive finding of this research as none of the previous studies on teachers' beliefs has described recent prior learning experiences as the sole source of pre-service teachers' initial beliefs. Although prior learning experiences are often considered to be the most important source (Richardson, 2003), teachers' initial beliefs have generally been found to come from many other sources, such as their cultural background (Chan & Elliott, 2002; He et al., 2011), personal experiences (Richardson, 2003; Vartuli, 2005), and personal and family values (Levin & He, 2008; Vartuli, 2005). For instance, in their study on sources of pre-service teachers' beliefs, Levin and He (2008) found that pre-service teachers' beliefs were initially influenced by their K-12 learning experiences, family values, and religion. However, the pre-service teachers in the current study did not mention these sources, referring only to their recent prior learning experiences within the ESP teacher education programme.

The likely reason for this finding is that the participants had no or little preconception of ESP teaching and learning before entering the ESP teacher education programme. All of the pre-service teachers in this teacher education programme had just graduated from high school where only EGP was taught. In fact, it was not until the first semester of the second year of this four-year teacher education programme that they took the first of five consecutive ESP courses. Therefore, their experiences in these five ESP courses became the only source of their stated initial beliefs about ESP teaching, and hence had a major influence on the participants' conceptualization of ESP teaching. Through engaging in related learning activities, as well as through observing the teaching of teachers in ESP courses, the participants gradually formed an initial picture of ESP lessons and courses, ESP teaching, and ESP teachers. In this regard, the prior learning experiences that the participants acquired during their ESP teacher education programme performed a similar function to the "apprenticeship of observation" that Lortie (2002) described. According to Lortie (2002), pre-service teachers

unconsciously form their initial beliefs about the nature of knowledge, learning, teaching, and teachers through observing their teachers' teaching and participating in learning activities during the prior years of their schooling. Such prior learning experiences are of critical importance to pre-service teachers' initial beliefs (Pajares, 1992; Richardson, 2003). However, these experiences were more recent and were in fact found to be the sole source of the pre-service ESP teachers' beliefs about this subject area in the present study.

It is also important to note that the participants in this study were pre-service ESP teachers. Previous studies have focused on pre-service teachers' beliefs within ESL/EFL teacher education programmes (S. Borg, 2003, 2006). However, pre-service ESP teacher education has received limited attention in the literature (Basturkmen, 2014) and pre-service ESP teachers' beliefs have not been previously explored in this context. Thus, this is the first study that has closely examined pre-service ESP teachers' initial beliefs about ESP teaching to date.

In addition, it was found that prior ESP learning experiences of the participating pre-service teachers in the current study seemed to go through various interpretation processes, which varied from person to person, before their initial beliefs about ESP teaching were formed. In fact, although their initial beliefs stemmed from their recent learning experiences gained from the five ESP courses and most of the participants were in the same ESP classes, their initial beliefs about ESP teaching differed. For instance, while Ngọc believed that the primary aim of ESP was teaching subject knowledge, Huệ insisted that the aim was to teach language knowledge rather than subject knowledge. This variation confirms that pre-service teachers' individual beliefs are influenced by how they interpret, or make sense of, their learning experiences (Nierstheimer, Hopkins, Dillon, & Schmitt, 2000; Pajares, 1992).

Teachers' initial beliefs are said not only to be informed by their prior learning experiences, but they are also interpreted through the way they have evaluated these experiences and responded emotionally to them (Nespor, 1987; Pajares, 1992; Smith, 2016). In the current study, these aspects were found to be interwoven in this interpretation process, enabling participants to conceptualize ESP teaching in ways that informed their initial beliefs. Figure 5.1 illustrates the complex relationship

between the participants' prior ESP learning experiences and the formation of their initial beliefs. This process is described in detail below.

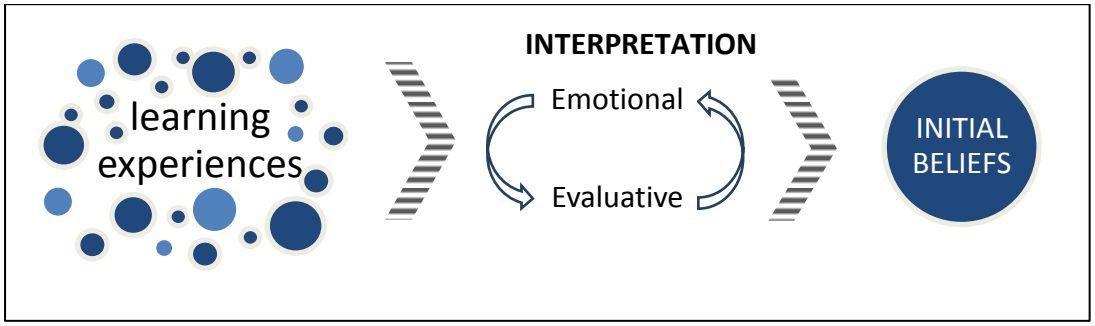

Figure 5.1: The relationship between learning experiences and initial beliefs about teaching

The participants predominantly interpreted their prior learning experiences through the emotions they experienced while taking ESP courses in the teacher education programme. According to S. Borg (2006), teachers' positive and negative prior learning experiences of specific instructional strategies influence their decision on whether to promote or to avoid these in their later classes. Similarly, Mansfield and Volet (2010) found that, whereas positive emotions enabled pre-service teachers to visualize successful teaching practice, negative emotions led them to have "more emotional investment" (p. 1412) in learning how to teach. The current study supports these findings regarding the power of positive and negative emotions related to the participants' prior learning experiences. Both their favourable and unfavourable ESP learning experiences were found to be influential to their initial beliefs about ESP teaching as explained below.

On one hand, favorable learning experiences seemed to create a deep impression, leaving pre-service teachers with positive images and memories, as also found by Eilam and Poyas (2009). In this study, pre-service teachers frequently referred to their favorite ESP courses and teachers as a source of their initial beliefs about ESP objectives, methodology, teacher competencies, and who should teach ESP. For instance, Ngọc was impressed by the wide variety of activities employed in the course on English for Environment Technology because they fostered her understanding and retention of the course content. She thus referred to this course whenever describing ESP methodology and teacher competencies. According to Boekaerts and Pekrun (2016), "positive emotions help students envision goals, create

creative problem solving, and support self-regulation" (p. 76). Therefore, in a similar vein, favourable memories facilitated the participating pre-service teachers' visualization of ESP teaching and shaped their initial beliefs about ESP teaching.

On the other hand, unfavourable experiences also contributed to the formation of the participating pre-service teachers' initial beliefs about ESP teaching. For example, many participants believed that ESP should focus on teaching subject knowledge and be taught by subject teachers rather than English teachers, because they themselves felt that they had not gained enough subject knowledge from their ESP courses. In particular, Châu believed that, as subject knowledge was important, it should have been taught through a specialized approach. She explained that this was because she realized that her knowledge of discipline-related terms was not enough for her to understand technical texts. A similar finding was also reported in a study by M. Borg (2005) in which one participant leaned towards constructivist teaching due to her negative experiences as a learner in didactic teaching classes. This insight suggests that unfavourable learning experiences may have encouraged the participants to identify their needs and expectations which then informed their initial beliefs about ESP teaching, a tendency also noted by Stipek (1996). Their initial beliefs often emerged as a response to their dissatisfaction with the perceived limitations of ESP courses they had taken. In this way, the construction of the pre-service teachers' initial beliefs can be described as "the enactment of conceptions in situations" (Tillema, 1998, p. 220). Therefore, their initial beliefs about ESP teaching tended to be action-oriented rather than theory-based.

It is important to note that, in the current study, the participating pre-service teachers would not be able to define positive and negative, or favourable and unfavourable, learning experiences without making some evaluation of these experiences. For example, Thu believed that the course on English for Environment Technology was the most effective because it equipped her with "sufficient, practical subject knowledge," which other courses did not. Ngọc, on the other hand, highly valued the same course because she could remember terms and subject knowledge for a long time, while she "forgot everything about other ESP courses right after they finished." It appears that the participants, in comparing the five ESP courses in their teacher education programme, reflected on the merits and drawbacks of these courses, and based on these learning experiences they then prioritized their learning experiences.

This process suggests that their learning experiences were subjected to a level of *internal examination* which enabled them to define what ESP teaching should be, and which in turn informed their beliefs about ESP teaching. This finding corroborates the definition of teacher beliefs proposed by Basturkmen, Loewen, and Ellis (2004). According to Basturkmen et al. (2004), beliefs refer to ideas, thoughts, and knowledge of teachers "that are expressed as evaluations of what 'should be done,' 'should be the case' and 'is preferable'" (p. 244). This definition suggests that teacher beliefs contain evaluative and emotional aspects, aspects which were also found in examining the initial beliefs of the participants in the current study.

5.2.2. The tendency to prioritize subject knowledge

The initial beliefs about ESP teaching of the pre-service teachers in this study were related to four aspects: objectives, methodology, teacher competencies and who should teach ESP. As shown in Table 5.1 (adapted from Table 4.1 in the previous chapter), each of these four belief categories included two or three key individual beliefs, which primarily concerned concepts relating to either subject knowledge, English language, or both. A participant could hold multiple beliefs within one category, but ranked each belief by their perception of its importance. The number next to each belief indicates the number of participants who ranked that belief as the most important. The analysis of these findings shows that there was a tendency to prioritize subject knowledge in the participants' initial beliefs.

Table 5.1 shows that subject-knowledge-oriented beliefs were generally prioritized over English-language-oriented beliefs in relation to ESP methodology, teacher competence and who should teach ESP. For example, ten pre-service teachers emphasized the need for a specialized teaching methodology to deal with the subject knowledge included in ESP courses, with only two participants believing that ESP should be taught in the same way as EGP. Similarly, whereas nine pre-service teachers had a preference for subject teachers to teach ESP, due to their expertise in the field, only one participant stated that English teachers were more suitable. However, regarding the primary aim of ESP teaching, the trend was less pronounced. More participants emphasized English language over subject knowledge, but the level of belief difference was less noticeable, in comparison with that identified within other categories.

Table 5.1: The pre-service teachers' initial beliefs about ESP teaching

Belief categories	**Pre-service teachers' initial beliefs**	
Primary aim of ESP	Subject knowledge	4
	English language knowledge/ competence	6
	Learner-needs-driven	2
Methodology focus	Subject-content-focused methodology (Specialized)	10
	English-language-focused methodology (EGP)	2
Key teacher competence	Subject knowledge	8
	English language competence	3
	Pedagogical competence	1
Who should teach ESP	Subject teachers	9
	English teachers	1
	Either English or subject teachers	2

Despite the tendency to emphasize subject knowledge of the participants' beliefs about other aspects of ESP teaching, participants' beliefs about ESP objectives were mainly aligned with what is generally discussed in the related literature. Since its emergence in the 1960s, ESP has tended to be understood as an approach to English language teaching (Anthony, 1998, 2017; Belcher, 2006; Hutchinson & Waters, 1987). The literature has shown that both subject and language knowledge are included in ESP materials (McDonough, 2010) and these aspects are taught in an integrated manner in ESP courses (Basturkmen, 2006; Douglas, 2013). However, in the literature, ESP teaching is considered to focus more on the English language used in specific work contexts, rather than knowledge of the related subject disciplines (Anthony, 2017; Belcher, 2006). In this study, the participants ultimately agreed that ESP teaching involved the teaching of both subject knowledge and English language competence. However, more participants highlighted the focus on discipline-specific language competence in ESP teaching than those who believed that the primary aim of ESP teaching was simply subject knowledge.

The participants' initial beliefs about ESP methodology, teacher competencies and who should teach ESP largely differ from theories that have been widely discussed about ESP teaching. In an ESP classroom, materials and methods are sometimes described as "identical to those used in traditional GE [General English] classes," but

more often they are selected to "closely match those used in the discipline of the learners" (Anthony, 2017, p. 12). This integration makes use of the authentic language and its use in the target academic and occupational setting (Anthony, 2017; Dudley-Evans & St John, 1998). The links between subject knowledge, subject-specific contexts, and the subject-specific language involved in authentic materials pose considerable challenges to ESP teachers (Basturkmen, 2010; Wu & Badger, 2009). Consequently, there are various viewpoints about ESP teachers' subject knowledge and who should teach ESP (e.g., Feak & Reinhart, 2002; Master, 2005; J. Richards & Rogers, 2001; Wu & Badger, 2009). Nonetheless, language experts or English language teachers have generally been considered to be more suitable for teaching ESP than field experts or subject teachers (Anthony, 2007; Ding & Bruce, 2017; Harding, 2007; Master, 2005). This is because of the similarities in the required competencies of English language teachers and ESP teachers (BALEAP, 2008; Bruce, 2011; Ding & Bruce, 2017; Górska-Poręcka, 2013). By contrast, most of the participants in the current study emphasized the need for a specialized teaching methodology and the expertise knowledge of subject teachers.

A possible explanation for the tendency for participants in this study to prioritize subject knowledge in their initial beliefs is the context in which these beliefs were formed. According to Levin (2015), teachers' beliefs are characterized by the situations or the contexts in which they occur. As discussed earlier, the participants had gained their prior ESP learning experiences solely from the five ESP courses in the teacher education programme. However, as these courses were designed for prospective ESP teachers, their learning experiences were different from learning experiences and needs of *real ESP learners*. This finding is in line with what Ellis (2006) defines as "the structured language learning experience" given to English native pre-service teachers in the English for Speakers of Other Languages teacher education programme. She asserts that these *unreal* second language learning experiences are not able to convey the complex nature of the English learning experiences that non-native teachers gain from participating in natural settings. Like the native English language pre-service teachers in Ellis's (2006) study, the pre-service ESP teachers in this study held initial beliefs that differed from those that might be generated in *real ESP situations*. Therefore, their initial beliefs about ESP methodology, teacher competencies, and who should teach ESP were largely

different from those put forward in the ESP literature. Consequently, their initial beliefs may have been unrealistic, as has been similarly observed in a study of pre-service teachers by Altan (2012).

In addition, the tendency to prioritize subject knowledge in the participants' initial beliefs about ESP teaching indicates a gap between their beliefs and the reality of ESP teaching. This gap might have stemmed from their view on ESP teaching as *unreal ESP learners* in the five ESP courses which were the sole source of their beliefs about ESP teaching, as discussed in Section 5.2.1. These findings are in line with those of previous studies. The literature on teacher beliefs (e.g., Altan, 2012; Levin, 2015; Pajares, 1992; Richardson, 2003; Wong, 2010) also indicates that there may be significant gaps between the beliefs of pre-service teachers and the reality of teaching. According to Johnson (1994), such gaps may be because pre-service teachers form images of teaching from their view as learners, so they lack understanding of what happens behind the stage. Therefore, this study provides further evidence of the importance of the teacher education programme in bridging these gaps, facilitating pre-service teachers' journey of becoming teachers.

The current study also found that there was a relationship between the participants' awareness of the aims of the ESP teacher education programme and their initial beliefs about ESP teaching. Some pre-service teachers who were concerned about the aim of the programme were more likely to have beliefs about ESP teaching which converged with the related literature. For instance, Giang emphasized that, as the goal of the ESP teacher education programme was to produce ESP teachers for technical colleges and vocational schools, her prospective ESP learners would be technical students and ESP courses should focus on developing their subject-specific English language competence. In fact, she is unique in this study in that most of her initial beliefs about ESP teaching were close to what has been described in the ESP literature discussed above. By linking the goal of the teacher education programme with ESP objectives and learners, Giang did not seem to view ESP teaching from the perspective of a learner in the five ESP course included in the programme as other participants did. Rather, she appeared to be conscious of her role as a prospective ESP teacher. This consciousness tended to guide her learning experiences in these courses which contributed to her initial beliefs about ESP teaching. This finding is supported by Dean and Marzano (2012) who note that learners learn more

consciously and effectively, as well as with higher motivation, when they know what to aim at. It appears that Giang's understanding of the goals of the teacher education programme not only motivated her, but also subsequently guided her interpretation of learning experiences, which thus brought about beliefs about ESP teaching that were closely aligned with English language teaching.

By contrast, other participants, whose beliefs about ESP teaching were more subject-knowledge-oriented, did not appear to pay attention to the aims of the programme and the role of ESP courses. For example, Châu felt that she had not been informed of the roles of ESP courses in the teacher education programme. Thu also reported she felt confused when she found that ESP courses had different objectives and was taught differently. As a result, these pre-service teachers' interpretation of ESP learning experiences was largely based on their own perceptions, rather than being guided by the general aim of the programme, which may also explain their different beliefs about ESP teaching. This finding confirms that pre-service teachers' initial beliefs are constructed as a result of how they make sense of the input from their learning experiences (Nierstheimer et al., 2000).

Those participants who held subject-knowledge-oriented beliefs about ESP teaching might also have based their initial beliefs on their perceived needs for subject knowledge in this context. As English major students, who were competent in English language, but had little or no subject knowledge, these participants considered that the subject knowledge was the key factor that distinguished ESP from EGP. Many participants, such as Châu, Huệ, Thu, and Thùy, believed that what was worth learning in ESP courses was the relevant subject knowledge. My, Thiên, and Nhi also felt that subject knowledge was more challenging than language knowledge. As a result, these participants tended to pay more attention to subject knowledge, as well as to the teaching of subject knowledge. This may be understandable because, while they did not bring any prior expectations or beliefs about ESP teaching to these courses as "motivational baggage" (Stipek, 1996, p. 85), they focused on what they considered to be important or necessary. It has been found that, in the case where there are no prior expectations, stated beliefs are likely to reflect expectations or intentions emerging during the teacher education programme (Tillema, 1998) rather than a deep insight into the nature of teaching.

5.2.3. Influences of beliefs about ESP objectives on consistency across beliefs

In the present study, from participants' initial beliefs, it appears that ESP objectives, methodology, teacher competencies and who should teach ESP did not have equal importance in their belief systems. In particular, their beliefs about ESP objectives seemed to be more influential than their beliefs about other aspects of ESP teaching. This finding corroborates Pajares' assertion that "beliefs differ in intensity and power" (1992, p. 318). As presented previously, the participants held varied beliefs about whether the *primary objective* of ESP teaching should be subject knowledge, or English language, or whether it should be learner-needs-driven. However, with regard to teaching objectives, all the participants agreed it was subject knowledge that distinguished ESP from EGP. A relationship was found between the relative importance that participants placed on subject knowledge and English language in their belief system and the level of consistency that was found across their beliefs about ESP teaching. In other words, their beliefs about ESP objectives appeared to influence their beliefs about other aspects of ESP teaching, which suggests that their beliefs about ESP objectives were at the heart of their belief system. This finding, therefore, extends Pajares's (1992) earlier work that simply indicated that beliefs differ in value. This study identified a specific belief, the belief about ESP objectives, which was more influential and central than other beliefs within a pre-service ESP teacher's belief system. This is a significant contribution of the current study. As shown in Figure 5.2, the central position of the pre-service ESP teachers' beliefs about ESP objectives indicates how they influenced other beliefs as well as the consistency across beliefs in a belief system.

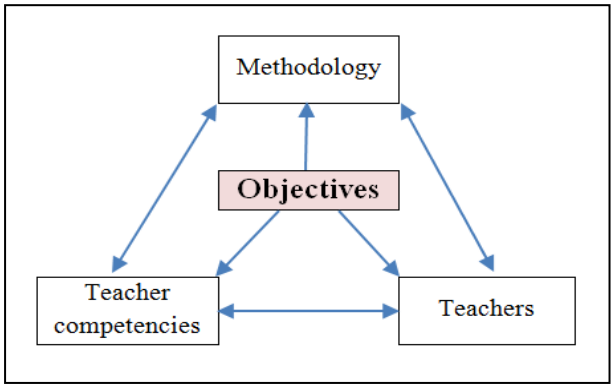

Figure 5.2: The interconnections of beliefs within a belief system

The participants whose initial beliefs were highly consistent (i.e., Châu, Giang, Hoa, Nhi, Thùy, and Trà), centered their beliefs – about ESP methodology, key teacher competence and who should teach ESP – around what they believed the *primary ESP objective* to be. For example, Châu believed that the primary aim of ESP was to teach subject knowledge, and therefore she emphasized the need for a specialized ESP teaching methodology. She also preferred subject teachers over English teachers, as teachers of ESP, due to their expertise and practical knowledge in specific disciplines. Giang, on the other hand, linked her belief that the aim of ESP was primarily to develop English language competence with her beliefs that ESP could be taught through EGP teaching approaches and that English language teachers were most suitable for teaching ESP.

In addition, as shown in Figure 5.2, beliefs that centred around the *primary objective* (about ESP methodology, teacher competencies and who should teach ESP) were also found to be interconnected. For example, Nhi's belief that either English or subject teachers could teach ESP, depending on the needs of learners, matched with her belief that the most important quality of ESP teachers was their pedagogical competence. It appears that beliefs within a highly consistent belief system seemed to be more closely interconnected than those beliefs within a less consistent or inconsistent belief system. This finding is supported by the interconnected and integrated nature of belief systems that was also noted by Rokeach (1968) and Fives and Buehl (2012). However, increasing consistency across the participants' beliefs in the current study was also the result of gradual modification and correction processes. This finding supports the work of Tillema (1998) on belief change in pre-service teachers, which will be discussed further in Section 5.3.

Those participants whose initial beliefs were inconsistent, such as Huệ, Ngọc, and Thu, did not appear to take their belief, that English language was the *primary objective*, into account when considering other aspects of ESP teaching. Despite prioritizing the teaching of English language in ESP courses, they emphasized the need for subject teachers' expert knowledge and a specialized ESP methodology for teaching the subject knowledge included in ESP courses. This decision may have been linked to their belief that subject knowledge was what distinguished ESP from EGP. Those participants whose initial beliefs were less consistent (i.e., My, Nga, and Thiên) tended to link different ESP objectives with different aspects of ESP

teaching. For example, while My's belief that the *primary objective* of ESP teaching was English language matched her belief about the primary competence of ESP teachers, she linked subject knowledge with her preferences for a distinct ESP methodology and with subject teachers being the most suitable teachers for teaching ESP. These findings indicate that participants with more inconsistent beliefs may have not yet developed a coherent understanding of ESP teaching. Richardson (1996, 2003) suggests that, due to their role as learners, pre-service teachers may be unaware that, within the bigger belief system, specific beliefs may exist in different clusters that are not necessarily closely connected or integrated. Ultimately, that disjoint can result in inconsistency across their developing belief system. In addition, according to Tanase and Wang (2010), it is common for pre-service teachers to bring inconsistent beliefs to the teacher education programme. Thus, it is understandable that many pre-service teachers in the current study did not have consistent beliefs, although they had similar prior experiences as learners in their ESP courses, at the time of the study.

The findings of the present study indicate that the level of consistency across the participants' beliefs depended upon the extent to which they perceived that the *primary objective* in ESP was linked with other aspects of ESP teaching. When the participants' beliefs about the *primary objective* of ESP teaching were taken into account, their beliefs were found to be more consistent within their wider belief system, and vice versa. This insight highlights the significant role of participants' beliefs about the *primary objective* of ESP teaching. According to Brownlee, Purdie, and Boulton-Lewis (2001) as well as Bryan (2003), a belief that is more central than other beliefs within a teacher's belief system tends to be more resistant to change. In the current study, the participants' beliefs about ESP objectives appear to be a central component in their belief system. Whether these beliefs of pre-service ESP teachers were also resistant to change, like those in other teacher education programmes, will be discussed further in the next section.

The current study also revealed different levels of consistency across the beliefs of the participants, indicating the degree of interconnectedness of beliefs within their belief systems, a finding that is also supported by Pajares (1992) and Richardson (2003). The findings also show that highly consistent beliefs appear to exist within an "integrated system" (Fives & Buehl, 2012, p. 477), whereas less consistent or

inconsistent beliefs tend to be more "loosely-formatted" (Richardson, 2003, p. 6). According to Mansfield and Volet (2010), while "vague or fragmented beliefs can be developed into a coherent belief system, well-organized belief systems are resistant to change" (p.1405). The extent to which the initial beliefs of the pre-service ESP teachers in the current study were changeable or resistant to change, as well as how the centrality of beliefs about the primary objective of ESP affected the stability or changeability of the participants' beliefs, will be discussed further in the following section.

5.3. Changes in the pre-service teachers' beliefs about ESP teaching

Over the six month period of the current study, most of the individual beliefs about ESP teaching of the participating pre-service teachers continued to change in different ways. Due to the wide variety of the pre-service teachers' individual beliefs (i.e., about ESP objectives, methodology, teacher competencies, and who should teach ESP), as well as the various changes to these beliefs within their wider belief systems, the processes that their belief changes followed also tended to vary. In this section, three distinctive aspects concerning the pre-service ESP teachers' belief change that were identified in this study are discussed with reference to the related literature. These aspects include the susceptibility of the pre-service ESP teachers' beliefs to change, the emergence of discrete categories of belief change, and the diversity of individual belief change processes.

5.3.1. Susceptibility to change in pre-service ESP teachers' beliefs

The current study found that the majority of the pre-service ESP teachers' individual beliefs about ESP teaching were susceptible to change. After the ESP teaching methodology course as well as after the practicum, participants changed either all of their beliefs about ESP objectives, methodology, teacher competencies, and who should teach ESP (three participants), or most of their beliefs about these aspects of ESP teaching (the other nine participants). This finding parallels the findings of many previous studies on pre-service teachers' belief change (e.g., Grijalva & Barajas, 2013; Mattheoudakis, 2007; Nettle, 1998). For example, as found in the current study, Debreli (2012) discovered that, after a nine-month teacher education programme including a methodology course and a teaching practicum, his

participants held more changed than unchanged beliefs about teaching and learning English as a foreign language. However, the most significant contribution of this study to the existing literature is the in-depth light that it sheds on the nature of the changes in pre-service ESP teachers' beliefs, which has been identified to be a noticeable gap in the literature (Basturkmen, 2014).

In particular, the susceptibility of beliefs to change in this study was found to have originated from two key sources: the time of the formation of their beliefs and the nature of the input from the teacher education programme. Firstly, the participants' beliefs about ESP teaching were in the process of being newly formed. This might be the main cause for the changeability of their beliefs because, according to Pajares (1992), "newly acquired beliefs are more vulnerable to change" (p. 325). The participants' initial beliefs about ESP teaching were originally formed while they were taking five ESP courses in the teacher education programme. This period was short in duration, and it was also relatively late, compared with pre-service teachers whose initial beliefs about teaching, learning and the nature of knowledge tend to be formed during their school years (Lortie, 2002). Similarly, the participants' beliefs that emerged after the five-week ESP teaching methodology course were also more inclined to change as a result of the subsequent practicum experiences. Therefore, this study suggests that the limited duration of their belief formation process was a critical factor in the changeability of the pre-service teachers' beliefs about ESP teaching.

The second impetus for changeability in participants' belief was the nature of the input from the ESP teacher education programme. Compared with the five ESP courses which had implicitly informed their initial beliefs, the input from the ESP teaching methodology course, which was comprised of a theory lesson and a micro-teaching session, focused more explicitly on teaching ESP. The eight-week teaching practicum subsequently provided the pre-service teachers with practical contexts that helped them to apply what they had learned theoretically about ESP teaching. As a result, after both the methodology course and the practicum, the participants changed their beliefs about ESP teaching in accordance with changes in their knowledge and experiences. This finding supports Tillema's (1998) assertion that "belief change is concomitant to knowledge construction" (p. 220).

The high susceptibility to change in the initial beliefs of the pre-service ESP teachers in this study implies that the majority of them did not hold any *core* beliefs (Pajares, 1992) about ESP teaching at the start of their course. The literature suggests that pre-service teachers' *core* beliefs are generally characterized by their central position and connectedness to other beliefs in belief systems, as well as their persistence (Lortie, 2002; Pajares, 1992; Tillema, 1998). As discussed earlier (see Section 5.2.3), the degree to which participants' initial beliefs about ESP objectives were connected with beliefs about other aspects of ESP teaching impacted on the level of consistency or inconsistency across their newly formed beliefs, and influenced whether these beliefs became centrally positioned in their wider belief systems. In this sense, beliefs about ESP objectives were the most likely to be considered as *core* beliefs. However, these beliefs changed dramatically for many participants after the ESP teaching methodology course, and again after the practicum. These changes indicate that only some pre-service teachers in this study had formed *core* beliefs early in the programme.

Although the participating pre-service teachers tended to change their beliefs about ESP teaching as they proceeded through their courses, some of these beliefs were maintained after the methodology course and/or after the practicum. Most of the unchanged beliefs of the pre-service teachers in this study were found to be about ESP teacher competencies and who should teach ESP. In the context of this study, beliefs were considered to be stable or unchanged when they neither became stronger nor changed to any noticeable degree. The participants whose existing beliefs remained the same may have found the new knowledge input and their practical experiences to be contradictory, but these were not sufficient or convincing enough to make any change to their beliefs. For instance, Thu restated her belief that ESP teachers should be able to develop course materials informed by the methodology course, although the practicum experiences gave her the impression that teachers were not allowed to produce their own teaching materials. Similarly, over time, Ngọc maintained her initial belief that ESP teachers should be subject teachers, although she was explicitly informed by the teacher of the methodology course that English teachers were more suitable for teaching ESP. These examples indicate that the ESP teacher education may have exerted only a *weak* influence on some existing beliefs of the pre-service teachers. This finding is consistent with that of Peacock

(2001) who found that the teacher education programme, which was the context for that study, had little effect on some key beliefs of the pre-service teachers. The concern was that, as Peacock (2001) noted, "detrimental beliefs" (p.187) that remained unchanged over time may misinform the pre-service teachers' future decisions. For example, if the prospective ESP teachers who are English-major students maintained their initial beliefs over time, that ESP should be taught by subject teachers, their career orientation and professional development might well be hindered. Thus, they could consider that the ESP teacher education was not relevant and that they would not be qualified to teach ESP. This insight highlights the critical role of the teacher education programme in developing or adjusting pre-service teachers' beliefs.

In addition, this study's finding regarding the resistance of some participants' beliefs to change (for example, those of Thu and Ngọc), also corroborates other findings about a mismatch between pre-service teachers' prior understandings or existing beliefs and their new knowledge and experiences that have been noted in the literature (e.g., Clark-Goff & Eslami, 2016; Farrell, 1999; Nettle, 1998). In particular, Clark-Goff and Eslami (2016) point out that pre-service teachers might misperceive messages from the teacher education programme, or consider new information insufficient or invalid, especially if this challenges their initial or existing beliefs. These beliefs can function as a kind of filter (M. Borg, 2005; Fives & Buehl, 2012) which facilitates understanding and evaluation of new information and experiences (Mansfield & Volet, 2010). Ultimately, when stability occurs in pre-service teachers' beliefs, this might be seen to be "a product of an active process of balancing pre-existing beliefs and present reality" (Nettle, 1998, p. 200). However, the way in which the pre-service teachers in the present study balanced their existing beliefs with new information from the methodology course and the practicum ultimately resulted in various degrees of belief change. These degrees of belief change will be discussed in the following section.

5.3.2. Discrete categories of belief change

In this study, individual beliefs of the pre-service ESP teachers were found to change in specific ways after the ESP teaching methodology and after the practicum. Six categories of belief change, including *confirmation*, *fluctuation*, *modification*, *elaboration*, *reprioritization*, and *reversal*, were identified. Among these categories,

confirmation, *modification*, *elaboration*, *reprioritization*, and *reversal* were drawn on various frameworks of belief change identified in the related literature (i.e., Cabaroglu & Roberts, 2000; L. Li, 2012; Yuan & Lee, 2014). A new sixth category, *fluctuation*, which has not been identified in previous literature, was also added.

It was found that the six discrete categories of belief change that had been identified in the analysis could be placed along a continuum, ranging from belief stability to changeability. This continuum also showed the degree to which each discrete category of belief change represented the degree of change, from subtle to more considerable change. Accordingly, as illustrated in Figure 5.3, belief *confirmation* was placed at the stability end of the continuum, indicating that no new beliefs emerged but the existing beliefs changed in quality or strength. *Reversal* was placed at the changeability end of the continuum, indicating the biggest level of difference between a participant's prior and new beliefs.

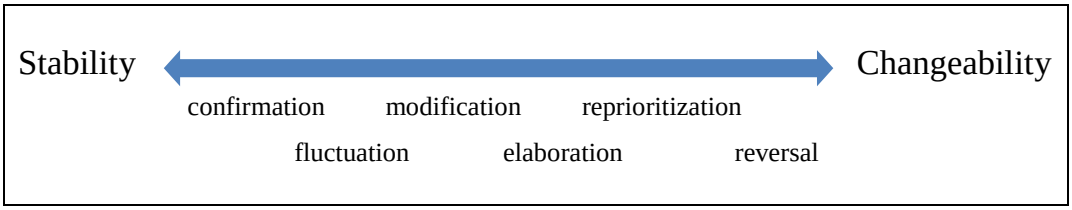

Figure 5.3: Continuum of belief stability and changeability

In addition, the analysis of the categories of change in the pre-service teachers' beliefs about ESP teaching suggested that two main motives fostered these individual belief changes. These motives included: the pre-service teachers' interpretation of the new input and their perceptions of the similarity or difference between the new input from the teacher education programme and their existing beliefs. For example, Châu's belief about ESP objectives was confirmed because her practicum experience converged with the prior ESP learning experiences which informed her existing beliefs. However, differences between her beliefs emerging after the methodology course and her practicum teaching experiences encouraged her to reprioritize beliefs about ESP teacher competencies. Underlying these changes in Châu's beliefs was how she interpreted her practicum experiences and how she perceived the relevance and sufficiency of the new input. This explains for the fact that some participants changed their beliefs differently despite being provided with similar input. For instance, although Ngọc and Nhi experienced very similar practicum experiences, Ngọc's belief that ESP teachers' subject knowledge was "the

most critical" was confirmed, whereas Nhi reprioritized her belief about ESP teachers' competencies, shifting her priority from pedagogical competence to English language competence.

The two causes for belief changes (i.e., the pre-service teachers' interpretation of the new input and their perceptions of the similarity or difference between the new input and their existing beliefs) tended to exert integrated influences on their beliefs. The participants acquired new knowledge about ESP teaching, which was then filtered by the initial or existing beliefs they had previously formed during the teacher education programme. Their perception of the level of consistency between the new input and their existing beliefs then determined the categories of change in their subsequent beliefs. As shown in Figure 5.4, when convergence occurred between these existing beliefs and the new input that led to *confirmation* and *elaboration*, whereas when divergence occurred between existing and new beliefs that led to *fluctuation* and *reversal*. In cases where initial beliefs and the new input included both convergent and divergent components, the new input tended to supplement and integrate with existing beliefs and knowledge and, as a result, *modification* and *reprioritization* emerged.

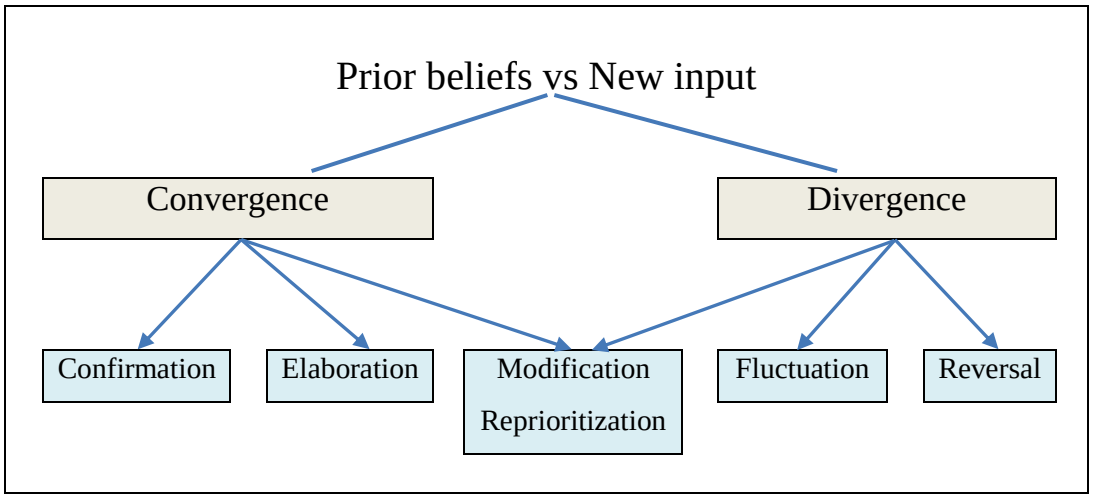

Figure 5.4: The primary reasons for different categories of belief change

Overall, Figure 5.4 shows not only the different belief change categories but also the underlying motives for changes in individual beliefs of the pre-service ESP teachers in this study. These findings are particularly significant because previous studies (e.g., Cabaroglu & Roberts, 2000; Li, 2012) simply identified discrete categories of belief change but did not explore the reasons behind these changes. The current study, on the other hand, identified a belief change continuum that showed how

various belief categories representing different levels of convergence between initial or existing beliefs and the new input. Consequently, the connection between *how* and *why* an individual belief changed became evident. That insight provides an important contribution to the literature on teachers' belief changes. The findings from this study also contribute to the literature on pre-service teachers' belief changes in the specific context of an ESP teacher education programme, an area which has not been previously explored.

The six categories of belief change, together with why these changes took place, are each discussed in more detail below.

Confirmation

Confirmation was placed at the stability end of the continuum in Figure 5.3 because the participating pre-service teachers whose changes in beliefs were in this category appeared to restate their existing beliefs. However, when *confirmation* occurred, although the beliefs sounded almost the same as the initial or existing beliefs, they, in fact, were stronger. This change appeared to happen when the ESP teaching methodology course and the practicum provided the pre-service teachers with knowledge and experiences that were in line with and supported their initial or existing beliefs. For example, while observing ESP lessons and planning her own ESP lesson during the practicum, Huệ noticed that the EGP teaching techniques and activities she had previously learned could also be used for teaching ESP lessons. This enhanced her confidence and strengthened her initial belief that ESP and EGP were not different in terms of teaching methodology. This insight aligns with the findings of Cabaroglu and Roberts (2000) as well as Yuan and Lee (2014) who also highlighted the convergence or consistency between pre-service teachers' previously-held beliefs and the newly-provided information as the cause for pre-service teachers' strengthening beliefs. Consequently, despite not being a noticeably significant change, *confirmation* was important to the pre-service ESP teachers' progression in learning to teach because it showed that they had become more confident in their understanding of ESP teaching. As L. Li (2012) explains, they might have felt that they had become more like "knowers of teaching and learning" (p. 51) and, therefore, *confirmation* can be considered to be a form of belief development.

Ultimately, belief convergence resulting in *confirmation* appeared to be dependent upon pre-service teachers' understandings and interpretation of new knowledge and experiences. The participants in this study either interpreted their learning experiences in different ways, or they were provided with conditions for learning how to teach ESP that were not ideal in challenging previously held beliefs. For example, both Giang and Châu took the same ESP teaching methodology course. However, Giang confirmed her initial belief that the primary aim of ESP was to teach the job-specific English language, whereas Châu confirmed her initial belief that the focus of ESP teaching was on subject knowledge. In addition, this initial belief was strengthened further after the practicum due to Châu's experiences in teaching a subject-focused ESP lesson (as described in the previous chapter). Although Châu later believed that ESP did not primarily aim to provide subject knowledge, the *confirmation* of her initial belief during the practicum perhaps, to some extent, hindered her learning. This finding confirms an earlier theory that pre-service teachers interpret new information and experiences through the lens of their initial beliefs (Fives & Buehl, 2012).

In the current study, the participants appeared to be selective when provided with new information, and some participants only made sense of new ideas that converged with their initial or existing beliefs. In this regard, the *confirmation* of the pre-service teachers' initial or existing beliefs did not necessarily lead to belief development, contrary to what has been suggested by Cabaroglu and Roberts (2000) and L. Li (2012). In addition, this finding raises awareness of how the knowledge and experiences provided by the ESP teacher education programme could be enhanced in order to develop pre-service teachers' beliefs about ESP teaching. This issue will be discussed further in the conclusion chapter.

Fluctuation

Fluctuation was placed toward the stability end of the continuum in Figure 5.3, suggesting that pre-service teachers' beliefs resulting from this change were unstable and unclear. In the current study, *fluctuation* was found to occur when participants became confused on finding that the new knowledge and experiences provided in the ESP teaching methodology course and/or the practicum challenged their initial or existing beliefs about ESP teaching. For example, after the methodology course, Thiên appeared to be unable to decide whether English or subject teachers were

more suitable for ESP teaching. Her initial belief that ESP teachers ultimately needed *subject knowledge* to identify what and how to teach conflicted with the new information from the course that *discipline-specific language* was the primary aim of ESP teaching. She, therefore, vacillated on whether English or subject teachers were best as ESP teachers. A similar situation, in which pre-service teachers seemed to hold contradictory beliefs, was also reported in studies by Brownlee et al. (2001) and Bryan (2003). In these studies, Brownlee et al. (2001) referred to pre-service teachers holding "inconsistent beliefs", while Bryan (2003) described them as holding "dualistic beliefs." These quantitative researchers found confusions in the pre-service teachers who chose a belief statement, but later in the same questionnaire chose another belief statement of the same category. This suggested that their beliefs were unclear and unstable. However, both of these studies found that such beliefs resulted more generally from the teacher education programme, rather than looking more deeply into the process that resulted in these contradictory beliefs, which was the focus of the current study.

In the current study, *fluctuation* tended to indicate that a pre-service teacher was wrestling with a perceived divergence or discrepancy between her initial or existing beliefs and the newly-provided information from the teacher education programme. For instance, Thùy's initial belief that ESP primarily aimed to teach subject knowledge was challenged when she learned that ESP learners were not only pre-service ESP teachers, as she had previously thought, but these learners could also be non-English major students. However, she then seemed to be unclear about ESP objectives, resulting in her vacillation between subject knowledge and discipline-specific English language competence as the primary aim of ESP teaching. This finding indicates that pre-service teachers who hold conflicting beliefs may experience what Clark-Goff and Eslami (2016) described as "cognitive disequilibrium or dissonance" (p. 23). In the current study, dissonance seemed to be caused by the teacher education programme, which did not appear to provide coherent, and sufficient information on ESP teaching. Some pre-service teachers, therefore, failed to determine whether they should maintain, modify, or reject their pre-existing beliefs, and that led to them holding conflicting beliefs. Therefore, *fluctuation* has been placed between confirmation and modification in the continuum

in Figure 5.3 as it refers to the instability in some pre-service teachers' beliefs that occurred during the teacher education program.

In general, *fluctuation* in beliefs tended to be a transitional stage, which in turn implies that another belief change might take place after a pre-service teacher gained sufficient knowledge and experiences to support one of their conflicting beliefs. Most of the participants who held contradictory beliefs after the methodology course were later found either to maintain or confirm their pre-existing beliefs, or to form new beliefs based on new knowledge and experiences. These pre-service teachers seemed to need more time and input than other pre-service teachers to resolve their confusion, or "disequilibrium" as Kibler (2011) terms this state. In this study, such students, therefore, seemed to be in a stand-by mode, which is different from "the active process of balancing pre-existing beliefs and present reality" that Nettle (1998) described as belief stability (p. 200). However, in reality, it was possible that they were actually struggling to mediate a solution to the conflict. According to Brownlee et al. (2001), even if pre-service teachers espouse new knowledge rather than actually holding new beliefs, this change is still critical to their learning and teaching during the teacher education programme. In this sense, *fluctuation* could ultimately be beneficial to the pre-service teachers' long-term process in learning to teach ESP, as the uncertainty during *fluctuation* may have encouraged reflection which would eventually lead to useful decision-making.

Modification

Modification was placed near the middle point of the continuum in Figure 5.3, indicating a significant level of change in pre-service teachers' beliefs. This change was noted in many of the participating pre-service teachers, as they did not always completely reject or replace their initial or existing beliefs when they became aware of a mismatch between these beliefs and their new knowledge and experiences. Instead, they sometimes refined or modified these beliefs by integrating new knowledge and experiences from the ESP teaching methodology course and the practicum. For instance, Nga integrated her new knowledge that ESP enabled learners to *communicate* in their work contexts into her initial belief, that the primary aim of ESP was teaching discipline-related *terms*. This integration resulted in a modified belief. She then believed that ESP focused on developing learners' broader *discipline-specific language competence* because she was aware that learners could

not communicate at work with only the knowledge of relevant terms. Therefore, *modification* indicated the alteration of a pre-service teacher's beliefs about an aspect of ESP teaching, through the integration of her pre-existing belief(s) and the new knowledge and experiences she had gained from the teacher education programme.

The current study found that *modification* of beliefs about ESP teaching required a pre-service teacher to *consciously* integrate new information into her existing beliefs. *Integration* thus played a pivotal role in this change as it led to constructive *modification* of existing beliefs. However, there have been different views about this process in the related literature. Cabaroglu and Roberts (2000) defined *linking-up* as matching two constructs with each other resulting in a modified version of a pre-service teacher's existing belief. However, they did not discuss this change process in depth. Similarly, while Yuan and Lee (2014) considered that *integration* and *modification* were two discrete categories of belief change, they were not concerned about the difference between the new and the prior beliefs as a result of *integration*. Instead, they argued that *disagreement* can lead to *modification* despite having defined *disagreement* as the rejection of previously-held beliefs and moving toward new ones.

In contrast to these studies, the current study aimed to categorize belief change by identifying the difference between new and prior beliefs as well as the process which resulted in this difference. This finding not only explains why the terms used in this study differ from those used in previous studies, but also ensures there is consistency in the way particular changes are defined. All belief changes in this study are defined on the basis of their causes (i.e., convergence/divergence between prior beliefs and new input) and the level of difference between prior beliefs and emerging beliefs. Consequently, it is possible to identify the difference in the degree of belief change as well as in the motives for any specific belief change, as illustrated in Figure 5.3 and Figure 5.4 respectively. These more in-depth insights represent a significant contribution of this study to the literature on belief change.

Elaboration

Elaboration was placed toward the changeability end of the continuum in Figure 5.3, indicating that the difference between the new and the prior beliefs was significant. In the current study, many of the participants expanded, deepened and/or enriched

their existing beliefs about an aspect of ESP teaching when they encountered new concepts in the ESP teaching methodology and in the practicum. For example, over the time of the study, Nhi's beliefs about how to motivate ESP learners became more complex, including the incorporation of more interrelated elements, as described in the previous chapter. She not only expanded, but also enhanced her beliefs, thus contributing to a deeper understanding of how to teach ESP. This change has also been identified in the related literature (e.g., S. Borg et al., 2014; Cabaroglu & Roberts, 2000). In other literature, however, it is sometimes termed as *addition* (Cabaroglu & Roberts, 2000) or *expansion* (L. Li, 2012). The current study refers to the term *elaboration*, which is also used by Yuan and Lee (2014), to refer to when pre-service teachers add new information or knowledge that they have found useful to their existing beliefs about teachers, teaching or learning. According to L. Li (2012), an *expansion* change indicates not only "a process of knowledge acquisition" but also "an attitude to be open and an opportunity to evaluate the pre-existing beliefs" (p. 51). These features were also found in the way that many pre-service ESP teachers in this study elaborated their beliefs about ESP teaching. However, in this case, they were both expanding as well as deepening their understanding. Therefore, the term *elaboration* in the current study indicates that a participating pre-service teacher's belief system became more inclusive or complex, as a result of their openness to change.

Many of the participants in the current study were open to new information and experiences, from which they developed their understandings of ESP teaching both theoretically and practically. For example, Nga learned from the methodology course that ESP teachers should be able to develop course syllabi and materials. She was then able to elaborate on the information in her existing belief system about ESP teacher competencies. Her experiences from the practicum also enabled her to add the concept of ESP teachers' pedagogical competence, resulting in her ultimately building a more inclusive belief system about ESP teacher competencies by the end of the study. This insight suggests that pre-service teachers add new concepts to their belief systems when new knowledge and experiences supplement, rather than contradict, their existing individual beliefs. In this process, they seemed to be evaluating new input as well as reflecting on their existing beliefs in an effort to ensure that the new concepts or dimensions were not at odds with the existing

individual beliefs within their wider belief systems. This finding also confirms that teacher beliefs contain evaluative components that filter new input from the teacher education program (Fives & Buehl, 2012).

In this study, however, not all pre-service teachers elaborated their beliefs. Some participants simply restated new information they had been taught or introduced to in their classes. While it may have appeared that their belief systems were expanded, in reality there was no change to their existing beliefs because they had not developed a clearer understanding, or deeper insight, into the newly acquired concepts. Thùy's belief that ESP teachers should have knowledge of discipline-specific language and culture was a case in point. She prioritized this teacher competence and added it to her belief system as a result of the theory lesson in the methodology course. However, this new competence was considered less important later on, because she could not visualize its importance in her practice, since teaching her lesson in the practicum did not require her to utilize this competence. Similarly, many pre-service teachers in this study did not mention, or paid less attention to, the concepts or dimensions they learned theoretically from the methodology course when they found them irrelevant or unimportant in the practicum. In these cases, *elaboration* did not imply the real and complete development of knowledge and beliefs as L. Li (2012) suggests. This situation supports the ideas that teacher belief change is often situational and temporary (Levin, 2015) and, therefore, emerging beliefs may not be sustained over time (Mansfield & Volet, 2010).

Reprioritization

In the current study, *reprioritization* occurred exclusively in the rearrangement of the participants' beliefs about the importance of specific competencies of ESP teachers. Each pre-service teacher's belief system was comprised of many individual beliefs about different competencies that she believed ESP teachers should have. In particular, however, when a participant reprioritized a discrete ESP teacher competence, there was an alteration in her beliefs about the ranking of other concepts in their wider belief system. For example, Giang's lack of subject knowledge hindered her from successfully planning and teaching an ESP lesson during the practicum. She, therefore, prioritized ESP teachers' subject knowledge, which she had previously ranked as the least important and, simultaneously, lowered the position of other competencies of ESP teachers after the practicum. Cabaroglu and

Roberts (2000) and Debreli (2012) also identified a similar phenomenon in their studies about pre-service teachers' belief change. For instance, Cabaroglu and Roberts (2000), who named this change as *re-ordering*, found that pre-service teachers re-ordered their beliefs about the importance of various qualities of language teachers after their one-year post-graduate programme.

Reprioritization was placed between *modification* and *reversal* on the continuum shown in Figure 5.3, because those pre-service teachers who reprioritized their beliefs did not reject their existing beliefs, and still confirmed that ESP teachers needed specific competencies. Rather, they changed their beliefs about the importance of these competencies due to their clearer understanding of the role of each of ESP teacher competencies. As a result, while the perceived priority of some beliefs changed, some priorities could be expanded to include new beliefs. For example, after My learned from the methodology course that learners' needs were critical in ESP teaching, she firstly prioritized her new belief that ESP teachers needed to understand learners' needs. However, planning and teaching a grammar ESP lesson in the practicum encouraged her to give more priority to teachers' discipline-related English language.

The finding on reprioritization suggests that pre-service teachers' *reprioritization* of ESP teacher competencies reflected their increased insights into the requirements of ESP teaching. According to Eilam and Poyas (2009), teacher education programmes aim to deepen pre-service teachers' understanding of the nature of teaching. In this sense, their *reprioritization* of ESP teacher competencies can also reflect the effectiveness of the ESP teacher education programme.

Reversal

In the current study, *reversal* was placed at the changeability end of the continuum in Figure 5.3, indicating the most significant change in the participating pre-service teachers' beliefs about ESP teaching. This change was identified when a teacher rejected an initial or existing belief and adopted an opposite belief. Many instances of *reversal* were identified in the study. For example, after the ESP teaching methodology course, Hoa and My shifted from preferring subject teachers for teaching ESP to seeing English teachers as more suitable for teaching ESP. Beliefs about who should teach ESP of Huệ and Thùy also changed in this category after the

practicum. This finding is in line with the findings of previous studies (e.g., Debreli, 2012; Tanase & Wang, 2010). For instance, Tanase and Wang (2010) reported on a pre-service teacher who rejected her prior belief that teaching was simply knowledge transmission, and adopted a new belief that knowledge could be actively constructed. Thus, *reversal* suggests a dramatic shift in the pre-service teachers' beliefs about two conflicting concepts.

Reversal happened in the current study when an individual's belief system contained dichotomies, such as a choice between specialized ESP teaching methodology and EGP teaching methodology, or between subject teachers and English teachers. In particular, after the ESP teaching methodology course, many participants became aware that ESP could be taught through EGP teaching approaches, whereas they had previously believed that specialized teaching approaches were needed. Similarly, many came to believe that English teachers were more suitable for teaching ESP than subject teachers and, either after the methodology or the practicum, they abandoned their initial belief that subject teachers were more suitable. This finding supports the assertion of Cabaroglu and Roberts (2000) that *reversal* is an extreme form of conceptual *disagreement* which they consider as a discrete category of belief change. However, the current study views conceptual *disagreement* as the pre-service teachers' changed attitude toward an existing belief due to the conflict between that belief and the new input that was received. Therefore, conceptual *disagreement* could also be considered to be a transitional step that ultimately either leads to belief *reversal* or belief *modification*. This insight indicates that *reversal* can solve a conflict or disagreement arising between pre-service teachers' existing beliefs and the new information, knowledge or experiences gained from the teacher education programme.

5.3.3. Belief change processes: varied combinations of discrete changes

During the analysis of the findings, it became evident that each pre-service ESP teacher's belief system was comprised of many individual beliefs. These beliefs were subsequently categorized in terms of whether they related to ESP objectives, methodology, teacher competencies and who should teach ESP. As discussed earlier, each of these beliefs was maintained or changed in different ways, including *confirmation*, *fluctuation*, *modification*, *elaboration*, *reprioritization*, and *reversal*. In line with the findings of Cabaroglu and Roberts (2000), in the current study, pre-

service teachers' beliefs about teaching and learning did not "move uni-directionally" (p. 389) toward the beliefs that the teacher education programme was generally expected to promote. The diversity in the changes of each pre-service teacher's individual beliefs, therefore, complicated the task of understanding the changes in each pre-service teacher's belief system. This complication suggests that a simple model of belief change, such as the model proposed by Tillema (1998), could limit the ability to identify more subtle or less dramatic changes. Consequently, in this study, the change process across individual beliefs of all participants was examined, which appeared to be more helpful than identifying the change process of each pre-service teacher's beliefs as a system. In addition, this approach enabled the varied nature of belief changes as well as the different influences of the teacher education programme on the pre-service teachers' beliefs to be addressed.

In the present study, the examination of the belief change process looked at how pre-service teachers' individual beliefs evolved over the time of the study. It was found that an individual belief could be maintained or changed in different ways, including *confirmation*, *fluctuation*, *modification*, *elaboration*, *reprioritization*, and *reversal*, after the ESP teaching methodology course and after the practicum. Therefore, each belief change process evolved from a combination of the two stages in the teacher education programme. For example, Châu's belief about the primary objective ESP teaching was confirmed after the methodology course, but this newly confirmed belief was later modified after the practicum. Thus, the change process in her beliefs about this aspect of ESP teaching can be represented as *confirmation – modification*. On the other hand, her beliefs about who should teach ESP were maintained at first, but fluctuated later, forming a *maintenance – fluctuation* process. These examples illustrate how a large number of belief change processes may occur over time, due to varied combinations of the different categories of belief change, as illustrated in Figure 5.5.

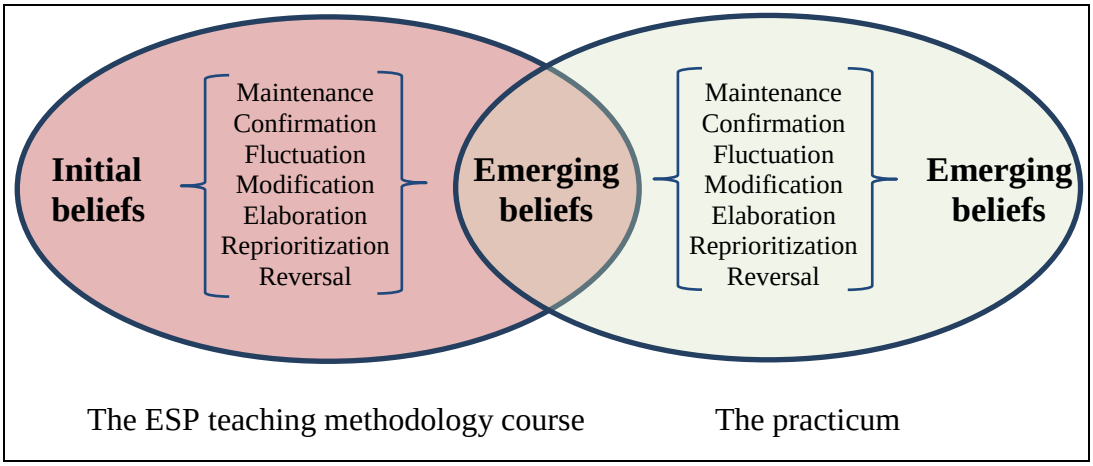

Figure 5.5: Belief change processes

The varied combinations of belief maintenance and belief change that may occur after the methodology course and after the practicum illustrate the wide variety of change processes that an individual's beliefs might go through. Therefore, this study has identified more than the three belief change processes that an earlier study by Yuan and Lee (2014) had identified (i.e., *realization – integration*, *confirmation – integration*, and *disagreement – integration*). The current study also differs from that by Yuan and Lee's (2014) in the definition and categorization of belief change categories. The current study did not attempt, and indeed was unable, to capture all of the possible belief change processes a pre-service teacher might go through. Nor does it suggest that there might be a linear and fixed route for pre-service teachers' belief changes. Thus, it confirms that the belief change process is both complex and cyclical, as previously noted by Korthagen (2001). Therefore, the current study proposes that belief change processes emerge as a result of flexible combinations of successive belief maintenance and changes. These change combinations are often brought about by specific input during the teacher education programme. In addition, the study shows that belief change processes were highly individualistic, due to the particular nature of beliefs about different aspects of ESP teaching, and the varying degrees of convergence or divergence between existing beliefs and the new input. This finding also corroborates the idea that belief change processes are situated and context-based in nature (Levin, 2015; Yuan & Lee, 2014).

In the current study, different change processes resulted in different beliefs at the end of the study. As described in the previous chapter, while many beliefs (such as those of My and Nga) became stronger and clearer, many others (such as those of Châu and Thùy) became unclear and conflicting. Therefore, belief change processes of the

participants can be divided into two main groups: those resulting in clearer and/or stronger beliefs and those resulting in indefinite or fluctuating beliefs at the end of the study. These groups represented two key tendencies in belief change processes: *development* and *counter-development*. Although this division is not seen as entirely clear-cut, it provides an overview of the pre-service teachers' belief change processes. This insight is critically important because teacher education programmes are intended to develop pre-service teachers' specific beliefs about teaching and learning (J. Richards & Farrell, 2005). In addition, according to Eilam and Poyas (2009), in developing pre-service teachers' beliefs about teaching and learning, teacher education programmes provide them with a cognitive lens for analysing relevant teaching and learning processes.

Development change processes

Most of the participants' beliefs followed *development* change processes. Their beliefs actually became significantly stronger and clearer by the end of the study, although many of them had either fluctuated or did not seem to change previously. For example, Trà's belief about the role of ESP teachers' subject knowledge in ESP teaching was maintained after the methodology course, seemingly due to a lack of relevant input. This belief, however, became stronger and appeared to be prioritized after the practicum, because of the convergence of her practicum experiences. Trà's belief about the importance of ESP teachers' subject knowledge, therefore, went through a *maintenance – confirmation and reprioritization* change process. Nhi's belief about who should teach ESP, on the other hand, went through a *fluctuation – modification* process. This process took place because, after the methodology course, she became unable to define who should be ESP teachers, vacillating between English and subject teachers. Then, the later practicum experiences enabled her to affirm that English teachers were more qualified to teach ESP. As a result, this study supports evidence from previous observations in other teacher education programmes (e.g., Debreli, 2012; Özmen, 2012). For instance, in Debreli's (2012) study, on belief change of pre-service teachers in an English as a foreign language teacher education programme, no significant changes were observed after the course work, but their beliefs changed significantly after their teaching practice. Therefore, it appears that the ESP teaching methodology course and the practicum, which provide the context for the current study, assisted in developing changes to most of

the pre-service teachers' beliefs. This insight will be discussed in more depth in Section 5.4.

Counter-development change processes

Significantly fewer beliefs went through *counter-development* change processes than those that went through *development* processes. In particular, however, beliefs that fluctuated after the ESP teaching methodology course outnumbered those that fluctuated after the practicum. The participants' beliefs that were unclear by the end of the study related to the ESP methodology (Châu, Thiên, and Trà), ESP objectives (Thiên and Thùy), and who should teach ESP (Châu). For example, Châu's belief about who should teach ESP went through a *confirmation – fluctuation* process, while Thùy's belief about the primary aim of ESP teaching went through a *fluctuation – fluctuation* process. As this study shows, and as also confirmed by Brownlee et al. (2001), pre-service teachers may hold contradictory beliefs in relation to their pre-existing beliefs and newly-gained knowledge and experiences. In the current study, before the practicum, the pre-service teachers' beliefs were influenced by the ESP teaching methodology course. Therefore, their conflicting beliefs after the practicum indicate that the input from the practicum experiences might have been perceived to be inconsistent with the theoretical input from the methodology course. Thus, beliefs held by a pre-service teacher at the end of the study might not only directly result from the practicum but could also sometimes be attributed to the level of consistency between the two key sources of input offered by the teacher education programme. This finding is unique to the current study. Previous studies do not appear to have taken into consideration the role of consistency in supporting or inhibiting the formation of a coherent belief system by pre-service teachers.

These findings also suggest that the varied change processes of individual beliefs within each pre-service teacher's belief system could have influenced the level of consistency across that individual's emerging beliefs by the end of the study. Mansfield and Volet (2010) assert that "vague or fragmented beliefs can be developed into a coherent belief system, whereas well-organised belief systems are resistant to change" (p. 1405). These different patterns were evidenced in the change processes of most of the pre-service teachers. Whereas the belief system of four participants (Huệ, My, Nga, and Thu) became more consistent, those of five pre-

service teachers (Châu, Hoa, Thiên, Thùy, and Trà) became less consistent and were sometimes inconsistent. However, a smaller number (Giang, Nhi, and Ngọc) maintained a level of consistency across their emerging beliefs. It is difficult to explain the reason for the latter exceptions, but it might be related to the fact that many beliefs of these three pre-service teachers were either maintained or confirmed over time. In addition, two of the three participants with maintained consistency across beliefs (Giang and Ngọc) considered that there was no change in their beliefs over the time of the study. This finding raises questions concerning the importance of the pre-service teachers' awareness of their belief change, as well as how this awareness might be promoted. Eilam and Poyas (2009), as well as Farrell (2009), consider that building such awareness is of critical importance in teacher education. This issue will be addressed further in the conclusion chapter.

5.4. Belief change: The integration of influencing factors

The complex change processes of the participating pre-service teachers' beliefs about ESP teaching resulted from a wide variety of factors relating to the context of the teacher education programme as well as the individual participants. As described in Section 4.4, specific components of the ESP teaching methodology course and the practicum in the ESP teacher education programme constituted contextual factors. On the other hand, individualistic aspects in the participants' process of gaining knowledge and skills to teach ESP, such as reflection on prior knowledge and experiences, approaches to learning to become ESP teachers, and motivation for becoming ESP teachers, are regarded as the internal factors. Both contextual and internal factors were found to greatly contribute to the wide variety of changes in the participants' beliefs over the time of the study. These factors not only influenced the participants' beliefs separately but also in integrated ways. Figure 5.6 summarizes the influences of the different contextual and internal factors on the evolving beliefs about ESP teaching formed by the participating pre-service teachers in the current study.

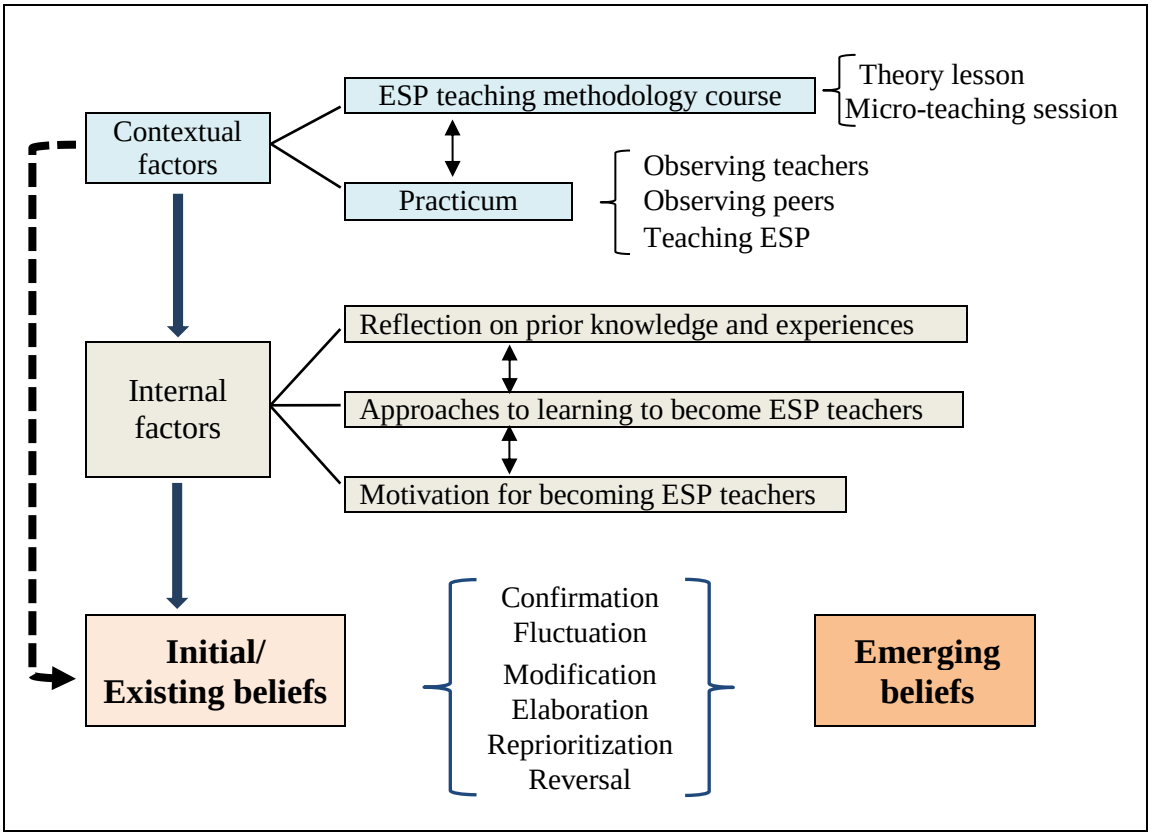

Figure 5.6: Influences of internal and external factors on pre-service teachers' beliefs

The current study revealed different influences that contextual and internal factors exerted on changes in the pre-service teachers' ESP beliefs. Whereas the contextual factors provided the theoretical and practical input of ESP teaching, the internal factors filtered this input. Therefore, while the contextual factors were found to bring about different changes to the pre-service teachers' beliefs about ESP teaching, the internal factors appeared to moderate these changes. These findings broadly support the work of previous studies on pre-service teachers' beliefs and belief changes (e.g., Ashton & Gill, 2003; Debreli, 2012; Levin & He, 2008). However, this study is the first to have examined the influence of a pre-service ESP teacher education programme on pre-service teachers' beliefs about ESP teaching. In addition, a particular significance of the present study is that it not only identified the different roles of contextual and internal factors but also further explored the integration of these factors in influencing the pre-service teachers' beliefs about ESP teaching. The influences of the contextual and internal factors are discussed in detail next.

5.4.1. Contextual factors: Input from knowledge and experiences

The ESP teaching methodology course and the practicum played different roles in the participating pre-service teachers' belief changes. The methodology course provided the pre-service teachers with theoretical input to familiarize them with planning and teaching a simulated ESP lesson. Subsequently, in the practicum, they were exposed to the reality of ESP teaching at the University of Technology and Education, from which they gained practical experiences in ESP teaching. As a result, the pre-service teachers' beliefs about ESP teaching went through complex change processes, as presented in the previous chapter. This finding confirms the close link between the teacher education programme and pre-service teachers' belief change, as observed in earlier studies (e.g., Levin & He, 2008; Özmen, 2012; Tatto & Coupland, 2003). According to Tatto and Coupland (2003), pre-service teachers' belief changes can be seen as "one of the most important outcomes of teacher preparation" (p. 124). The changes in their beliefs also imply that there are related changes in their knowledge (Tillema, 1998), pedagogical decisions, and teaching practice (Farrell & Lim, 2005). In this sense, the ESP teacher education programme that was the context for the current study appeared to facilitate the professional development of the pre-service ESP teachers, which is a goal that all teacher education programmes should aim for (J. Richards & Farrell, 2005).

However, the two key tendencies of belief change processes (i.e., *development* and *counter-development*), presented in Section 5.4, indicate that not all of the participants left the programme with clearer and stronger beliefs about ESP teaching. By contrast, at the end of the study, some participants were still confused about one or more aspects of ESP teaching and some participants had inconsistent belief systems. These findings suggest that there may have been some gaps within the teacher education programme, which limited its effectiveness. Such gaps may have existed within the ESP teaching methodology course and the practicum as well as between these two components of the ESP teacher education programme. In order to have a deeper understanding of these potential gaps, the roles of these two contextual factors will now be discussed in more depth.

The ESP teaching methodology course as a theoretical input provider

After the ESP teaching methodology course, the initial beliefs held about ESP teacher competencies were confirmed and elaborated by most of the participating

pre-service teachers. At this time, most participants felt more confident about their belief that ESP teachers needed both subject knowledge and English language competence. The participants also learned that ESP teachers needed more competencies, such as understanding of their learners' needs, specialized pedagogical competence, and the ability to develop course syllabi and materials. These concepts were what some participants described they had learned, and also remembered the most, from the theory lesson in the methodology course. This finding indicates that the participants' emerging beliefs were informed by the new knowledge they had just gained, which reflects the findings of S. Borg et al. (2014). In particular, S. Borg et al. (2014) found that the pre-service teachers' beliefs about four aspects (i.e., learning environment, ELT methodology, students' roles, and teacher's roles) were confirmed and extended as a result of their course on ELT methodology which also included these themes. In the current study, the participants' confirmation and elaboration of beliefs about ESP teacher competencies imply that the theory lesson might have explicitly provided them with relevant knowledge about these aspects, contributing to the development of their beliefs.

However, despite its obvious considerable influence on the participants' beliefs about ESP teacher competencies, the methodology course also led to their unclear beliefs about other aspects of ESP teaching. In fact, there was fluctuation in many participants' beliefs, for instance about ESP objectives (Hoa, Thiên, Thu, and Thùy), methodology (Châu, Huệ, Thiên, Thu, Thùy, and Trà) and who should teach ESP (Nhi, Thiên, Thu, and Thùy). This belief change may arise from two causes: these aspects might not have been explicitly taught, and/or the pre-service teachers were unable to clearly interpret related information from the methodology course. As this methodology course provided the theory about ESP teaching in just one theory lesson and a four-week micro-teaching session, this implicit and explicit teaching did not appear to foster the pre-service teachers' confidence about the new knowledge they had just gained. It is possible that this lack of confidence then led to the tensions between their existing beliefs and the new beliefs formed during the course. In this regard, the methodology course might have exerted what Richardson (1996, 2003) refers to as "weak intervention" on the participants' initial beliefs about these aspects of ESP teaching. Nonetheless, as discussed in Section 5.3, fluctuation in the pre-service teachers' beliefs may indicate that their reflections focused on mediating

between two different sources of knowledge, a process which would definitely be helpful for progressing their learning to become ESP teachers.

It is worth noting that the ESP teaching methodology course, even though it lasted only five weeks, still brought about some changes to the participants' beliefs about ESP teaching. This finding challenges Debreli's (2012) assumption that it is hard to observe changes in pre-service teachers' beliefs in short teacher education programmes. In the current study, a wide variety of changes in the pre-service teachers' beliefs was identified after this five-week methodology course. However, many of these new beliefs were found to change again after the practicum. This finding suggests that new information from the methodology course had not yet been fully integrated into the participants' beliefs and therefore their stated beliefs at that time tended to be just "mirroring the content of the course", a finding that was also noted in the work of S. Borg et al. (2014, p. 19). A possible reason for this may be that the methodology course provided a lot of theoretical input, both explicitly and implicitly, in a short time. The new knowledge, therefore, became fragmented and unclear, which hindered the pre-service teachers from forming strong beliefs. This finding supports Kagan's (1992) idea that short-term fragmented input from a teacher education programme is unlikely to bring long-lasting changes to pre-service teachers' beliefs about teaching. Consequently, to bring about stronger beliefs in pre-service teachers, it is important that the duration should be proportional to the complexity of the content input.

Practicum as realistic teaching input

All of the participating pre-service teachers in the current study reported that the practicum was more influential to their beliefs than the ESP teaching methodology course. According to Mutton, Burn, and Hagger (2010), the practicum in teacher education programmes provides two potential benefits: "opportunities for pre-service teachers to learn and a place for them to demonstrate practical competencies" (p. 74). In the current study, the participants were offered a wide range of practical experiences over eight weeks, in order to assist them to develop their individual knowledge of ESP teaching. During this time, they participated in three key components: they observed ESP lessons taught by teachers and by peers and subsequently taught their own ESP lesson to either students or student teachers. Thus, the pre-service teachers were not only able to test the theoretical knowledge of

ESP teaching they had gained previously in a real setting, but also to learn about the practical aspects of ESP teaching.

Observing ESP lessons taught by experienced teachers in the practicum was the participating pre-service teachers' first exposure to the reality of ESP teaching. Although most of the participants acknowledged that this practical experience enabled them to better visualize an ESP lesson and relevant teaching techniques, many considered that this experience did not bring about dramatic changes in their beliefs. In fact, the most noticeable influence that this contextual factor exerted was confirming many participants' beliefs about ESP teacher competencies. This finding has not been previously recorded in other studies. For example, Yuan and Lee (2014) reported that observation experiences overturned pre-service teachers' prior beliefs and developed new beliefs about teachers' mistakes, as well as strengthening their beliefs about the feasibility of the Communicative Language Teaching approach. By contrast, Mak (2011) found that, in a Chinese context where experienced people are respected, observing experienced teachers' lessons was of little help. Mak (2011) believed that, as the imitation of teachers' teaching approaches is socially approved, observations solidified, rather than changed, pre-service teachers' beliefs. In the current study, although this was also carried out in an Asian context, the participants appeared to be more critical and willing to question when they felt the contextual input was contradictory to what they had learned theoretically. This finding may imply that the pre-service teachers in this ESP teacher education programme did not always view experienced teachers as useful role models.

There are two possible explanations for why most of the participants in the current study did not go on to imitate exactly the teaching approaches of the experienced ESP teachers they had observed. Firstly, many of the participants reported observing ESP classes taught by subject teachers who preferred to focus on explaining subject knowledge in Vietnamese. This approach to teaching ESP tended to conflict with the participants' prior ESP learning experiences and their recently acquired knowledge of ESP teaching. Secondly, apart from their mentoring teacher, the participants also observed ESP lessons taught by many other experienced teachers who were either subject or English teachers. After being exposed to varied teaching approaches used by these teachers with different backgrounds in the practicum, the pre-service teachers appeared to become more open-minded and critical about how to teach ESP.

As a result, they neither approved nor imitated experienced teachers' teaching approaches without firstly undertaking some careful reflection. These findings highlight the valuable role of reflection in the pre-service teachers' process of learning to become teachers (Farrell, 2009; J. Richards & Farrell, 2005), which will be further discussed later in this section. This study, therefore, suggests that observing ESP teachers with different backgrounds and experiences was beneficial, in the long term, to the pre-service teachers' professional growth.

A further finding was that observing their peers' lessons was considered to be more helpful to the pre-service teachers than observing experienced teachers' lessons. Many participants felt that their peers used a wide range of teaching techniques in their lessons, while the experienced teachers they had observed tended to prefer traditional teaching approaches. The participants were also more critical when observing peers' lessons, in particular identifying the weaknesses of peers' lessons and thinking about how to improve them. In addition, while observing lessons taught by peers who were in the same practicum group, the participants also had better understanding about their prospective learners. Learning through critically observing their peers enabled them to become better prepared for teaching their single ESP lessons afterwards. This finding is consistent with that of Nierstheimer et al. (2000) who found that peer observations fostered pre-service teachers' "independence in their thinking as prospective teachers and in their abilities to apply what they had learned" (p. 11). As a result of this peer learning, many participants in the current study gained new knowledge and experiences that contributed to significant changes in their beliefs about ESP learners, methodology, and thus teacher competencies, as described in the previous chapter.

It is significant that most of the participants believed that planning and teaching an ESP lesson was the most valuable experience that they had gained in the practicum, despite the problems they encountered concerning their understanding of the subject knowledge and their learners' relevant background knowledge. Indeed, these problems appeared to challenge their decision-making, which in turn deepened their understanding of the nature of ESP teaching. For example, although Huệ was demotivated by her learners' subject knowledge and engagement as well as her mentoring teacher's attitude, the experiences in dealing with these issues were noticeably influential on her beliefs about how to teach ESP. The critical importance

of teaching practice experiences in assisting pre-service teachers in developing their pedagogical beliefs has been widely discussed in the related literature (e.g., Farrell, 2008; Özmen, 2012; Yuan & Lee, 2014). For example, Yuan and Lee (2014) found that classroom teaching enabled pre-service teachers in their study to reconstruct their prior belief about language teachers, to refine and develop their beliefs about language teaching and learning, and to deepen their beliefs about the role of learner interest in the classroom. The current study also further supports key findings from other studies, which indicate that pre-service teachers' learning during the practicum is central to their professional training (S. Y. F. Tang, 2004) and that it is "one of the most important aspects of a teacher education programme" (Farrell, 2008, p. 226).

It is also important to note that mentorship played an important role in facilitating the development of the participating pre-service teachers' beliefs about ESP teaching. According to Izadinia (2016), mentoring teachers are "key contributors to pre-service teacher education and play a crucial role in the professional development of student teachers" (p. 337). In the current study, those participants who had received adequate guidance and support from their mentoring teachers, such as Nga, Ngọc and Nhi, felt more confident about their beliefs on how to teach ESP and thus their beliefs were found to change in more positive ways. By contrast, those participants who struggled to deal with their mentoring teachers' requirements, or to mediate between that and other factors (such as Châu, Huệ, Thiên, and Thùy), were more likely to become confused and to hold conflicting beliefs. Yuan and Lee (2014) assert that a lack of practical guidance from mentoring teachers is a contextual factor that may hinder changes in pre-service teachers' beliefs. In addition to academic support, pre-service teachers also need their mentoring teachers' emotional support which helps to strengthen their beliefs about identity (Izadinia, 2016). The importance of mentoring teachers' emotional support was also found in the current study. For instance, Huệ lost motivation and confidence during her lesson when realizing that her changed teaching activities seemed to disappoint her mentoring teacher. Therefore, the findings from the current study highlight the importance of the selection and training of the mentoring teachers in teacher education programmes, an issue that Farrell (2008) has also noted.

A further notable point is that, in the current study, teaching an ESP lesson for prospective ESP teachers in the practicum tended to contribute to the *counter-*

development processes of some participants' beliefs. Existing literature identifies that the practicum experience is normally based in schools, so pre-service teachers teach their first lessons in actual classroom settings (Caires & Almeida, 2005; Farrell, 2008; Mutton et al., 2010). H. T. M. Nguyen (2017) also asserts that the practicum is how pre-service teacher education programmes are "linked with real-world professional experience" (p. 48), and where pre-service teachers "learn to teach in a meaningful context" (p. 49). However, in the current study, seven participants (Châu, Giang, Hoa, Huệ, Thiên, Thu, and Thùy) taught learners who were ESP student teachers. These participants, therefore, did not seem to gain much benefit from the practicum. In particular, these pre-service teachers reported that they experienced challenges regarding their lesson objectives (Thiên, Thu and Thùy), methodological decisions (Châu, Giang, Huệ, Thiên, and Thu), and their subject knowledge (Châu, Hoa, Huệ, and Giang). Although these challenges could ultimately be helpful for their understanding of the complexity of ESP teaching, at the time they caused unnecessary confusion. Those participants who taught learners who majored in subject fields other than English did not encounter these problems.

All of the three key components of the practicum (i.e., observing ESP teachers' lessons, observing peers' lessons, and planning and teaching an ESP lesson) were found to complement each other, enabling the pre-service teachers to view the reality of ESP teaching from different angles. Whereas observations familiarized the participants with the reality of ESP teaching, through which they also learned about learners and how to teach specific ESP lessons, practicum teaching offered an opportunity for them to practically enact what they had just learned theoretically. As the influences of these factors became more closely interwoven, they led to significant changes to the pre-service teachers' beliefs after the practicum. The development of Trà's beliefs about how to teach a good ESP lesson and what competencies ESP teachers ultimately needed was a case in point. The integrated influences of observing lessons taught by English teachers, subject teachers, and peers, as well as the teaching of a single ESP lesson strongly reinforced her beliefs about how to teach ESP. This finding affirms Özmen's (2012) argument that practicum exerts the most influential impact on the development of pre-service teachers' beliefs about teaching and learning.

5.4.2. Internal factors as a personal filter

In addition to contextual factors, the current study found that the participating pre-service ESP teachers' belief changes were influenced by internal factors. These factors included critical reflection on knowledge and experiences, approaches to gaining knowledge and skills to become ESP teachers, and motivations for developing skills to teach ESP as well as to become ESP teachers. For instance, Châu frequently reflected on her prior and new knowledge and experiences, in order to gain a more in-depth understanding of ESP teaching. This reflection enabled her to integrate new knowledge and experiences into her prior beliefs to form new beliefs. In addition, Hoa's *pragmatic* approach to learning to teach, and her motivation to teach a good ESP lesson, influenced her selection and processing of the new information as well as her evolving beliefs about ESP methodology over the time of the study. These findings indicate that internal factors functioned as a personal filter that enabled the pre-service teachers to be selective in processing theoretical and practical input. The filtering role of internal factors is discussed in detail below.

Critical reflection

In this study, critical reflection was found to foster belief changes of many participants (such as Châu, Giang, Huệ, My, Nga, Nhi, and Trà) as well as promoting greater consistency across the beliefs of some participants (i.e., Huệ, My, Nga, and Nhi). When new input was provided, these participants discussed the input with classmates or peers and reflected on their prior knowledge and experiences. They then identified differences and similarities between prior and new knowledge and experiences, and subsequently adopted changes that they felt appropriate to their individual beliefs. These participants also strived to put newly emerging individual beliefs into their wider belief system, to ensure there was consistency across these beliefs. This reflective learning strategy facilitated the construction of their knowledge of ESP teaching and brought about stronger and more coherent beliefs about ESP teaching. According to E. L.-Y. Tang et al. (2012), pre-service teachers' abilities to reflect on their experiences and to develop strategies to deal with problems, suggests ongoing development of their professional skills and pedagogical beliefs. This process appeared to occur in the current study. The many participants who changed their beliefs after reflection seemed to hold deeper insights into ESP teaching and were more confident about their beliefs about ESP teaching.

However, there need to be effective conditions for critical reflection to be fruitful because, as Mak (2011) noted, it can be detrimental if pre-service teachers rely too much on their narrow experiences. In the current study, Châu was a case in point here. Her belief that ESP courses focused on teaching subject knowledge appeared to become stronger because her lesson for prospective ESP teachers in the practicum also focused on subject knowledge. As presented in the previous chapter, Châu's sole reliance on her learning and teaching experiences, while strengthening her beliefs about ESP methodology, caused confusion in her emerging beliefs, which later hindered her progress in learning how to teach ESP. Thus, this finding suggests the need to provide pre-service teachers with structured opportunities to critically reflect throughout the ESP teacher education programme.

Learning approaches

In the present study, a connection was found between the participating pre-service teachers' learning approaches in the teacher education programme and their beliefs about ESP teaching. The participants who adopted *comprehensive* and *proactive* approaches were found to be more likely to have strong and clear beliefs about ESP teaching while beliefs of the participants who adopted *pragmatic* and *passive* approaches were less likely to be strong, coherent and consistent. This finding aligns with those of Rodriguez and Cano (2007) and Tanriverdi (2012). For example, Rodriguez and Cano (2007) found that those pre-service teachers who adopted a superficial and reproduction-oriented learning approach actually held more simplistic and naïve beliefs than those who adopted a deeper and more meaning-oriented learning approach.

A possible explanation for the influence of pre-service ESP teachers' learning approaches on their beliefs was that different learning approaches resulted in different levels of insight into ESP teaching that they gained. For example, Thu *proactively* controlled her learning process to serve her specific needs for gaining knowledge and skills to teach ESP and, therefore, tended to hold a deeper insight into how to teach ESP to English and non-English major students. By contrast, Thiên who *passively* accepted what was provided seemed to be unclear about what she really wanted or needed, indicating her lack of insight into ESP teaching. These findings about pre-service teachers' learning approaches further support the *deep* and *surface* learning approaches identified by Rodriguez and Cano (2007) and Tanriverdi

(2012). The *deep* approach indicates the pre-service teachers' attempt to maximize their understanding and their use of strategies focused on the meaning of what they are learning (Tanriverdi, 2012). Meanwhile, the *surface* approach indicates their attempt to "reproduce those materials to meet the minimum requirements" (Rodriguez & Cano, 2007, p. 649).

In addition, it appears that the learning approaches adopted by pre-service ESP teachers in the current study guided their decisions about the prioritization of new knowledge and learning experiences, and consequently promoted their accompanying belief changes. For example, adopting *proactive* and *comprehensive* learning approaches, Trà tended to focus on deepening her knowledge and sharpening her teaching skills so that she could teach ESP confidently, which in turn changed her beliefs about ESP methodology and ESP teacher competencies. In this sense, this study extended the finding of Rodriguez and Cano (2007) about the connection between pre-service teachers' learning approaches and their epistemological beliefs.

Learning motivations

In the current study, the motivation of some participating pre-service teachers was found to be a further internal factor that contributed to changes in their beliefs. Although the participants' motives for learning how to teach ESP differed, it appears that some participants who were aware of the learning outcomes or the deficiencies in their teaching ability were more highly motivated. For example, Hoa eagerly sought to gain teaching techniques from classmates and peers in order to achieve her practical aim of delivering good ESP lessons, as required by the ESP teaching methodology course and by the practicum. On the other hand, Trà was highly determined to gain confidence in teaching ESP. These findings corroborate the idea that pre-service teachers' motivations are "strongly influenced by how they perceive their capabilities in teaching and the potential results their teaching can generate" (Yuan & Zhang, 2017, p. 143). Some pre-service teachers in this study thus made every effort to achieve their personal goals, which in turn deepened their understanding of ESP teaching and thus contributed to their development of clearer and stronger beliefs.

However, it was found that, despite being connected, beliefs and motivation of a pre-service teacher did not always support one another. For example, Huệ's motivation dropped significantly after the practicum, while her beliefs became clearer and stronger. This difference might be explained by the fact that whereas her motivation was impacted by her emotions, her beliefs seemed to be more influenced by the academic input than by emotional factors. Negative emotions arose, such as anxiety, fear, and disappointment, caused by her unsatisfactory experience in planning and teaching a single ESP lesson to pre-service ESP teachers, and this initially demotivated her. However, this practicum experience provided her with a greater insight into ESP teaching, as well as clarifying and strengthening her beliefs. It is interesting to note that this finding appears to contradict the idea of Ashton and Gill (2003) who state that "emotions play a crucial role in motivating change in beliefs" (p. 99). In the current study, however, negative emotions did not appear to hinder the development of Huệ's beliefs; rather, they decreased her motivation for becoming ESP teachers. This finding, therefore, provides new understanding about the influence of emotions and motivations on pre-service teachers' belief changes as well as their role in their professional orientation and development.

5.4.3. The integration of contextual and internal factors

Although contextual and internal factors played different roles, in the long run, changes in the participating pre-service teachers' beliefs about ESP teaching resulted from the wider integration of both contextual and internal factors. The ESP teaching methodology course and the practicum provided theoretical and practical input on ESP teaching. Subsequently, the participants internalized new knowledge and experiences through reflection. This ongoing process of belief change was also supported by their preferred approaches to gaining the knowledge and skills required of ESP teachers as well as their motivations for learning how to teach ESP and becoming ESP teachers. For example, during the practicum, Trà was highly motivated to become a confident ESP teacher. She then proactively and reflectively took advantage of practicum experiences to be better equipped with the knowledge and experiences that she believed would enable her to teach an ESP lesson confidently. These efforts resulted in constructive development in her beliefs about ESP teaching. In this sense, the contextual factors provided preliminary input, which was then filtered through the participants' internal factors, such as reflection,

learning approaches and motivations, to influence their belief change processes, as illustrated in Figure 5.6. This finding further supports the idea of M. M. H. Cheng, Cheng, and Tang (2010) who believed that the process followed by pre-service teachers, as they developed their practice, involved "active construction and reconstruction of knowledge from many different sources of influence" (p. 91). The current study shows that the beliefs about ESP teaching that the participants held at the end of the study were a result of the integration of factors relating to the ESP teacher education programme and those specific to individual pre-service teachers. In addition, the belief change processes identified in this study reflect the complex and interactive nature of pre-service teachers' learning to teach, which is "largely influenced by the interplay between individual and contextual variables" (p.112), as noted by Caires and Almeida (2005).

In addition, the integration of the contextual and internal factors was seen in the way in which the participants' prior beliefs functioned as a benchmark against which new input was assessed and endorsed. As discussed in Section 5.3, the difference in patterns identified in participants' categories of belief change was found to be dependent upon the degree of convergence between the participants' prior beliefs and new input from the ESP teacher education programme. This finding suggests that every single change in their beliefs was attributed to the result of comparing prior and new knowledge and experiences, as demonstrated in Figure 5.4. According to Pennington (1996), there is no direct path from input to intake; rather, the input must go through an "affective filter" (Krashen, 1987) to become intake. Therefore, in the current study, there is likely to be a gap between what the participants were provided with, and what they accepted into their belief system. This gap reflects the pre-service teachers' interpretations of the input from contextual factors through the differing lenses of internal factors. Although the idea that pre-service teachers process input through a range of factors has been reported by previous studies (e.g., Mutton et al., 2010; Pennington, 1996), this study identified three internal factors (i.e., reflection, learning approaches, and motivations) that were involved in processing the input from contextual factors. In addition, as the context for this study is unique in the field of ESP teacher education so far, this finding provides new insight into pre-service ESP teachers' belief development.

In addition to bringing about development in most of the participants' beliefs about ESP teaching, the integrated influence of different factors also caused some confusion. At times it appeared that confusion arose because of the differing input from various aspects of the ESP teacher education programme. Many participants found there were inconsistencies between the theory about ESP teaching, which they had learned from the methodology course, and what they had observed and experienced in the practicum. For example, some participants became confused after observing subject teachers' ESP lessons, as these differed from what they had learned theoretically about how to teach an English language lesson. These participants, therefore, vacillated between the beliefs stemming from their prior theoretical knowledge and the beliefs emerging from their new practical experiences. According to Bråten and Ferguson (2015), pre-service teachers tend to "believe more in practically-derived [knowledge] than in theory-based sources of knowledge" (p. 13). However, this separation was unclear in the current study. Despite their preference for learning from practice rather than from theory, the participants took both theoretical and practical knowledge and experiences into serious consideration in forming their beliefs. This integrated approach to learning how to teach ESP, together with their critical reflections on prior and new knowledge and experiences, therefore appeared to result in belief fluctuation. This finding highlights the integrated influences of contextual and internal factors on pre-service teachers' belief change as well as corroborates the idea of Tanase and Wang (2010) that "the influence on pre-service teachers' conceptual changes needed to be personalized and contextualized" (p. 1247).

5.5. Chapter summary

In this chapter, the key findings, presented in the previous chapter, have been discussed in light of relevant literature. The most significant contribution of this study is that it provides an insight into the field of pre-service ESP teachers' beliefs, which has not been explored previously. It appears that the emerging beliefs of the pre-service ESP teachers may be more likely to change than the beliefs of pre-service teachers in other teacher education programmes that have been explored in previous studies. This insight is linked to the distinctive features of these participants, including their prior ESP learning experiences and the formation of their initial beliefs. The distinctive features of the ESP teacher education programme

also contributed to the changeability of the pre-service teachers' beliefs. These features include: their first five ESP courses on different disciplines; the ESP teaching methodology course which involved only one theory lesson; and the practicum context in which the pre-service teachers were exposed to experienced teachers and ESP learners with different backgrounds.

In addition, this study confirms that pre-service ESP teachers' beliefs do not appear to be resistant to change. Indeed, individual beliefs of the participating pre-service teachers changed in varied ways over the time of the study. Six categories of belief change were addressed: *confirmation*, *fluctuation*, *modification*, *elaboration*, *reprioritization*, and *reversal*. The difference between these categories of change lies in the level of convergence between the pre-service teachers' initial or existing beliefs and new input from the ESP teaching methodology course and the practicum. The combination of these changes resulted in a wide variety of belief change processes that were identified in this study. These belief change processes could be categorized into two tendencies: *development* and *counter-development*. Previous studies on pre-service teachers beliefs about teaching and learning have either identified discrete categories of belief change (Cabaroglu & Roberts, 2000; L. Li, 2012) or just a few belief change processes (Yuan & Lee, 2014). Therefore, the depth of this part of the analysis is another significant finding of the current study.

Finally, this study has illustrated how the pre-service teachers' belief change was a result of the interplay between contextual and internal factors. On one hand, the contextual factors were embedded in the ESP teaching methodology course and the practicum of the ESP teacher education programme. On the other hand, the internal factors that were influential to the pre-service teachers' beliefs in this study included: their reflections on their prior and new knowledge and experiences, their approaches to learning how to teach ESP, and their motivation for learning how to teach ESP. These insights suggest that, while contextual factors may serve as a provider of theoretical and practical input, internal factors can function as a personal filter of this contextual input. This process was not found to be linear, as the contextual and internal factors were interwoven to exert combined influences on the pre-service teachers' beliefs. This finding has important implications for making changes and improvements to teacher education programmes.

The final chapter that follows will summarize the key findings of the current study, identify its limitations, suggest ideas for future research, and discuss the implications in more depth.

CHAPTER SIX
CONCLUSIONS AND IMPLICATIONS

6.1. Introduction

In this chapter, which concludes the thesis, key findings in answer to the four research questions posed are summarized. Following this, implications for theory, methodology, and practice are provided. Limitations of the study are also acknowledged, and recommendations are made for future research. This chapter ends with the researcher's final words, which provide an overview of the research process and her reflections on this journey.

6.2. Key findings

This study was guided by four major research questions:

1. What were the pre-service ESP teachers' initial beliefs about ESP teaching?
2. How did the pre-service ESP teachers' initial beliefs about ESP teaching change after the ESP teaching methodology course?
3. How did the pre-service ESP teachers' beliefs about ESP teaching change after the practicum?
4. What influenced changes in the pre-service ESP teachers' beliefs about ESP teaching?

In this section, answers to these questions will be presented, in relation to three main areas: the pre-service ESP teachers' initial beliefs (question 1), changes in their beliefs over the time of the study (questions 2 and 3), and the factors influencing their beliefs and belief changes (question 4).

6.2.1. Pre-service ESP teachers' initial beliefs

In responding to the first research question, the pre-service ESP teachers' initial beliefs about ESP teaching were identified at the start of the study. Results across the twelve case studies revealed three significant features that characterized participants' initial beliefs. Each of these features is described in turn below.

The first distinctive feature of the twelve pre-service ESP teachers' initial beliefs about ESP teaching was that these beliefs were based solely on their prior ESP learning experiences from the five ESP courses in the ESP teacher education programme. Outside of these experiences, they did not have any prior information,

knowledge, or experience of ESP. This feature is distinctive because pre-service teachers in general teacher education programmes normally form their initial beliefs about the subject matter, teaching, learning, teachers, and learners during their early schooling. However, despite the difference in the source and the time of formation, the initial beliefs of the pre-service ESP teachers had some similarities to those of their counterparts in other teacher education programmes, in that they contained both evaluative and emotional aspects. The pre-service teachers formed their initial beliefs by interpreting their recent ESP learning experiences through the lens of the evaluations and emotions.

Secondly, the content of most of the participating pre-service ESP teachers' initial beliefs was subject-knowledge-oriented. In particular, they formed four key beliefs: that the primary aim of ESP teaching was to provide subject knowledge; that a specialized ESP methodology was needed for teaching subject knowledge; that ESP teachers ultimately needed expertise subject knowledge; and that ESP should be taught by subject teachers rather than English language teachers. As mentioned above, these beliefs emerged as a result of the participants' experiences as learners in ESP courses in the teacher education programme. Since no other source had provided them with information about aspects of ESP teaching, they viewed ESP teaching from the perspective of their recent experiences as ESP learners. Thus, they formed their initial beliefs about ESP objectives, methodology, teacher competencies, and who should teach ESP based on these experiences.

The final feature of the participating pre-service ESP teachers' initial beliefs was that their understanding of ESP objectives played a decisive role in the level of consistency across these beliefs. This finding showed how beliefs about ESP teaching were interconnected in a wider system. Within this system, beliefs about ESP objectives were at the heart and were more influential than beliefs about ESP methodology, ESP teacher competencies, and who should teach ESP. Those participants who believed that the primary aim of ESP teaching was providing subject knowledge also appeared to form a more consistent belief system than those who considered developing English language competence was the primary aim of ESP teaching.

6.2.2. Pre-service ESP teachers' belief changes over time

Research Questions 2 and 3 focused on *how* beliefs about ESP teaching, held by the twelve pre-service ESP teachers, changed. The study revealed that most of the participants' beliefs about ESP teaching were susceptible to change after both the ESP teaching methodology course and after the practicum. Their beliefs were found to change in six different ways: *confirmation*, *fluctuation*, *modification*, *elaboration*, *reprioritization*, and *reversal*. The pattern of participants' belief changes differed in line with the degree of convergence between the pre-service teacher's existing beliefs, and the new input from the methodology course and the practicum. Whereas convergence between their existing beliefs and the new input was found to result in *confirmation* and *elaboration*, divergence brought about *fluctuation* and *reversal*. In situations when there were both similarities and differences between their existing beliefs and the new input, their beliefs were *modified* or *reprioritized*. In addition, the participants' reactions to the divergence between existing beliefs and new input was found to contribute to the variation observed. For example, if participants immediately accepted new information which was opposite to their existing beliefs, their existing beliefs were *reversed*. If they were hesitant and confused, shifting between two concepts, their beliefs *fluctuated*.

Although these categories of change were found in the participants' beliefs, both after the methodology course and the practicum, the extent of these changes differed. After the ESP teaching methodology course, most of the participants *confirmed* and *elaborated* their beliefs about ESP teacher competencies, indicating there was a convergence between their existing beliefs and the theoretical input from the course. However, with regard to their beliefs about ESP objectives, ESP methodology and who should teach ESP, the beliefs of many participants *fluctuated*, suggesting that they were unconvinced about the new input and had become more confused. In addition, after the practicum, the participants' beliefs about ESP teaching tended to change in different ways. Many participants *confirmed* some ESP teacher competencies, but they also *elaborated* some teacher competencies and *reprioritized* other competencies that they believed ESP teachers needed. In addition, the beliefs about ESP objectives and ESP methodology of many participants were *modified*.

The combination of individual changes in a belief over the ESP teaching methodology course and the subsequent practicum constituted a belief change

process. It was found that there was no rule or principle for the combination of individual changes in the participants' beliefs about ESP teaching. This situation appeared to be related to the wide variety of beliefs about ESP teaching that a participant held at different times, and these beliefs also changed in different ways after the input from the methodology course and the practicum. This complexity, resulting from the combination of different categories of change in beliefs about different aspects of ESP teaching, indicated that a wide range of belief change processes might occur. Therefore, it became useful to categorize belief change processes in two ways: *development* and *counter-development* processes. While the former process indicates that the participants' beliefs about ESP teaching became stronger and clearer at the end of the study, the later process referred to when the participants' beliefs were found to remain unchanged or fluctuate. Ultimately, however, the findings in the current study showed that more beliefs went through *development* change processes than through *counter-development* processes. This was a positive finding suggesting the ESP teacher education programme had a positive influence on the pre-service teachers' beliefs.

6.2.3. Factors influencing pre-service ESP teachers' beliefs

Research Question 4 focused on identifying factors that influenced the pre-service ESP teachers' beliefs and belief change, and exploring *why* their beliefs changed over the time of the study. In this regard, the study's findings revealed that the participants' beliefs were influenced not only by contextual factors related to the ESP teaching methodology course and the practicum, but also by individual factors such as reflection, learning approaches, and motivations. The study also revealed that contextual and internal factors did not influence the participants' beliefs separately, but rather these influences tended to be integrated.

Regarding the contextual factors, the influences of the ESP teaching methodology course and the practicum on the participating pre-service ESP teachers' beliefs about ESP teaching were found to differ in nature. In particular, while the five-week methodology course tended to bring about more confusion, resulting in fluctuation in many of the participants' beliefs, the eight-week practicum tended to lead to stronger and clearer beliefs. In the methodology course, the participants learned how to teach ESP through two types of input: a theory lesson, and a micro-teaching session in which they observed and taught stimulated ESP lessons. As the theoretical input

appeared to be insufficient and implicit, the participants' emerging beliefs were not strong, and therefore susceptible to change.

However, the practicum input tended to produce more positive changes in the pre-service ESP teachers' beliefs about ESP teaching than the theoretical methodology course. There were three key practicum experiences: observing teachers, observing peers, and planning and teaching an ESP lesson. Among these, the third experience, which involved planning and teaching, was found to be the most influential to the participants' belief changes. However, those participants who taught prospective ESP teachers tended to encounter more difficulties than those participants who taught *real ESP learners*. This problem was particularly in relation to the lesson objectives, methodological decisions, and their subject knowledge. This finding suggests that an *artificial teaching experience* may hinder the development of pre-service teachers' beliefs about ESP objectives, methodology, and teacher competencies.

A number of internal factors were found to influence the participants' beliefs about ESP teaching in the current study. These factors include critical reflection, approaches to gaining knowledge and skills to teach ESP, and motivations for gaining knowledge and skills to teach ESP. In particular, reflection and learning approaches appeared to be most closely connected with the participants' beliefs. The more reflective a participant, the stronger her beliefs tended to become. Similarly, the likelihood of having strong beliefs about ESP teaching by participants who adopted *comprehensive* and *proactive* approaches to learning to become ESP teachers was found to be higher than those participants who adopted *pragmatic* and *passive* approaches. However, the connection between beliefs and motivation was not as close. It was found that, while some participants who were highly motivated appeared to have strong and clear beliefs, some other participants held stronger beliefs over time but became less motivated to gain knowledge and skills to teach ESP.

Overall, it was found that the influences of contextual and internal factors on the pre-service ESP teachers' beliefs about ESP teaching tended to be integrated. While the contextual factors provided theoretical and practical input, the internal factors acted as personal filters that determined which input would be taken into account in

influencing the participants' existing beliefs. Specific actions that were subsequently taken, as a result of the influence of internal factors, varied from participant to participant. In this sense, their belief changes were both contextualized and personalized. Therefore, the participants' beliefs changed in different ways, although they sometimes experienced similar activities in the ESP teaching methodology course and the practicum.

6.3. Theoretical implications

In seeking to understand how and why the pre-service ESP teachers' beliefs changed, deeper insight into two specific areas of knowledge was gained: pre-service ESP teachers' beliefs and pre-service teachers' belief change. The key contributions to literature these two areas are outlined below.

6.3.1. Pre-service ESP teachers' beliefs

One of the most significant contributions of the current study is that it shed light on the previously unexplored area of pre-service ESP teachers' beliefs. This study showed that the pre-service ESP teachers' initial beliefs about ESP teaching resulted solely from their experiences from ESP courses in the ESP teacher education programme; that most of these beliefs were subject-knowledge-oriented; and that their beliefs about ESP objectives were central to their belief system and influenced the level of consistency across beliefs within their belief system. In addition, in comparing the findings of this study with those in the literature, pre-service ESP teachers' initial beliefs tend to be more susceptible to change than the initial beliefs of pre-service teachers in general teacher education programmes. Apart from confirming earlier views about the changeability of teacher beliefs in the related literature (S. Borg, 2011a; Debreli, 2012; Teng, 2016; Tillema, 1998), the findings from the current study break new ground in understanding the specific characteristics of pre-service ESP teachers' beliefs. Therefore, this study can be considered as the first step to pave the ways for further research into pre-service ESP teachers' beliefs.

6.3.2. Pre-service teachers' belief change

Another significant contribution of the current study is that it extends current knowledge on changes in pre-service teachers' beliefs. The findings regarding categories of belief change, the underlying causes of the variety of belief changes, and the nature of belief change processes may be applicable not only in ESP teacher

education programmes but also to some extent in other teacher education programmes.

In particular, this study identifies six categories of belief change (i.e., *confirmation*, *fluctuation*, *modification*, *elaboration*, *reprioritization*, and *reversal*), adding to the currently limited literature on pre-service teachers' belief change. This contribution builds on previous research into pre-service teachers' belief change in contexts other than ESP, including Post Graduate Certificate in Education (Cabaroglu & Roberts, 2000), Teachers of English to Speakers of Other Languages (L. Li, 2012), and English as a Foreign Language (Yuan & Lee, 2014). This study also goes beyond findings in previous studies, in that both the effects of and the underlying causes of these belief changes were taken into account. As a result of identifying these change processes, the current study reveals that changes differ depending on whether the new input is convergent or divergent with a pre-service teacher's existing beliefs, and on how the individual reacts to the new input. This provides a fresh perspective to understanding the nature of pre-service teachers' belief changes which can be beneficial to both teacher educators and pre-service teachers.

Furthermore, the current study highlights the combination of different changes of beliefs that need to be taken into account at different times during the teacher education programme in order to define pre-service teachers' belief change processes. Belief change processes thus vary on an individual basis, and there is no rule for these combinations. This finding extends earlier views that belief change is the "instantaneous process of deliberate confrontation with new, discrepant information" and is "concomitant to knowledge construction" (Tillema, 1998, p. 220). During a teacher education programme, new information is provided, and new knowledge is constructed over time, so pre-service teachers' beliefs do not change just once. Rather, their beliefs may be open to change whenever they receive new input, thus the belief change process is comprised of differing belief changes that may occur at different times in a pre-service teacher education programme.

Finally, this study revealed not only the roles of contextual and internal factors but also the integration of these factors into pre-service teachers' beliefs. Although previous research has indicated the influence of contextual and individual elements in pre-service teachers' journey in learning to teach (Caires & Almeida, 2005;

Mutton et al., 2010; Pennington, 1996), this is the first study that has explicitly defined the role that each of these two elements in pre-service teachers' belief changes play in the integration process. This study, therefore, has moved knowledge forwards in illustrating how this integration process takes place in the reality of changing pre-service teachers' beliefs.

6.4. Methodological implications

This study employed qualitative methodology. In the field of teacher beliefs, this approach is not novel. However, this study provides strong confirmation that qualitative research is the best approach for exploring changes to teachers' beliefs. Two significant methodological strengths of this study are the employment of a wide variety of qualitative data collection tools and the continuity of the longitudinal data collection process. Over six months, data from each participant were collected through four semi-structured in-depth interviews, one stimulated recall interview, two reflective journals, and one class observation. While the five interviews and the class observation took place at different times, reflective journals were kept throughout the process, which helped to keep track of changes in the participant's beliefs about different aspects of ESP teaching. Consequently, the data collected were rich, which deepened understanding of the pre-service ESP teachers' beliefs about ESP teaching. In addition, the multiple data collection tools ensured the research quality.

In-depth interviews, which are commonly used in research in teachers' beliefs, were the key data collection tool in the current study. The participating pre-service ESP teachers' openness and willingness to share, and the researcher's probing questions, contributed to the richness of the data collected. This outcome highlights the effective rapport between the researcher and the participants, which greatly facilitated the data collection process and added to the quality of the data collected. In addition to verbal data, it was evident that paralinguistic features, such as tone of voice, hesitation, facial expressions, and gestures, were also particularly important. These features, which were observed and noted during the interviews, indicated the participant's confidence in their belief statements, and helped in interpreting pre-service teachers' beliefs.

The current study also provided strong evidence of the suitability of a multiple-case study design in conducting research into teachers' beliefs. This design allowed the researcher to build both an in-depth understanding of changes in each participant's beliefs over the study and an overview of the similarities and differences across participants. Although the participants outnumbered the cases suggested by Yin (2014) (i.e., six to ten cases), the qualitative data collection and analysis of twelve cases was still manageable. The multi-phase data analysis (i.e., within-case, cross-case, inductive, deductive, comparative, and chronological analyses), although challenging and time-consuming, ultimately resulted in deep insights into the nature of pre-service ESP teachers' belief change, the relationship between different beliefs in the change process, and the influences of contextual and internal factors on the emergence of individual beliefs.

6.5. Practical recommendations

The findings of the current study lead to a number of practical recommendations. In this section, implications for pre-service ESP teachers, teachers involved in ESP teacher education programmes, and those involved in designing and managing ESP teacher education programmes are discussed and practical recommendations are provided.

6.5.1. Recommendations for pre-service ESP teachers

At the start of the study, most of the pre-service ESP teachers emphasized subject knowledge as the reason for needing a specialized ESP methodology. Subject knowledge was also seen as a critical competence required of ESP teachers, and a criterion to decide who should teach ESP. This initial belief was drawn from the participants' limited prior knowledge of the relevant subject knowledge as well as of ESP teaching, which was based solely on their recent experiences as learners in the five ESP courses. Therefore, their initial beliefs reflected their perspective as ESP learners, rather than their perspective as prospective teachers who were learning to teach ESP. It is recommended that, in ESP courses in the teacher education programme, pre-service ESP teachers should:

1. learn not only about subject knowledge and English language but also about how the teaching of subject knowledge and English language are integrated into specific ESP courses; and

2. be aware of the goal of the ESP teacher education program and the primary aims of the programme components that develop their ESP teaching competence;

In addition, as the pre-service ESP teachers' beliefs were found to be changeable, it is important that they are encouraged to develop an awareness of these changes in their beliefs. During the study, the participants were encouraged to reflect on what they had learned, implicitly and explicitly, from the ESP courses, the ESP teaching methodology course, and the practicum. Their reflection was further prompted by the interview questions and guidance provided in their reflective journal booklets. This reflection enabled them not only to understand their beliefs but also to trace changes in their knowledge and beliefs, which they later reported facilitated their process of learning to become ESP teachers. These findings, which highlight the link between pre-service teachers' awareness of their belief change and reflection practice, indicate that pre-service ESP teachers should:

3. be aware of the changeability of their beliefs about ESP teaching and be open to new knowledge input; and

4. critically reflect on their knowledge and beliefs and trace their belief changes by keeping reflective journals throughout the teacher education programme;

This study also revealed the connection between these pre-service ESP teachers' belief changes and their approaches to gaining knowledge and skills to become ESP teachers. Those participants who adopted *comprehensive* and *proactive* approaches were found to have stronger and clearer beliefs about ESP teaching than those who adopted *pragmatic* and *passive* approaches. In fact, *comprehensive* and *proactive* approaches encouraged the pre-service teachers to explore aspects of ESP teaching in which they felt they needed to gain a deeper understanding. As a result, they became more confident in their beliefs about those aspects. In light of these findings, it is recommended that pre-service ESP teachers are encouraged to:

5. adopt *comprehensive* and *proactive* approaches to gaining the necessary knowledge and skills to enable them to form strong and clear beliefs about ESP teaching.

6.5.2. Recommendations for ESP teacher educators

The findings of this study have important implications for teacher educators who are involved in ESP teacher education programmes. The ESP staff members may include teachers of ESP courses, teachers of ESP teaching methodology courses, and mentoring teachers in the practicum.

The finding regarding the pre-service ESP teachers' tendencies to emphasize subject knowledge at the start of the study suggests that the primary aim of ESP courses in the ESP teacher education programme was not made sufficiently clear for them. These courses were designed primarily to illustrate how English language and subject knowledge were integrated into ESP courses of different disciplines. However, this aim did not appear to be recognized by the pre-service ESP teachers in this study. The participants' lack of awareness may have influenced the formation of their initial beliefs about ESP teaching. Thus, it is recommended that teachers of ESP courses in ESP teacher education programmes:

1. make the overall aim of ESP courses in ESP teacher education programmes as well as specific objectives of their ESP courses transparent and explicit for pre-service ESP teachers; and
2. remind pre-service ESP teachers that, apart from being learners in these courses, they are also prospective ESP teachers who will teach ESP to *real* learners who major in those disciplines.

In addition, the ESP teaching methodology course, despite providing the pre-service ESP teachers with theory input about ESP teaching, brought about fluctuation in many of their beliefs. The duration of the course and the separation of theory and practice were found to be two key causes of this fluctuation. The five-week methodology course was made up of one theory lesson followed by the four-week micro-teaching session. While explicit instructions were provided in just one lesson, the pre-service teachers learned how to teach ESP implicitly through observing and teaching stimulated ESP lessons. The theoretical knowledge of ESP teaching that the pre-service teachers gained was therefore fragmented. As a result, it is recommended that the teachers of the ESP teaching methodology course need to:

3. balance theory and practice so that pre-service ESP teachers can learn about sufficient input of ESP theory and practice that facilitates their belief development;

4. integrate theory into practice and teach theory explicitly when needed; and

5. include observations of real ESP classes in this methodology course so that pre-service ESP teachers have more exposure to ESP teaching in real contexts, which may deepen their understandings and beliefs.

Furthermore, the study found that mentoring teachers facilitated the development of pre-service ESP teachers' beliefs during the practicum in many ways. For example, their pedagogical advice and instructions, approvals for new pedagogical ideas, enthusiasm for activities in class, and constructive feedback after teaching were of great importance. This support is critically important in the context of ESP teacher education programmes where pre-service teachers have had limited experience in teaching and learning ESP, and new theory and practice input is fragmented. With this support, pre-service teachers will deepen their insights into ESP teaching, be encouraged to change their beliefs, and be motivated to gain more knowledge and skills to become competent ESP teachers. Therefore, it is recommended that mentoring teachers need to:

6. provide pre-service ESP teachers with supportive mentorship to maximize their learning and development during the practicum.

Finally, there was strong evidence that critical reflection facilitated the development of the pre-service ESP teachers' beliefs about ESP teaching. In reflecting on prior and new knowledge and experiences, they became aware of their beliefs, deepened their understanding of ESP teaching, and changed their beliefs accordingly. If pre-service teachers understand their own beliefs and their belief changes, their journey to become ESP teachers will be less challenging. The challenge is how to incorporate the practice of reflection into the teaching and learning activities of ESP courses, the ESP teaching methodology course, and the practicum. It is recommended that teachers in charge of these three key components of ESP teacher education programmes need to:

7. be aware of the importance of reflection in developing pre-service teachers' beliefs about ESP teaching as well as contributing to their professional development;

8. make critical reflection a class activity, including group discussions, and a personal task, such as keeping reflective journals; and

9. be open-minded and responsive to the confusion that pre-service teachers may encounter, and make the reflection practice focused, meaningful and helpful for their learning process.

6.5.3. Recommendations for ESP teacher education management

At the start of the study, most of the pre-service ESP teachers emphasized subject knowledge in their beliefs about ESP methodology, teacher competencies, and who should teach ESP. This finding suggests that the five ESP courses did not highlight the variety of ESP learners' needs as well as the importance of integrating subject knowledge and English language in ESP teaching. In this sense, the overall aim of these courses, which were set by designers of the ESP teacher education programme, was not effectively achieved. It appears that this gap may have also contributed to the confusion that the pre-service ESP teachers experienced, due to the conflict between their initial beliefs and the new input from the ESP teaching methodology course. As this conflict seemed to hinder pre-service teachers' belief development, it is recommended that managers in teacher education need to:

1. ensure that the programme designers' intentions, in relation to addressing individual learner needs, are acknowledged and emphasized in practice.

In addition, the pre-service ESP teachers' beliefs about ESP teaching were not always consistent. Although inconsistency across initial beliefs of a pre-service teacher is considered as part of the belief development process, it was found that pre-service ESP teachers who held inconsistent beliefs were more likely to be confused about ESP teaching. As beliefs about ESP objectives influenced their belief consistency, it is suggested that ESP teacher education managers need to:

2. ensure ESP objectives are made explicit.

Furthermore, the *fluctuation*, *modification*, *reprioritization*, and *reversal* in the pre-service ESP teachers' beliefs in the current study suggest that differences existed between the input from the ESP courses, the ESP teaching methodology course, and the practicum. These belief changes indicate that the pre-service teachers had become aware of those differences and that their beliefs changed in order to deal with them. However, the existence of *counter-development* belief change processes also indicated that more attention should be paid to the need for consistency across the knowledge input from the three components of the ESP teacher education programme. Therefore, designers and managers of ESP teacher education programmes need to:

3. acknowledge the importance of consistency across the input from the ESP courses, the ESP teaching methodology course, and the practicum; and
4. ensure that components of an ESP teacher education programme support one another rather than conflicting or diverging.

Finally, it was found that among the contextual factors, the actual planning and teaching of an ESP lesson in the practicum was the most influential on the pre-service teachers' beliefs. However, this valuable experience was less effective for some pre-service ESP teachers than for others due to the differences they encountered in ESP learners and mentorship. For instance, pre-service teachers who taught prospective ESP teachers experienced more challenges than those teaching *real* ESP learners who majored in other disciplines. Some pre-service teachers also received more effective support from their mentoring teachers. In addition, planning and teaching just a single ESP lesson was found to be a disadvantage of the ESP teacher education programme in this study. Many of the pre-service teachers regretted not having more opportunities to develop their skills in planning and teaching ESP lessons, which they believed were more challenging than EGP lessons. Therefore, ESP teacher education managers need to:

5. ensure that pre-service ESP teachers have more opportunities to plan and teach ESP lessons for *real ESP learners* in the practicum; and
6. train or select mentoring teachers carefully so that pre-service ESP teachers can be provided with consistent and supportive mentorship during the practicum.

It is also recommended that those involved in designing and managing ESP teacher education programmes:

7. acknowledge the importance, characteristics, and process of pre-service ESP teachers' belief changes and take these into account when developing or revising ESP teacher education programmes; and
8. hold workshops and seminars to inform staff members of goals of the programme and key objectives of individual courses in the programme, as well as ensuring they make these explicit to pre-service ESP teachers.

6.6. Limitations of the study

As with all research, this study has limitations. The particular limitations in this study are related to the sample size, the specialized context, the time constraints, and the researcher's position.

Firstly, the current study focused on a small sample. As this study employed a qualitative case study approach, the generalizability of the findings is limited. However, as small scale research is used to "unravel very complex issues" (Tight, 2017, p. 43), it is particularly suitable for exploring pre-service ESP teachers' beliefs which are not only complicated but have previously been unexplored.

Secondly, the study was limited to the context of one ESP teacher education programme. The specialized context makes this study unique, but may also influence the transferability of the research findings. However, the increasing need for ESP teachers today indicates that there will be more need for ESP teacher education. The findings of this study, which are specific to ESP teacher education in Vietnam, may thus help to lay the groundwork for future research into the same field in other contexts. In addition, the detailed outline of the context and the methodology of the current study will assist stakeholders in other contexts as well as other researchers in determining the potential relevance of the research findings to their own contexts.

Thirdly, the time frame for the study did not allow for investigating the sustainability of emerging beliefs. It is uncertain whether the pre-service ESP teachers' emerging beliefs about ESP would remain unchanged over time, beyond the pre-service teacher education programme. In addition, six months of tracing belief changes was relatively short, compared with the overall four-year span of the ESP teacher

education programme. However, notwithstanding the time limit, the study has yielded rich data on changes in the pre-service ESP teachers' beliefs as well as identifying the main tendencies of belief change processes, findings that have adding valuable insights to the literature.

Finally, being new to research, but experienced in teaching, the researcher sometimes forgot her new role and thus her duality of roles and own views at times may have influenced her initial interpretations of the qualitative data. This may have resulted as a consequence of the researcher drawing on her own experiences to understand the context and the data. Although the possibility of being subjective was acknowledged and minimized by different strategies (see Section 3.6), subjective views may influence the research process without the researcher's awareness, as an unavoidable part of the nature of qualitative research. Therefore, the researcher's positioning was fully discussed in Chapter Three.

6.7. Suggestions for future research

Four major recommendations for future research have arisen from the current study.

Firstly, the findings of the current study suggest that there should be further research into pre-service ESP teacher education as well as into pre-service ESP teachers' beliefs and beliefs change. Due to the increasing importance of ESP and the influence of pre-service teachers' beliefs on their practices, gaps in the literature in these two fields should be addressed by quality research in varied contexts where ESP teacher education programmes are available. Understanding of *how* and *why* pre-service ESP teachers' beliefs change is likely to be of great help for the development and improvement of ESP teacher education programmes.

Secondly, in order to gain deeper understanding of the nature of changes in beliefs of pre-service ESP teachers, longitudinal research in this area is needed. It would be insightful to study beliefs over a longer period of time and so to follow-up with participants after they graduate from the ESP teacher education programme, to gauge whether their beliefs are sustained. In addition, it is important to understand how pre-service ESP teachers' beliefs change over the full four-year ESP teacher education programme. This understanding may enable ESP teacher educators to organize ESP

teaching-related courses through tracking how pre-service ESP teachers' beliefs about ESP develop throughout the four years of the programme.

Thirdly, this study found that internal factors exerted important influences on pre-service ESP teachers' beliefs, and both contextual and internal factors were integrated to influence their beliefs. These findings were unexpected because they emerged as a result of the inductive data analysis, as presented in Section 3.4. These findings are, however, just the first step in understanding the complex nature of the influences of different internal factors as well as the integration of contextual and internal factors. Future research can use these findings as a basis from which to explore these factors more fully.

Finally, as noted earlier, findings from small scale qualitative research are not designed to be generable. In order to increase the generalizability of this study, future research could employ mixed methods to include quantitative data collection.

6.8. Final words

The primary aims of the current study focused on tracing changes in pre-service ESP teachers' beliefs about ESP teaching and identifying the causes of these changes. In particular, this study explored *how* and *why* pre-service ESP teachers' beliefs changed over the ESP teaching methodology course and the practicum. This study was conducted to enable the researcher to understand the nature of the professional development of the pre-service ESP teachers in an ESP teacher education programme as well as the effectiveness of the programme. In addition, as the field of pre-service ESP teachers' beliefs has not been researched, this research was needed to understand how pre-service teachers develop their knowledge and skills to become ESP teachers.

This study has made significant contributions to theory, research methodology, and practice. Theoretically, the findings of this study shed light on the unexplored research area of pre-service ESP teachers' beliefs. They provide an understanding of pre-service ESP teachers' beliefs; extend the current knowledge of pre-service teachers' belief change; and reveal the integrated influence of contextual and internal factors on pre-service ESP teachers' beliefs. These insights, which resulted from the rich qualitative data gained through the use of a wide variety of collection tools,

confirmed the suitability of employing the qualitative research paradigm and the multiple-case-study design in investigating pre-service teachers' beliefs. In addition, the findings of this study have significant implications for pre-service ESP teachers, ESP teacher educators, and designers and managers of ESP teacher education programmes. Based on these implications, recommendations for those involved in ESP teacher education programmes have been offered.

Reflecting on the whole research journey, the researcher has benefited greatly from this study. Despite being an ESP teacher educator, I had been unaware of the importance of beliefs in pre-service ESP teachers' process of learning to become teachers until examining the literature which provided the foundation for the current study. The research findings, therefore, deepened my insights into the nature of pre-service ESP teachers' professional development. Subsequently, these insights have enabled and inspired me to find ways to improve the ESP teacher education programme where I am employed.

Nonetheless, the greatest benefits came from engaging in the research process. Throughout the research process, not only my knowledge of ESP and teacher beliefs but also my research methodology and skills have been developed. In order to choose the research paradigm and design for the current study, both extensive and deep explorations of relevant research methodology, as well as the related fields, were made. These explorations empowered me to design the study, to collect sufficient relevant data, and to analyze rich qualitative data. In addition, in the data collection process, I uncovered the value of the rapport between the researcher and participants in exploring the pre-service teachers' beliefs. As soon as data were collected, the iterative data analysis process started. Despite requiring a lot of effort and time, this process equipped me with a deep understanding of the data as well as important skills in making sense of and interpreting qualitative data. Going through all these complicated processes, I have learned that quality research costs blood, sweat, and tears from researchers. Nonetheless, in exploring changes in the pre-service ESP teachers' beliefs about ESP teaching, my beliefs about research, knowledge, teacher education, education generally, and life have changed and deepened significantly.

"Things do not change; we change." (Thoreau, 1854)

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APPENDICES

Appendix A: Course distribution in the ESP teacher education program at the University of Technology and Education

	General Education courses
	Teaching methodology courses
	ESP courses
	Subject content-related courses that support ESP courses
	Other professional education courses

Course distribution in the ESP teacher education program at the University of Technology and Education

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8	Notes
Marxism principles	Vietnamese revolution policies		Psychology	Ho Chi Minh Ideology	Introduction to laws	Education management	Practicum	
Introduction to ESP teacher education				Introduction to education	Teaching philosophy		Graduation paper	
Physical education 1	Physical education 2	Physical education 3						
Listening-Speaking 1	Listening-Speaking 2	Listening-Speaking 3	Listening-Speaking 4	Public speaking				
Reading 1	Reading 2	Reading 3	Reading 4	American & English civilization	American & English literature	Advanced English1		Advanced English 2
Writing 1	Writing 2	Writing 3	Writing 4			Writing 5		
Speech training	Phonetics & phonology	Morphology & Lexicology	Vietnamese culture	Media in ELT	Translation 1	Translation 2		
Grammar 1	Grammar 2	Japanese 1	Japanese 2	Japanese 3		Testing & assessment		Pragmatics
	Practical Vietnamese	Introduction to linguistics		ELT methodology 1	ELT methodology 2	ESP teaching methodology		Material development
		Basic information technology	Basic business	Environment technology	Basic mechanical engineering			
		English for information technology	English for Business	English for Environment	English for Electronics &Electricity	English for Mechanical Engineering		

Appendix B: Guiding questions for in-depth interviews

INTERVIEW 1 (PRE-COURSE) Date: …… Place: ……

Interviewee's name: ……

- Ice-breaker questions: feelings, study, etc.
- Introduction of the topics to be included in the interview: ESP teaching, ESP teachers' roles and competencies and ESP courses' objectives and content

Questions for Pre-course interviews

	Questions
	1. In your opinion, what is ESP? Who needs ESP?
	2. Do you have any memory of a favourite ESP teacher? Yes → Tell me about her/ his teaching (e.g. What did he/ she often do in the classroom?). Can you describe one of his/ her lessons that you like most? How did she/ he organize the course (i.e. materials, assignments, assessment, etc.)? No → Can you describe your ideal ESP teacher? In your opinion, how should he/ she teach ESP? What should he/ she do to make an ESP course successful?
	3. Some people say that teaching ESP is mostly a matter of providing learners with new content knowledge and terms used in that specific field. Do you agree with them? Why/ why not?
	4. Where do you think the content of an ESP course should be from? The ESP course materials, materials of the major, the faculty, the students or the ESP teacher?
	5. In the cards (see Appendix 4) are factors that may influence your beliefs about ESP teaching. Rank these cards from the most to the least influential factors on your current beliefs about ESP teaching.
	6. Why are these factors the most influential to your beliefs about ESP teaching?
	7. Do you think ESP teachers have to work harder than EGP teachers? Why/ why not? What do you think are main responsibilities of an ESP teacher?
	8. Do you think ESP teachers have any special competencies that EGP teachers do not have? If yes, what are they?
	9. In your opinion, who should teach ESP courses, English language teachers or subject teachers? Why?

- Thank you statement

INTERVIEW 2 (POST-COURSE) Date: …… Place: ……

Interviewee's name: ……

- Ice-breaker questions: feelings, study, etc.
- Introduction of the topics to be included in the interview: ESP teaching, ESP teachers' roles and competencies and ESP courses' objectives and content

Questions for post-course interviews

	Questions
	1. In your opinion, what is ESP? Who needs ESP?
	2. Do you think ESP teaching is different from EGP teaching? In what ways are they different?
	3. In the cards about (see Appendix 1) are teaching approaches/ methods that you may have learnt. What do you think is suitable for ESP teaching? Why?
	4. In your opinion, what should be the objective of an ESP course?
	5. Where do you think the content of an ESP course should be from? The ESP course materials, materials of the major, the faculty, the students or the ESP teacher?
	6. In the cards (see Appendix 4) are factors that may influence your beliefs about ESP teaching. Rank these cards from the most to the least influential factors to your current beliefs about ESP teaching.
	7. Why are these factors the most influential on your beliefs about ESP teaching?
	8. In the cards (see Appendix 3) are 5 roles of ESP teachers that Dudley-Evans & St John suggest. Do you agree with them? Why/ why not?
	9. In the cards (see Appendix 2) are competencies that some authors think ESP teachers should have. Which ones do you agree with? Rank the competencies that you agree with from most to least important.
	10. In your opinion, who should teach ESP courses, English language teachers or subject teachers? Why?

- Thank you statement

INTERVIEW 3 (POST-PRACTICUM)

Date: …… Place: ……

Interviewee's name: ……

- Ice-breaker questions: their feelings, their study, etc.
- Introduction of the topics to be included in the interview: ESP teaching, ESP teachers' roles and competencies and ESP courses' objectives and content

Questions for post-practicum interviews

	Questions
	1. Do you think ESP teaching is different from EGP teaching? In what ways are they different?
	2. Some people say that ESP teachers should combine different approaches and methods to teach an ESP course. What do you think about this idea?
	3. In your opinion, what should be the objective of an ESP course?
	4. Where do you think the content of an ESP course should be from? The ESP course materials, materials of the major, the faculty, the students or the ESP teacher?
	5. In the cards (see Appendix 4) are factors that may influence your beliefs about ESP teaching. Rank these cards from the most to the least influential factors on your current beliefs about ESP teaching.
	6. Why are these factors the most influential to your beliefs about ESP teaching?
	7. In the cards are 5 roles of ESP teachers that Dudley-Evans & St John suggest (see Appendix 3). Do you agree with them? Yes → Which one do you think is the most important? Why? No → why not? In your opinion, what is the main role of an ESP teacher?
	8. In the cards (see Appendix 2) are competencies that some authors think ESP teachers should have. Which ones do you agree with? Rank the competencies that you agree with from most to least important.
	9. In your opinion, who should teach ESP courses, English language teachers or subject teachers? Why?

- Thank you statement

Appendix 1

Approaches to ELT

Grammar Translation Method	Direct Method
Audio-lingual Approach	Communicative Language Teaching
Task-Based Language Teaching	Content-based Instruction

Appendix 2: ESP teachers' competencies

1. Identify and assess learners' needs
2. Identify the type of spoken/ written language used in a specific field
3. Know about the field in which their ESP students are studying or will be working
4. Understand linguistic and cultural aspects of the specific field of study/ work
5. Design/ develop syllabi and materials for ESP courses
6. Build students' awareness of cultural and linguistic features of the professional community they are going to belong to
7. Develop students' language knowledge and skills for use in the professional area
8. Employ a variety of teaching strategies and approaches flexibly
9. Assess ESP students
10. Evaluate ESP courses
11. Collaborate with students and subject teachers in terms of subject knowledge

Appendix 3

Roles of ESP teachers

Teacher	Collaborator
Course designer and material provider	Evaluator
Researcher	

Appendix 4

ESP courses (for Interview 1)	**ESP Teaching Methodology course (for Interview 2)**	**Practicum (for Interview 3)**
English for Information Technology	Theory lessons	Observation of mentoring teachers' teaching ESP
English for Mechanical Engineering	Peer-teaching	Observation of peers' teaching ESP
English for Business	Observation of peers' teaching ESP lessons	Practice teaching a real ESP lesson
English for Electronics and Electricity	Feedback of the teacher after teaching	Feedback of the supervising teacher after practice teaching
English for Environment Technology	Discussion with classmates	Self-recognition after observing and teaching ESP
Books and articles about ESP teaching	Self-recognition after observations and teaching the ESP lesson	Comments of peers
Other factors	Other factors	Other factors

Appendix C: Pre-lesson interview questions (Sample)

1. What was your main aim in designing this lesson? Why did you choose this lesson aim? Why do you think that might be important for students (-> asking opinion rather than asking for right/ wrong answers)?
2. Which activities do you think will help you most to achieve this aim?
3. How do you see your own role in this lesson?
4. What influenced you to decide on the organization of the lesson?
5. *We are going through the process of your lesson and discussing particular activities (-> exploring student teachers' decision making and thinking processes -> HOW; exploring more about why/ how student teachers defined assumptions and anticipated problems – decision making and thought processes around this).*
    a. What is the reading passage about? Why was this reading passage chosen?
    b. Why did you choose pre-reading activity 1 (i.e. raising questions to the whole class and expecting individuals to answer) as a way to check students' knowledge and provide background knowledge?
    c. What are new words/ vocabulary items that your students will learn in this lesson? Why did you choose these words to teach?
    d. What are *while-reading* exercises? Why did you choose/ design these exercises? (why individual first & group later?)
    e. How did you go about conducting *while-reading* activity 2? (why group?) Can you explain why you think this may make students interested in the lesson?
    f. Why did you choose this translation activity (i.e. group translation, each group responsible for one paragraph of the reading passage)?
6. Did you change, add, take out as you were planning the lesson? Could you please tell a bit about what you were thinking when making particular changes?
7. What do you think will work well? Why?
8. What are you concerned about? Why? How would you minimize your worries?

9. How do you feel about your content knowledge? How has this influenced the way in which you have planned the lesson?
10. How do you feel about your language knowledge in relation to this topic? How has that influenced the way in which you have planned her lesson?

Appendix D: Post-lesson interview questions

I/ General

1. How are you feeling about the lesson you taught yesterday? (How were you feeling before/ during/ after teaching?) Can you tell me a bit more about why you feel that way?
2. Do you think you the lesson objectives you set in the lesson plan had been achieved? How do you know that?

II/ Stimulated recall

The student teacher watched the video recording and commented at the points she found unsuccessful in her teaching. Some further questions were raised, as follows:

1. *In Pre-reading activity 1, ESP students did/ could not answer the questions given, so the student teacher had to review and explain content knowledge to students.*

   Why do you think this happened? What did you feel when explaining a lot of content knowledge to students?

   Did you have any difficulties in explaining content knowledge in English? Can you give some examples about when this occurred? Why do you think these aspects were difficult for you to explain?

   Can you share what you were thinking when you made the change in asking groups instead of individuals as planned to answer question 3 (i.e. what are food sources of vitamins A, B, C, D)? How do you think change went?
2. *In Pre-reading activity 2, the student teachers taught 5 new words*

   How did you feel about your teaching vocabulary? How did you imagine this would go? Did it happen as you expected? Do you have any ideas about why that happened?
3. *In While-reading activity 2, ESP students did not agree with the answers to two multiple choice questions. They asked the student teacher to explain the answers, but she could not give clear and convincing explanations.*

   What did you feel when explaining the answers? How would you change what you did if you had to teach this lesson again? What effects do you think that would have?

4. *In the Translation activity, the student teacher did not agree with the comment of her supervising teacher about her carefulness in conducting this part.*

III/ General

1. Do you think you have fulfilled the roles that you shared yesterday? Can you give some examples of when you took particular roles that we talked about yesterday?
2. What activity do you think you did the best? Why do you think that went well?
3. Are there any activities that you would improve on if you were to teach that again in the future? Can you share your thinking about how you might make changes to these activities?
4. What do you think is the most challenging part in planning and teaching this ESP lesson? Can you share any examples from your planning and teaching so far that have influenced your thinking here?
5. What do you think is the most interesting part in designing and teaching this ESP lesson? Can you share what makes this particularly interesting for you?
6. What are your strengths? What are the most challenging aspects for you?
7. What would you change if you were to teach this lesson again?

Appendix E: Reflective journals

Reflective journal – Phase 1

This journal is to help you reflect on your beliefs about ESP teaching in general as well as specific aspects of this specialized teaching, such as competencies and roles of teachers, objectives and content of ESP courses, and approaches to ESP teaching. This reflection will help you understand yourself and your development in this pre-service career building process.

ENTRY 1: AFTER THEORY LESSONS Date:…….

1. What do you remember most (both positive and negative things) after theory lessons? Why?

.....

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.....

2. Write down key words that link to your beliefs about ESP teaching in general and other specific aspects of ESP teaching in the table below.

ESP teaching in general	
ESP teachers' knowledge	
ESP teachers' roles	
Objectives of ESP courses	
Content of ESP courses	
ESP teaching approaches	

3. How do you think the ideas mentioned above will help you in your teaching practices? Why?

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4. Are there any other ideas or thoughts about what is important in ESP teaching that you want to share?

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ENTRY2: AFTER PEER-TEACHING OBSERVATIONS

Date:……

1. Among ESP lessons taught by your classmates, which one is your favourite? Describe this lesson in terms of materials, teaching activities, classroom management, etc.

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2. Do you think the lesson you have just described should be a typical ESP lesson? Why?

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3. Write up to 5 things that you think are the most important in ESP teaching. Briefly describe them if you wish to.

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4. To what extent do you agree with the following statement? Please briefly explain your answer.

   "ESP teaching has its own methodology" (Dudley-Evans & St John, 1998, p. 4)

.....
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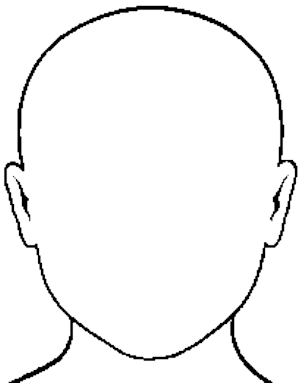
.....

ENTRY 3: AFTER YOUR OWN PEER-TEACHING

Date:…….

1. What did you feel about your own teaching? Complete the face to describe your feeling after teaching an ESP lesson. You can add details and a caption to your picture to show your feelings☺. Explain your feelings in the space given.



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2. If you had a chance to teach that lesson again, what changes would you like to make? Why?

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3. What do you think is the most challenging in teaching an ESP lesson? Why?

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4. Do you agree or disagree with the following statement? Why?

   "Teacher knowledge of content is a potential obstacle to the true role of ESP teaching" (Basturkmen, 2014, p. 23).

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FREE WRITING

This section is for you to (1) share something interesting you have learned about ESP teaching, or (2) question what you find confusing or unconvincing, or (3) explain what you have done or thought about ESP teaching, and/ or(4) comment on any ESP-related issues that you and your friends have discussed or are concerned about. Feel free to write down whatever is in your mind. Remember to date every entry.

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Reflective journal – Phase 2

This journal is to help you reflect on your beliefs about ESP teaching in general as well as specific aspects of this specialized teaching, such as competencies and roles of teachers, objectives and content of ESP courses, and approaches to ESP teaching. This reflection will help you understand yourself and your development in this pre-service career building process.

ENTRY 1: AFTER OBSERVING MENTORING TEACHERS Date:……

1. Are there any differences between what you have learned from the observations of ESP mentoring teachers' teaching and from the ESP teaching methodology course? Complete the table below if you find differences in the aspects provided.

	ESP teaching methodology course	**Observation of mentoring teachers**
ESP teaching in general		
ESP teachers' knowledge		
Objectives of an ESP lesson		
ESP teaching approaches		
Teaching and learning activities		

Are there any other differences that you want to share?

.....

.....

2. Can you reflect briefly on the possible reasons for the differences noted above?

.....

.....

3. Do you think you will teach ESP in the same way as the mentoring teachers did? Why/ why not?

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4. Do you think you will teach ESP in the same way as you have learnt in the ESP teaching methodology course? Why/ why not?

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5. How do you feel about the ESP teaching you will do on the practicum? Why?






Excited Scared Happy Sad Worried no feeling

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ENTRY 2: AFTER OBSERVING YOUT PEERS' ESP TEACHING

Date:……..

1. What have you learned from observing your peers teach ESP lessons?

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Among the ESP lessons taught by your friends that you have observed, which one is your favourite? Why?

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2. What do you think ESP teachers need in terms of *subject knowledge*, *language knowledge and skills*, and *teaching knowledge and skills* to teach a successful lesson?

Knowledge of subject matter .....

.....

Knowledge and skills of English .....

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Teaching knowledge and skills.....

.....

3. Are there any other ideas or thoughts about the ESP teaching of mentoring teachers and your friends that you want to share?

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ENTRY3: AFTER DESIGNING AN ESP LESSON PLAN

Date:……

1. Describe your feelings before, during and after designing the ESP lesson plan and give the reason(s) for those feelings. You can draw your face or a picture to illustrate those feelings if you wish to.

	Feelings	**Reasons**
Before		
During		
After		

2. Did you meet any problems when designing this lesson? What are they, if any? How did you solve these problems?

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3. Did you find any differences in designing an ESP lesson and an EGP (English for general purposes) lesson? What are they, if any?

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4. To what extent do you agree with the following statement? Please briefly explain your answer.

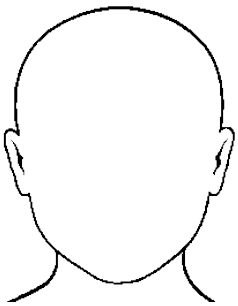
   "Both ELT and ESP share a similar aim – to develop students' communicative competence." (Basturkmen, 2010, p. 7)

.....

.....

ENTRY 4: AFTER YOUR OWN ESP TEACHING Date:……

1. What did you feel about your teaching of the ESP lesson? Complete the face to describe your feeling after teaching your ESP lesson. You can add a caption to your picture to show your feelings☺.



Explain your feelings in the space given.

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2. After designing and teaching an ESP lesson to real students, is what you think about ESP teaching now different from what you thought before the practicum? What are the differences if any?

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3. Do you think teaching ESP is more or less demanding than EGP? Why?

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4. Are there any other feelings or thoughts about your own ESP teaching experience that you want to share?

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5. What sort of ESP teacher do you want to be in 5 years' time?

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FREE WRITING

This section is for you to (1) share something interesting you have learned about ESP teaching, or (2) question what you find confusing or unconvincing, or (3) explain what you have done or thought about ESP teaching, and/or (4) comment on any ESP-related issues that you and your friends have discussed or are concerned about. Feel free to write down whatever is in your mind. Remember to date every entry.

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Appendix F: Transcript release authority (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

Changes in beliefs of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

AUTHORITY FOR THE RELEASE OF TRANSCRIPTS

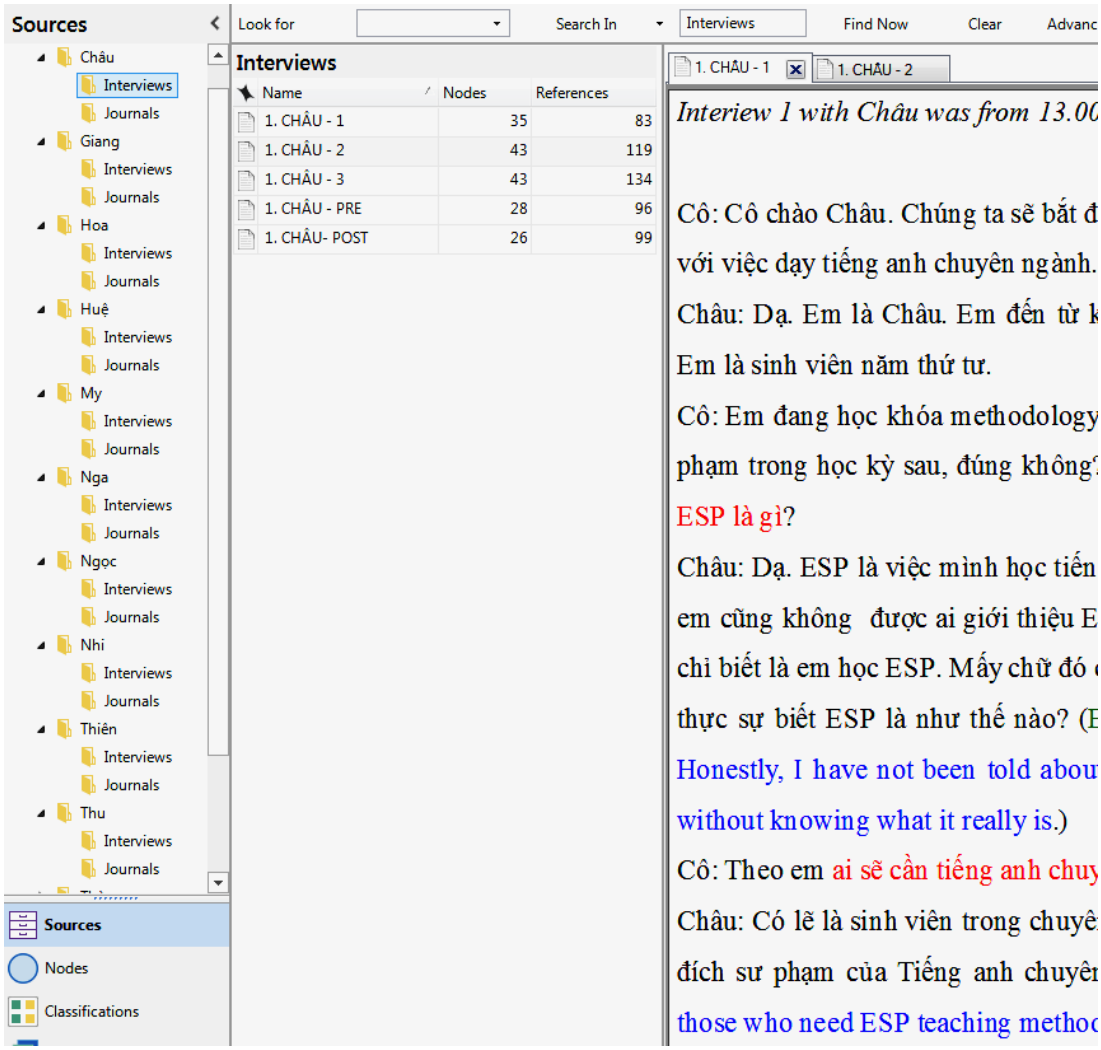
I confirm that I have had the opportunity to read and amend the transcripts of the interviews conducted with me.

I agree that the edited transcripts and extracts from these may be used in reports and publications arising from the research.

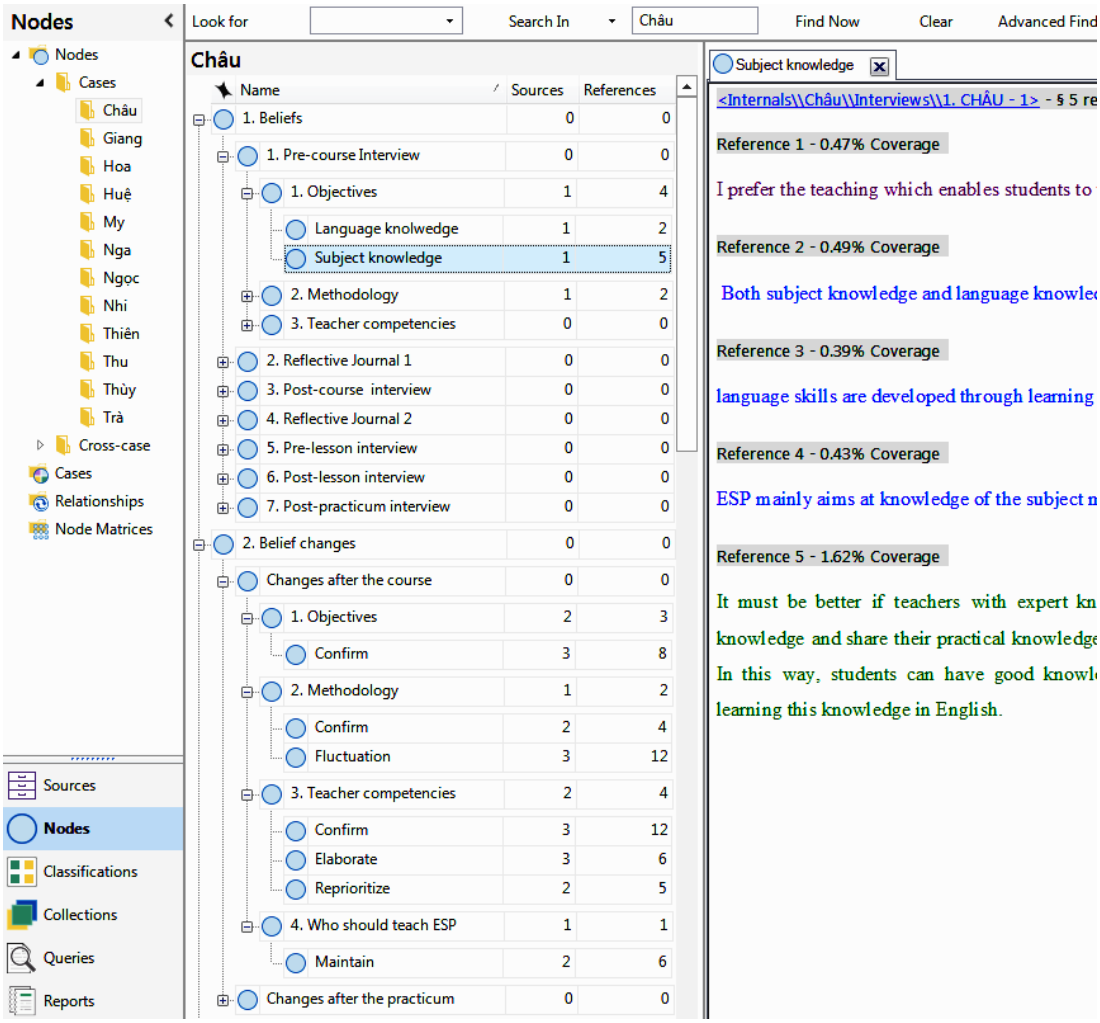
Signature: ..... **Date:** .....

Full Name .....

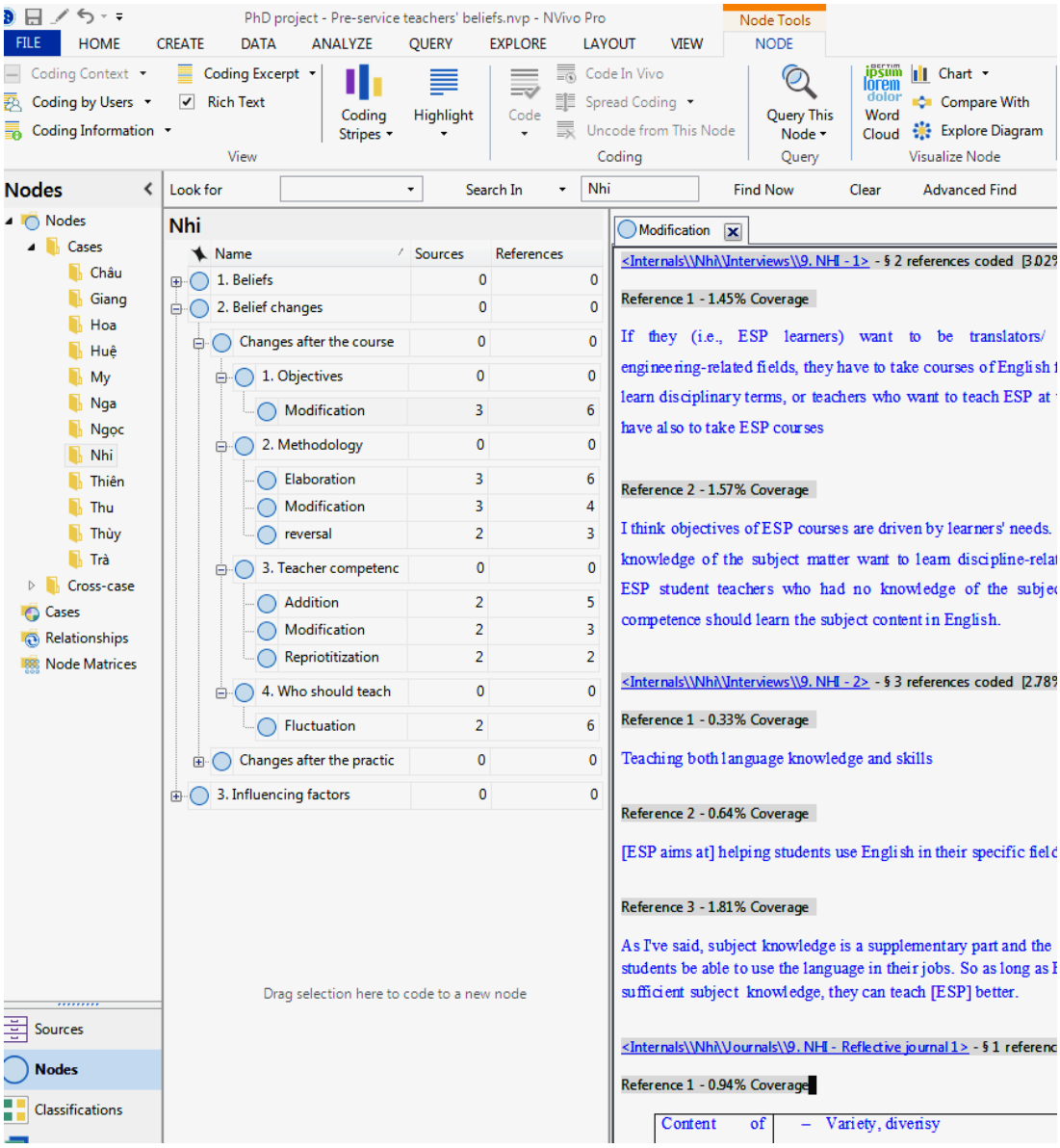
Appendix G: Case folders



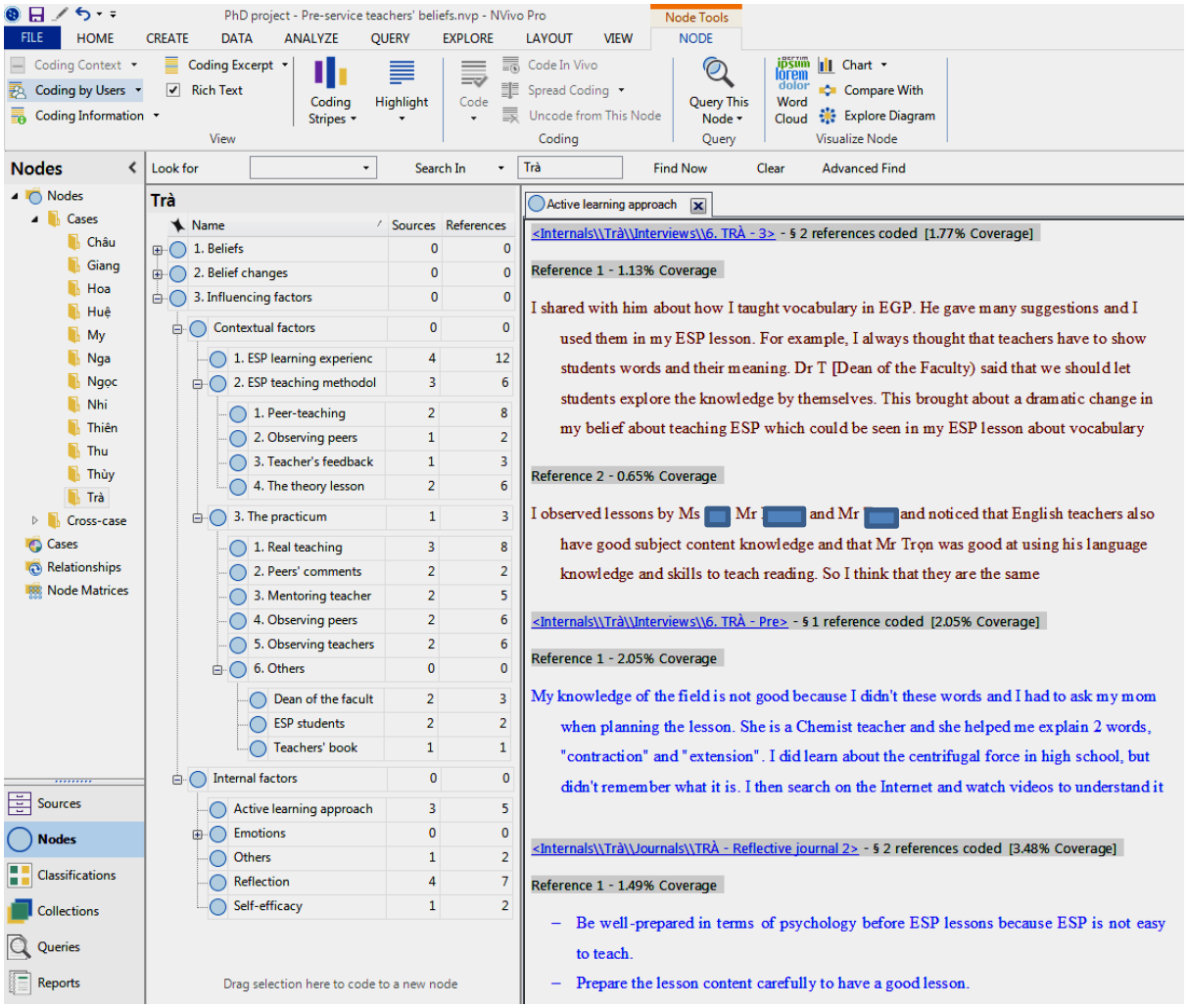
Appendix H: Multi-level nodes of within-case analysis



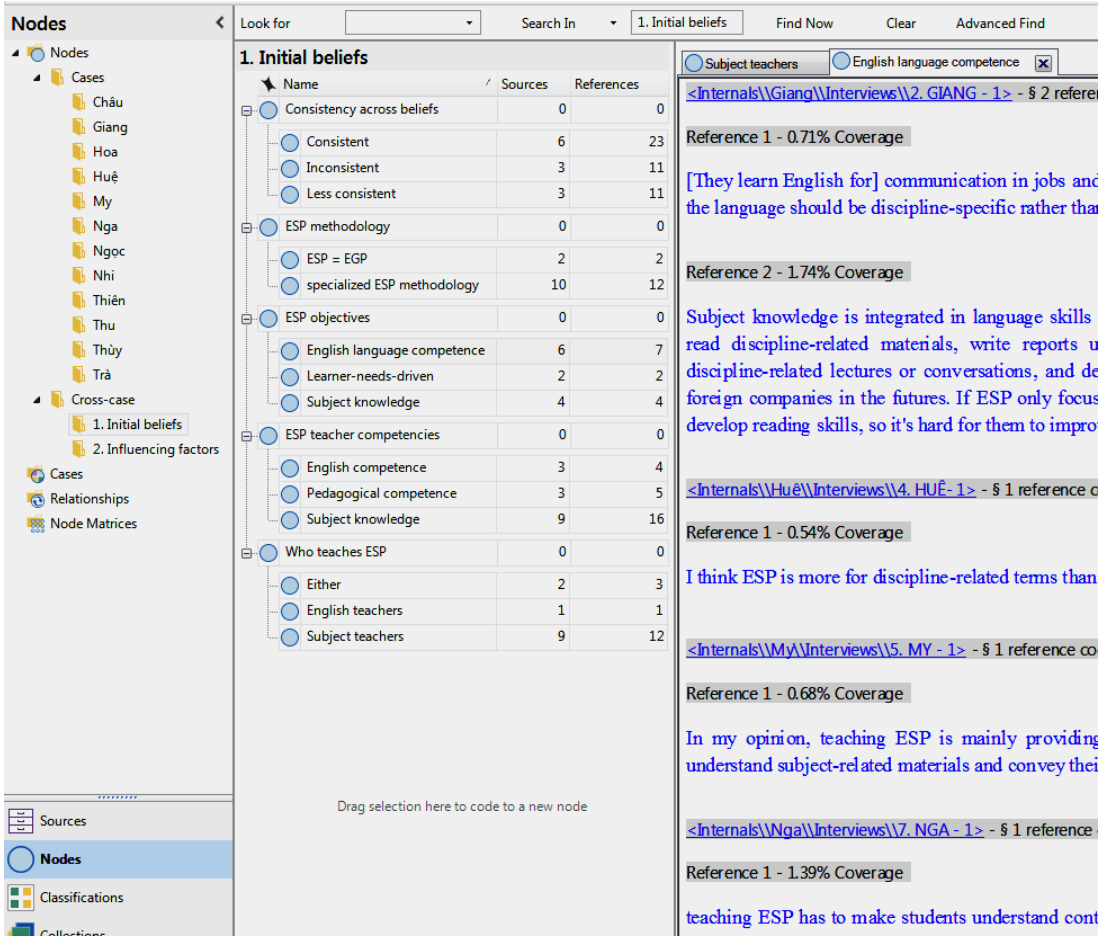
Appendix I: Multi-phase analysis of belief changes



Appendix J: Within-case analysis of influencing factors



Appendix K: Cross-case analysis



Appendix L: Low risk notification

MASSEY UNIVERSITY
ALBANY

7 October 2015

Thi Van Anh Dang
18 Oxford Street
Hokowhitu
Palmerston North

Dear Thi Van Anh Dang

Re: The belief change of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

Thank you for your Low Risk Notification which was received on 30 September 2015.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

You are reminded that staff researchers and supervisors are fully responsible for ensuring that the information in the low risk notification has met the requirements and guidelines for submission of a low risk notification.

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

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

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 above are responsible for the ethical conduct of this research.*
>
> *If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director (Research Ethics), telephone 06 356 9099, extn 86015, e-mail humanethics@massey.ac.nz".*

Please note that 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 provide a full application to 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

B T Finch.

Brian T Finch (Dr)
Chair, Human Ethics Chairs' Committee and
Director (Research Ethics)

cc Assoc Professor Penny Haworth and Dr Karen Ashton
Institute of Education
Palmerston North

Professor John O'Neill
Director of Education
Palmerston North

Appendix M: Information sheet for pre-service ESP teachers (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

Changes in beliefs of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

INFORMATION SHEET FOR STUDENT TEACHERS

My name is Đặng Thị Vân Anh, formerly a lecturer at the Faculty of Foreign Languages, Ho Chi Minh City University of Technology, Vietnam. I am conducting the research entitled "The belief change of pre-service teachers in an ESP teacher education program" as part of my doctoral study at the Institute of Education, Massey University, New Zealand. My research aims to trace the change in beliefs about ESP teaching of pre-service teachers, contributing to the improvement of ESP teacher education in Vietnam.

I would like to invite you to participate in my research project. Please take time to read the following information carefully before you decide whether you would like to take part in this research.

Research description

The study will be comprised of two phases. In the first phase (ESP teaching methodology course), up to 10 student teacher participants will be individually interviewed for about half an hour before the course starts. During the course, they will be asked to write reflective journals at critical times when belief changes may take place. A one-hour interview will be conducted when the course has finished. In Phase 2 (Practicum), participants will be individually interviewed again, for up to half an hour, before they teach an ESP lesson during the practicum. Their teaching of this lesson will be video recorded for the purpose of stimulating the student teacher's recall of the beliefs underlying their actions during the post-lesson interview. During the practicum, participants will also continue to keep writing in

their reflective journals. A final one-hour interview will be conducted with each participant after the practicum has finished.

Participant identification and benefits

Your name has been given to me by the Office of Academic Affair and the Faculty of Foreign Languages of the University of Technology and Education. This is because you have finished three or four ESP courses and two English language teaching methodology courses. In participating in this research, you have a chance to reflect on your beliefs about ESP teaching as well as influences of teacher education on these beliefs. As a result, your participation is particularly important not only to this research but also to your pedagogical development and the improvement of this program.

Data management

Interview data will be transcribed, and the transcript of each interview will be sent to you to edit as you see fit. The data collected will be used for the purpose of this research and future presentations and publications. All information that is collected about you and your beliefs during the course of the research will be kept strictly confidential.

Participant's Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study during the data collection process without providing any reasons;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded;
- ask for the recorder to be turned off at any time during the interview.

Project Contacts

If you have any questions or need further information about the project, please contact me, the researcher, and my chief supervisor:

Đặng Thị Vân Anh

1 - Võ Văn Ngân, Thủ Đức, Tp. Hồ Chí Minh, Việt Nam

Email: vananhdang@hcmute.edu.vn

Telephone: +84 (08) 37714614

- Assoc. Prof. Penny Haworth

Room 2.11, Collinson Village 2, Turitea, Palmerston North, New Zealand

Email: p.a.haworth@massey.ac.nz

Telephone: +64 (06) 356 9099 ext. 84446

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 above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director, Research Ethics, telephone 06 356 9099 x 86015, email humanethics@massey.ac.nz.

Appendix N: Consent form for pre-service ESP teachers (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

Changes in beliefs of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

PARTICIPANT CONSENT FORM – PRE-SERVICE ESP TEACHER

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to the interview being sound recorded (YES/ NO).

I agree to the teaching being video recorded (YES/ NO).

I wish to have my recordings returned to me. (YES/ NO).

I agree to participate in this study under the conditions set out in the Information Sheet (YES/ NO).

Signature: …….. **Date:** …….

Full Name - printed ……..

Appendix O: Consent form for Dean of the Faculty of Foreign Languages (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

Changes in beliefs of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

PARTICIPANT CONSENT FORM – DEAN OF THE FACULTY OF FOREIGN LANGUAGES, HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION

I have read the invitation letter from the researcher, Ms Đặng Thị Vân Anh, and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to the Faculty of Foreign Languages taking part in this research (YES/ NO).

Signature: …….. **Date:** ……..

Full Name - printed ……

Appendix P: Consent form for President of the University (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

Changes in beliefs of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

PARTICIPANT CONSENT FORM – PRESIDENT OF HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION

I have read the invitation letter from the researcher, Ms Đặng Thị Vân Anh, and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to the University's name being disclosed in the researcher's doctoral thesis, and in future presentations and publications on this research (YES/ NO).

Signature: …….. **Date:** ……..

Full Name - printed …….

Appendix Q: Invitation letter to Dean of Faculty (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

University of Technology and Education
1 Võ Văn Ngân
Thủ Đức
Hồ Chí Minh City
Vietnam
October 14, 2015
Dear……..,

I am Đặng Thị Vân Anh, a lecturer at the Faculty of Foreign Languages, Ho Chi Minh City University of Technology and Education. I am conducting research on "The belief change of pre-service teachers in an English for Specific Purposes (ESP) teacher education program" as part of my doctoral study at the Institute of Education, Massey University, New Zealand. My research aims to:

- Identify beliefs about ESP teaching of pre-service teachers in the ESP teacher education program;
- Trace their belief change throughout the ESP teaching methodology course and the practicum; and
- Explore influential factors that bring about the change in their beliefs about ESP teaching.

In order to achieve these aims, this research will be comprised of two phases. In the first phase, from November to December in 2015, up to ten pre-service ESP teachers at Ho Chi Minh City University of Technology and Education will be interviewed for up to one hour before and after the ESP teaching methodology course. During this course, they will also be asked to write at least two reflective journal entries. In Phase 2, from February to April in 2016, the pre-service teachers will be interviewed again before teaching an ESP lesson on the practicum. Their teaching of this lesson will also be recorded for the purpose of

stimulating recall about the reasons for their actions in the post-lesson interview. During the practicum, participants will also be asked to write four short entries in their reflective journals. A final one-hour interview will be conducted with each participant after the practicum has finished. This research is expected to contribute to the improvement of this ESP teacher education program at the University of Technology and Education in particular and ESP teacher education in Vietnam in general.

I am seeking your consent to the conduct of this research at the Faculty of Foreign Languages, Ho Chi Minh City University of Technology and Education with the participation of ten final year ESP student teachers. To assist you in reaching a decision, I have attached to this letter a copy of the Information Sheets which will be sent to potential participants.

Should you require any further information, please do not hesitate to contact me or my supervisors at the Massey University Institute of Education. Our contact details are as follows:

- Đặng Thị Vân Anh
  Email: vananhdang@hcmute.edu.vn

  Telephone: +84 (08) 37714614

- Associate Professor Penny Haworth (primary supervisor)
  Email: P.A.Haworth@massey.ac.nz

  Telephone: +64 (06) 356 9099 ext. 84446

- Dr Karen Ashton (co-supervisor)
  Telephone: +64 (06) 356 9099 ext. 84445
  Email: K.Ashton@massey.ac.nz

Your consideration of consent to conduct this study is greatly appreciated. I look forward to your reply.

Yours sincerely,

Đặng Thị Vân Anh

Appendix R: Invitation letter to President of the University (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

University of Technology and Education
1 Võ Văn Ngân
Thủ Đức
Hồ Chí Minh City
Vietnam
October 14, 2015
Dear ……..,

I am Đặng Thị Vân Anh, a lecturer at the Faculty of Foreign Languages, Ho Chi Minh City University of Technology and Education. I am conducting research on "The belief change of pre-service teachers in an English for Specific Purposes (ESP) teacher education program" as part of my doctoral study at the Institute of Education, Massey University, New Zealand. My research aims to:

- Identify beliefs about ESP teaching of pre-service teachers in the ESP teacher education program;
- Trace their belief change throughout the ESP teaching methodology course and the practicum; and
- Explore influential factors that bring about the change in their beliefs about ESP teaching.

In order to achieve these aims, this research will be comprised of two phases. In the first phase, from November to December in 2015, up to ten pre-service ESP teachers at the University of Technology and Education will be interviewed for up to one hour before and after the ESP teaching methodology course. During this course, they will also be asked to write at least two reflective journal entries. In Phase 2, from February to April in 2016, the pre-service teachers will be interviewed again before teaching an ESP lesson on the practicum. Their teaching of this lesson will also be recorded for the purpose of stimulating

recall about the reasons for their actions in the post-lesson interview. During the practicum, participants will also be asked to write four short entries in their reflective journals. A final one-hour interview will be conducted with each participant after the practicum has finished. This research is expected to contribute to the improvement of the ESP teacher education program at Ho Chi Minh City University of Technology and Education in particular and ESP teacher education in Vietnam in general.

I am seeking your consent to the conduct of this research at the University with the participation of ten final year student teachers at the Faculty of Foreign Languages. In addition, if you agree to the participation of the University in this study I would appreciate it if you could complete the attached Consent Form. This is because the ESP teacher education program at the University is unique in Vietnam. To assist you in reaching a decision, I have attached to this letter a copy of the Information Sheets which will be sent to potential participants.

Should you require any further information, please do not hesitate to contact me or my supervisors at the Massey University Institute of Education. Our contact details are as follows:

- Đặng Thị Vân Anh
  Email: vananhdang@hcmute.edu.vn

  Telephone: +84 (08) 37714614

- Associate Professor Penny Haworth (primary supervisor)
  Email: P.A.Haworth@massey.ac.nz

  Telephone: +64 (06) 356 9099 ext. 84446

- Dr Karen Ashton (co-supervisor)
  Telephone: +64 (06) 356 9099 ext. 84445
  Email: K.Ashton@massey.ac.nz

Your consideration of consent to conduct this study is greatly appreciated. I look forward to your reply.

Yours sincerely,

Đặng Thị Vân Anh

Appendix S: Information sheet for ESP learners (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

Changes in beliefs of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

INFORMATION SHEET FOR ESP LEARNERS

My name is Đặng Thị Vân Anh, formerly a lecturer at the Faculty of Foreign Languages, Ho Chi Minh City University of Technology, Vietnam. I am conducting the research entitled "The belief change of pre-service teachers in an ESP teacher education program" as part of my doctoral study at the Institute of Education, Massey University, New Zealand. My research aims to trace the change in beliefs about ESP teaching of pre-service teachers, contributing to the improvement of ESP teacher education in Vietnam.

Because you are ESP learners in the ESP class that a student teacher participant is teaching, I would like to invite you to participate in my research project. Please take time to read the following information carefully before you decide whether you agree take part in this study.

Research description

During the practicum, each student teacher participant will teach a 50-minute ESP lesson in an ESP course for non-English majors. Their teaching of this lesson will be video recorded for the purpose of stimulating the student teacher's recall of the beliefs underlying their actions during the post-lesson interview. The student teacher, ESP learners as well as their teaching and learning activities will neither be evaluated nor analysed.

Data management

The video recording of the ESP class will be used for the purpose of this research and future presentations and publications only.

Participant's Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to ask any questions about the study. Your name will be kept confidential, and a pseudonym will be used in case it is necessary.

Project Contacts

If you have any questions or need further information about the project, please contact me, the researcher, and my chief supervisor:

- Đặng Thị Vân Anh

  1 - Võ Văn Ngân, Thủ Đức, Tp. Hồ Chí Minh, Việt Nam

  Email: vananhdang@hcmute.edu.vn

  Telephone: +84 (08) 37714614

- Assoc. Prof. Penny Haworth

  Room 2.11, Collinson Village 2, Turitea, Palmerston North, New Zealand

  Email: p.a.haworth@massey.ac.nz

  Telephone: +64 (06) 356 9099 ext. 84446

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 above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director, Research Ethics, telephone 06 356 9099 x 86015, email humanethics@massey.ac.nz.

Appendix T: Information sheet for ESP learners (in Vietnamese)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

THƯ MỜI THAM GIA ĐỀ TÀI NGHIÊN CỨU

"Sự thay đổi niềm tin của sinh viên ngành sư phạm tiếng Anh về việc dạy ESP"

Chào các em,

Cô là Đặng Thị Vân Anh, là giảng viên khoa Ngoại ngữ, trường Đại học Sư phạm kỹ thuật Tp. Hồ Chí Minh. Hiện cô đang là nghiên cứu sinh tại Đại học Massey, New Zealand về sự phát triển năng lực giảng dạy tiếng Anh chuyên ngành. Nghiên cứu này nhằm tìm ra những yếu tố quan trọng thúc đẩy quá trình phát triển chuyên môn của sinh viên ngành sư phạm tiếng Anh của khoa Ngoại ngữ. Từ đó có thể có những thay đổi phù hợp để nâng cao hiệu quả của chương trình đào tạo giáo viên tiếng Anh chuyên ngành kỹ thuật hiện nay ở Khoa Ngoại ngữ.

Vì các em là sinh viên trong lớp tiếng Anh chuyên ngành mà các giáo sinh thực tập sẽ dạy, cô mời các em tham gia dự án của cô với tư cách là sinh viên trong lớp tiếng Anh chuyên ngành này. Các em vui lòng đọc những thông tin dưới đây về nghiên cứu của cô trước khi quyết định tham gia.

Trong kỳ thực tập, mỗi giáo sinh sẽ dạy một bài khoảng 50 phút về tiếng Anh chuyên ngành cho sinh viên không chuyên ngữ. Các hoạt động dạy và học trong giờ học này sẽ được quay video lại. Việc quay video này không nhằm đánh giá việc dạy và học cũng như không đánh giá giáo sinh và sinh viên. Video này chỉ dùng để hỗ trợ việc thảo luận với giáo sinh sau khi dạy xong về các hoạt động đã thực hiện trên lớp.

Video của lớp ESP sẽ chỉ dùng cho nghiên cứu này và các báo cáo/ bài báo về nghiên cứu này trong tương lai. Các video này sẽ không công khai trên các kênh truyền thông hoặc mạng xã hội.

Các em không bị bắt buộc tham gia nghiên cứu này. Nếu các em tham gia, các em được quyền thắc mắc bất kỳ điều gì về dự án này. Ngoài ra, tên của các em sẽ được giữ kín trong các báo cáo nghiên cứu, và tên giả sẽ được dùng trong trường hợp cần thiết.

Thông tin liên lạc

Nếu các em có bất kỳ thắc mắc nào về nghiên cứu này, các em có thể liên lạc với cô hoặc giáo sư hướng dẫn của cô:

- Đặng Thị Vân Anh

  1 - Võ Văn Ngân, Thủ Đức, Tp. Hồ Chí Minh, Việt Nam

  Email: vananhdang@hcmute.edu.vn

  Telephone: +84 (08) 37714614

- Assoc. Prof. Penny Haworth

  Room 2.11, Collinson Village 2, Turitea, Palmerston North, New Zealand

  Email: p.a.haworth@massey.ac.nz

  Telephone: +64 (06) 356 9099 ext. 84446

Dự án này được đánh giá là ít gây hại cho người tham gia, vì vậy Ban đạo đức nghiên cứu của Trường Đại học Massey không thẩm định nghiên cứu này. Nghiên cứu viên có tên ở trên chịu trách nhiệm hoàn toàn về các vấn đề liên quan đến đạo đức của nghiên cứu.

Nếu bạn có thắc mắc liên quan đến việc thực hiện nghiên cứu và muốn chia sẻ với người khác (không phải nghiên cứu viên), xin vui lòng liên hệ với Tiến sĩ Brian Finch, Trưởng phòng Đạo đức nghiên cứu, số điện thoại 06 356 9099 (số nội bộ 86015), email humanethics@massey.ac.nz.

Appendix U: Consent form for ESP learners (in English)

MASSEY UNIVERSITY
INSTITUTE OF EDUCATION
TE KURA O TE MĀTAURANGA

Changes in beliefs of pre-service teachers in an English for Specific Purposes (ESP) teacher education program

PARTICIPANT CONSENT FORM – ESP LEARNER

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to the learning being image recorded (YES/ NO).

I agree to participate in this study under the conditions set out in the Information Sheet (YES/ NO).

Signature: ..... **Date:** .....

Full Name - printed .....