Exploring the Interplay Between Teacher Self-Efficacy Perceptions and Reported Content-Based Instructional Strategies

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Abstract

With the increasing number of English-language learners in secondary schools, all teachers are required to teach content and language as signalled in the *New Zealand Curriculum*. To be an effective teacher of English-language learners, the use of content-based teaching practices and instructional strategies is necessary along with a sense of self-efficacy. Higher self-efficacy is more likely to lead to positive behaviour, while lower self-efficacy is more likely to be associated with negative behaviour regarding the use of instructional strategies and teaching practices in the classroom.

This sequential, explanatory, mixed-methods design used a survey and interviews to explore how teacher self-efficacy perceptions influenced reported content-based instructional strategies. An additional aim of the study was to find out whether there was a relationship between the extent of professional learning and development, and teacher self-efficacy. While findings indicated that some high and medium self-efficacy teachers embraced content-based instructional strategies, most of which were gained through years of specialised professional learning and development, some medium and low self-efficacy teachers reported fewer instructional strategies and engaged in limited professional learning and development opportunities. The findings also showed that teachers reported differently on instructional strategies according to their self-efficacy perceptions, specialised training and the subject taught.

Dedication

To all English-language learners.

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Table of Contents

List of Tables

List of Figures

List of Abbreviations

ANOVA	Analysis of variance
BICS	Basic interpersonal communicative skills
CALP	Cognitive academic language proficiency
CB	Content-based
CBI	Content-based instruction
CBI-TSES	Content-based instruction teacher self-efficacy scale
CRTOE	Culturally Responsive Teaching Outcome Expectancy Scale
CRTSE	Culturally Responsive Teaching Self-Efficacy Scale
CUP	Common underlying proficiency
EAL	English as an additional language
EFL	English as a foreign language
ELLs	English-language learners
ELLP	English Language Learning Progressions
ESOL	English speakers of other languages
GradDipTESSOL	Graduate Diploma in Teaching to Speakers of Other Languages
HSE	High self-efficacy
ITE	Initial teacher education
LSE	Low self-efficacy
MSE	Medium self-efficacy
NCEA	National Certificate of Educational Achievement
NNS	Non-native speakers
NS	Native speakers
NZC	New Zealand Curriculum
PD	Professional development
PL	Professional learning
PLD	Professional learning and development

SCT	Social cognitive theory
SLA	Second-language acquisition
TESOL	Teacher of English to Speakers of Other Languages
TSE	Teacher self-efficacy
TSES	Teachers' Sense of Efficacy Scale

Chapter One: Introduction

Multicultural and multilingual classrooms are becoming the norm due to an increasing number of English-language learners (ELLs) enrolling in secondary schools across New Zealand (NZ). Accordingly, ELLs face the challenge of meeting the cognitive demands of the content and of simultaneously acquiring the language skills in the various subjects. In a secondary school context, ELLs are expected to demonstrate high levels of competence, extract essential concepts, explain their point of view based on evidence and engage in academic discussions relating to the content of the subject. All teachers are required to teach both content knowledge and the academic language of their subject as signalled in the NZC.

> Each learning area has its own language and languages. As students discover how to use them, they find they are able to think in different ways, accessing new areas of knowledge, and see their world from new perspectives. In addition to such help, students who are new learners of English or coming into an English-medium environment for the first time need explicit and extensive teaching of English vocabulary, word forms, sentence and text structures, and language uses (MoE, 2007, p. 16).

Furthermore, NZ's education policy guidelines are clear in their requirements that all teachers have a responsibility to ensure that the diverse range of NZ students become effective learners. For instance, the NZ Registered Teacher Criteria (New Zealand Teachers Council, 2016) notes that a successful NZ teacher should "respond effectively to the diverse language and cultural experiences, and the varied strengths, interests and needs of individuals and groups of ākonga[1]" (p. 13). With emphasis on specialised knowledge about academic language, it is arguable that subject teachers must adapt their teaching practices to support ELLs' existing English proficiency in order to make content and language accessible in meaningful ways. NZ does not differ from other countries in encouraging

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[1] The term ākonga means inclusive of all learners.

subject teachers to teach content and language. The Australian Curriculum (Australian Curriculum, Assessment and Reporting Authority, 2010) documents that each curriculum area has language structures and vocabulary specific to its subjects and these are best taught in the context in which they are used. Similarly, in the US, general education teachers are required to meet both the instructional and language needs of ELLs.

Consequently, there is pressure on subject teachers to provide appropriate content-based instruction (CBI) which are effective in fostering academic growth in ELLs. CBI is a significant approach to language education designed to provide second-language learners instruction in content and language. In other words, language is acquired within the context of the content (Brinton, Snow, & Wesche, 2003). Over the last several decades, there has been a growing recognition of teaching content and language in subject areas. Research consistently shows the importance of teaching language alongside content knowledge necessary for engagement of ELLs in the different subjects (Samson & Collins, 2012). It is this reciprocal relationship between content knowledge and language that contributes to the academic success of learners (Echevarría, Vogt & Short, 2013).

As efforts to prepare teachers to teach content and language increases, there is a need to ensure that teachers are competent as well as have a sense of efficacy in their ability to implement teaching practices and instructional strategies to support ELLs. Teacher self-efficacy (TSE) refers to how confident teachers believe they are in their ability to reach a goal or accomplish a task (Bandura, 1997). As a Head of Department of ESOL, I was interested in examining how TSE perceptions influenced reported content-based (CB) teaching practices and instructional strategies. These findings may provide valuable insights of how subject teachers integrate content and language teaching to support ELLs.

The first section of Chapter 1 presents the current demographic trends of NZ's most diverse city in order to place the study in context. The next section of this chapter addresses the academic challenges ELLs face in subject classes. The third section highlights the importance of CBI and TSE

for the effective teaching of ELLs. Finally, the research aims, significance of the study, and research questions are presented.

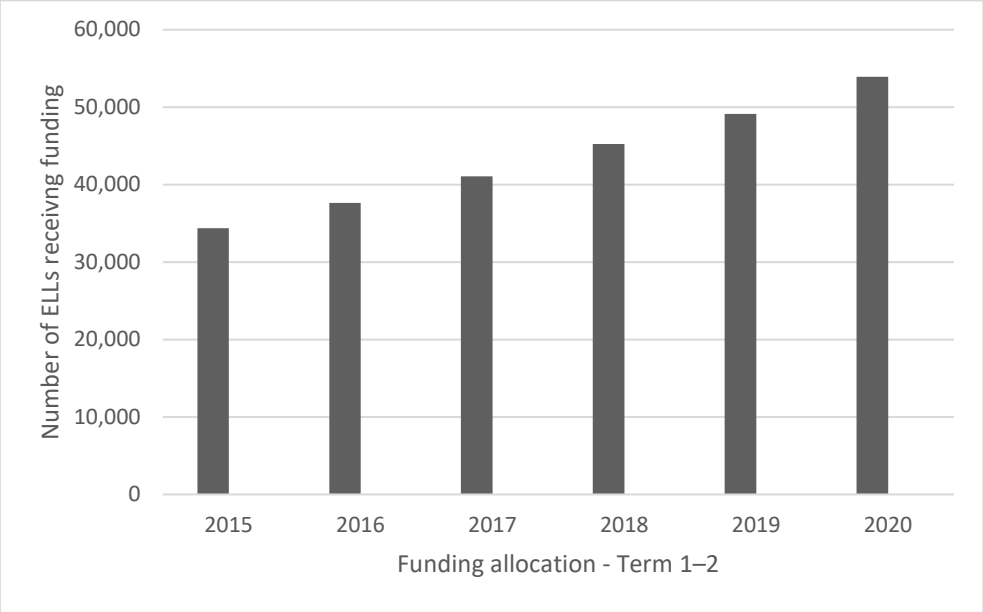
Demographic Trends

According to the Ministry of Education (n.d), English as a Second Language statistics consistently show an increase in the number of ELLs enrolling in schools across NZ. The database records for the first 6 months of 2020, government funding allocation served 53,910 students from 160 ethnic groups and 129 different languages. ESOL funding caters for ELLs whose performance on mainstream subjects is not close to the national cohort[2]. Of the currently funded students, 4,798 first qualified to receive ESOL funding in 2020. Figure 1.1 shows a consistent increase in the number of ELLs receiving funding allocation, with an increase of 19,523 students from 2015 to 2020. The most common ESOL-funded ethnic groups in the Auckland region are Chinese, Samoan, Tongan, Filipino, Fijian, and Korean. Mandarin, Samoan, Tongan, Hindi, Filipino, Korean, and Cantonese are the most spoken first languages.

[2] For the current study, the term ELLs are used as it is a common acronym used internationally as well as by the Ministry of Education (2008) to refer to those who are learning English as a second or additional language. From an additive perspective, the acronym better encompasses a more positive, strength-focused meaning relative to deficit-focused acronyms like "limited English proficient" (LEP).

Figure 1.1

Ministry of Education Funding Allocation for ELLs Across all School Sectors (2015–2020)



In addition to ESOL-funded students, there are those ELLs who do not qualify for ESOL funding because they exceed the benchmark of 112 points[3] but they are not considered "close to cohort" until they reach the score of 135 (MoE, 2004, p. 98). This, in effect, means that those ELLs that exceed the benchmark of 112 points still require support until they reach the score of 135. Bridging the gap highlights the importance of same end-goals for all learners but with a specific focus on the language needs of ELLs thereby allowing them to make swift progress. There is also a range of other diverse students in NZ that do not qualify for funding: international fee-paying students, New Zealand-born students who have had four years in a NZ school, and students whose first language is identified as English or te reo Māori. This means the percentage of ELLs in NZ classrooms is far greater than the number of ELLs seeking funding assistance. Acknowledging a rapidly increasing number of culturally and linguistically diverse learners in its *Statement of Intent 2014–2018*, the Ministry of Education (2014) emphasises "increasing diversity and demographic changes in the New

[3] ESOL funding is calculated using a score derived from ELLP descriptors

Zealand population" (p. 12) as one of the main contributory factors to change in the educational environment.

The trends of increasing diversity and demographic changes are comparable to those in many countries. In the US, the percentage of ELLs in public schools was higher in 2016 (9.6%, or 4.9 million students) than in 2000 (8.1% or 3.8 million students). Spanish is the most spoken home language, with Arabic, Chinese, and Vietnamese the next most reported home languages in the US (National Center for Education Statistics, 2019). In the UK, there are currently over 1.5 million learners with English as an additional language in public schools (Bell Foundation, 2017). In Australia, there were over 199,102 ELLs enrolled in public schools in New South Wales in 2018 (Hinton, 2020). The most spoken language among the students was the Indian language followed by the Chinese language (Hinton, 2020). While diversity brings economic innovation and increased productivity, it also produces several challenges. Similarly, the heterogeneous learning environment comes with a multitude of challenges.

Problem Statement

The academic challenges that ELLs experience in different subjects in secondary schools are reflected in the complex language and vocabulary evident in the range of internal and external assessments ELLs complete in NZ. The National Certificate of Educational Achievement (NCEA) was introduced between 2002 and 2004 as the official secondary school qualification that parallels the NZC. With the introduction of NCEA, consideration was given to a range of skills and capabilities (key competencies) that students need to develop to become life-long leaners. The NCEA is a standard-based assessment awarded at three levels: NCEA Levels 1, 2, and 3 which are typically achieved in Years 11, 12, and 13 (from ages 15 through to 18). At each year level, students study several courses or subjects in a range of competencies that are assessed against internal and/or external achievement standards.

Each achievement standard reflects a specific skill, understanding or competence worth a specified number of credits that, if attained, count towards credits required for a national certificate at that level (New Zealand Qualifications Authority, 2018). For example, Level 2 English achievement standard 91098 (2.1) is worth four credits; it requires students to "Analyse specified aspect(s) of studied written text(s), supported by evidence," which involves examination and interpretation of how meanings and effects are created in the text(s) and the discussion of specified aspects of these text(s). While the revision of the NCEA took into consideration skills and capabilities (key competencies), paradoxically it took away achievement equity. With the introduction of the NCEA, ELLs are required to sit national assessments in the different subjects designed for native speakers of English. As they pursue their senior secondary studies, ELLs are presented with increasingly specialised knowledge, domain-specific academic vocabulary used within subjects, and general academic vocabulary used across subjects through the medium of English (Luxton et al., 2017). For example, in science, ELLs must be able to understand the domain-specific vocabulary (e.g., photosynthesis) as well as the general academic vocabulary (e.g., classify, hypothesise, or analyse) to perform or complete an experiment or task successfully.

That ELLs experience difficulties because of limited academic language proficiency in English is supported by results in an NZ study by Neville-Barton and Barton (2005). The objective of the research was to identify language features that could exacerbate difficulties for Chinese Mandarin-speaking students learning mathematics in NZ's English-speaking secondary schools. Two tests were administered, one in English and the other in Mandarin, to ascertain the degree of difficulty experienced by ELLs. Each student tried both versions of the test. The authors reported that the language of mathematic discourse such as prepositions and word order created problems for students with Mandarin as their first language. Likewise, in an Australian study, international students positioned themselves as having gaps in their knowledge of the academic language relative to their native peers (Filipi & Keary, 2018). The study illustrated the challenges international students faced in selecting appropriate words for the context as they were unaware of the subtle differences that exist

between synonyms. Even years of schooling might not be sufficient to reach grade or year level English proficiency. According to a U.S. study, 60% of U.S.-born low English-proficient ELLs of the total sample in the study, who had received at least 9 years of schooling, did not reach proficiency. The findings illustrate that many ELLs struggle to acquire high levels of academic language proficiency, which may prevent them graduating from secondary school (August & Shanahan, 2017). This implies that specific interventions are needed to support the academic language development of ELLs.

ELLs typically arrive in NZ in Year 11 or 12 with the intent to achieve entrance to NZ tertiary institutions, amongst other things. They come with varying levels of English proficiency which often equate to working at Year 9 or 10. The difference in proficiency levels has far-reaching consequences for a student who works at a Year 9 level but is placed in a Year 12 class. To achieve academic success, Cummins (1991) claimed that ELLs need to develop their basic interpersonal communicative skills (BICS—social or conversational language), and cognitive academic language proficiency (CALP—academic language and vocabulary in different subjects). BICS refers to a social or conversational language, while CALP includes the academic language as well as vocabulary in the different subjects. The differences in the time needed to develop BICS (2 years) and CALP (5 to 7 years) illustrates the difficulties ELLs experience when they arrive in Year 11 or 12 and only to have 2 or 3 years to develop CALP to achieve intermediate or advanced levels of proficiency (Short et al., 2018).

Although the Ministry of Education (2008) acknowledges that English-language learning is affected by factors such as age, first language, and prior schooling, and that it can take many years to acquire a second language, ELLs are expected to attempt national assessments designed for native speakers of English.

> Learning an additional language is a long process. It generally takes between five and seven years for a learner of average intelligence who has strong foundations in their first language to reach the same level as a native speaker of the same age and acquire academic proficiency in an additional language. (MoE, 2008, p. 4)

Content-Based Instruction and Teacher Self-Efficacy

Research suggests that one of the most effective ways to support ELLs' development of CALP is to integrate the teaching of content and language. Content-based language teaching or CBI is "the concurrent teaching of academic subject matter and second language skills" (Brinton et al., 2003, p. 2). Stoller (2002) elaborated that such an approach views "language as a medium for learning content and content as a resource for learning and improving language" (p. 109). While researchers have sought to define such an approach, the definitions have been found to share the following common features:

- CBI allows for an authentic and meaningful context for language learning and teaching.
- The curriculum as well as the organisation of the subject comes from the content.
- Both language and content are taught simultaneously.
- Language learning is fostered through the presentation of the content matter in a manner that learners can comprehend.
- Language learning can occur when opportunities are presented in the form of comprehensible input, output, and interaction (Brinton & Holten, 2001).

Unlike the language-orientated approach in which grammar is both the topic as well as the objective of the lesson, CBI sees language as a means to meaningful communication. An example of an ESOL principle that promotes the idea of content and language teaching is "to identify the learning outcomes including the language demands of the teaching and learning." [4] CBI lessons include both content objectives as well as language objectives. While the content objective focus on the "what", the language objectives focus on the "how". For example, what aspects of the content will students be able to achieve by the end of the lesson and how will they use language in order to accomplish these goals. In this instance, a content objective may be - students will be able to explain the history of the Treaty of

[4] https://esolonline.tki.org.nz/ESOL-Online/Learning-about-my-students-needs/Knowledge-of-English-language-learning/ESOL-principles/Principle-2-Identify-the-learning-outcomes

Waitangi. A language objective alongside the content objective may be – students will be able to orally explain the history of the Treaty of Waitangi using past tense. Several theoretical rationales underlie the shift in perspective from a language-orientated approach to the teaching of content and language. Firstly, cognitive development and language development go hand in hand. In first language acquisition the process occurs naturally, however in second language acquisition (SLA), the process is often disassociated from cognitive or academic learning. In contrast, the integration of content and language brings these domains together in instruction. Secondly, language is learned most effectively when communication occurs in authentic contexts that is purposeful and meaningful to the learner. Thirdly, content learning can provide both a motivational and cognitive basis for language learning. (Snow, Met & Genesee, 1989).

CBI is heavily rooted in communicative language teaching with an emphasis on communication and interaction. The underlying principles that encompass CBI are providing opportunities for extended input/meaningful output using communicative tasks, explicitly teaching academic vocabulary and language, promoting collaborative learning to increase interaction, encouraging critical thinking, and providing opportunities to develop metacognitive skills (Echevarría et al., 2013).

To teach content and language effectively, CB instructional strategies and teaching practices are necessary along with a positive sense of TSE. The importance of TSE, that is, a teacher's belief in their ability to accomplish a task successfully, is a motivational construct that determines the decisions teachers make, how they behave, and the instructional strategies they implement in the classroom environment (Bandura, 1997). Self-efficacy beliefs also have implications for the goals teachers set, and the effort they expend as well as the influence these beliefs have on student achievement (Bandura, 1997; Caprara et al., 2006). Teachers with high self-efficacy (HSE) are more resilient and willing to take risks by trying new strategies because they believe that they can successfully improve student achievement (Malanson et al., 2014; Velthuis et al., 2014). Moreover, findings of studies of the relationship between efficacy and academic achievement have indicated consistently that students

whose teachers had HSE achieved more highly academically than students whose teachers had LSE (Holzberger et al., 2013). In contrast, teachers with LSE may feel anxious and frustrated because they do not think they can influence student achievement (Zee & Komeen, 2016). Teachers with LSE will not try to use effective instructional strategies and teaching practices because they believe that they are unable to improve student outcomes regardless of what strategies they have used. Chapter 2 (Literature Review) shows how both earlier and more recent theoretical research and empirical studies operationalise teacher efficacy in order to provide an understanding of the construct for the current study.

Given the strong correlations between efficacy and the knowledge and skills necessary to be effective teachers of ELLs, research on TSE perceptions for CBI may provide valuable insights of how subject teachers integrate content and language teaching to support ELLs.

Overview of the Current Research

The aim of the research is to examine TSE perceptions and how it influenced reported CB instructional strategies and teaching practices. An additional focus of the study is to examine whether there is a relationship between the extent of PLD and TSE. The research questions are:

1. What is the nature of differences in self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction?
2. Is there a relationship between the extent of professional learning and development and self-efficacy perceptions of secondary teachers for content-based instruction?
3. Do teachers report differently on content-based instructional strategies according to their self-efficacy perceptions, specialised training and the subject taught?

The study attempts to understand TSE in a second-language context through the lens of a sequential, explanatory, mixed-methods design. The data collection process involves two phases: (1) Phase 1—survey, and (2) Phase 2—survey and interviews. In Phase 1 of the study (survey sample), secondary teachers responded to an online content-based instruction teacher self-efficacy scale (CBI-

TSES) survey. To address Research Question 1, survey respondents were asked to rate their perceived self-efficacy in using CB instructional strategies to support teaching of ELLs. Data regarding Research Question 2 were generated from survey respondents reporting on the nature, content and, extent of their PLD over 5 years. In Phase 2 of the study (survey and interview sample), a group of secondary teachers responded to the same survey and were then interviewed. Interview participants were asked about CB instructional strategies used in their classes and their responses provided insights into Research Question 3.

In Phase 1of the data analysis process, the procedure involved descriptive and inferential statistics. In Phase 2, the procedure involved descriptive statistics, thematic analysis of interview data, and data integration through cross-over mixed analysis in which qualitative data were quantified using frequency and percentages.

Current Initiatives and Professional Learning and Development Opportunities

An overview of current initiatives and PLD[5]opportunities in NZ provides an understanding of what is available to subject teachers to support content and language teaching. There are several initiatives by the Ministry of Education to encourage teachers to take up PLD opportunities relevant to their needs. There is nationally funded PLD where facilitators work with the schools to plan PLD tailored to meet a particular need. There are also initiatives such as the Ministry of Education scholarships established in 2001 to fund specific papers within a degree or programme. The funding usually covers 2 years at a rate of one paper each semester, based on 2 semesters each year.[6] One of those programmes funded by the Ministry of Education is the Graduate Diploma in Teaching English to Speakers of Other Languages (GradDipTESSOL), which has existed longer than the scholarships.

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[5] Professional learning and development (PLD) is a broad term that encompasses both professional learning (PL) and professional development (PD). PD is typically single-shot, one-size-fits-all workshops for teachers based on the expertise of the individuals delivering the session. PL, on the other hand, is targeted and based on the specific learning needs of the students and school community.

[6] https://www.education.govt.nz/school/people-and-employment/principals-and-teachers/scholarships-for-people-working-in-schools/tessol/

The aim of the programme is to provide support for ELLs by offering teachers theoretical and practical knowledge, skills, strategies, and techniques in language teaching. The programme is completed part-time with the completion of four core compulsory and core elective papers.

In addition to the scholarship, there is a Teacher of English to Speakers of Other Languages (TESOL) award for teachers to undertake study at a graduate or postgraduate level at any of the five tertiary institutions in NZ. Teach NZ (a body that supports people from the communities who are underserved by the system, to enter the system through initial teacher education) also offers PLD allowances such as study awards, grants, and sabbaticals to help complete a qualification. While these initiatives have been put in place to provide financial incentives to those teachers who want to study, there is the challenge that time constraints may discourage teachers from enrolling in postgraduate studies. However, it is not exactly clear how the information about the financial incentives to study are circulated to teachers and whether they are aware of such incentives.

The Ministry of Education has set up a range of resources to assist subject teachers to teach content and language in order to facilitate the effective teaching of ELLs. ESOL Online (n.d.)[7] is an umbrella website that has a range of resources that offer suggestions, and guidelines to support teachers working with ELLs. Online resources include professional support materials that offer key programme guidelines for beginning to advanced ELLs. The website also provides resources with video examples of instructional strategies to support ELLs. There are also social networks such as the Virtual Learning Network Groups, and the mailing list for secondary ESOL teachers, school leaders and facilitators to connect, share and learn together and establish professional relationships. The expectation is that teachers will look to these resources on how to support ELLs. However, this may not be the case as reported in Edward's (2014) study. Edward's research reported on mainstream teachers' knowledge of SLA, use of teaching resources and strategies for supporting ELLs in mainstream classes. The teachers

[7] https://esolonline.tki.org.nz/

were from different subject areas such as English, mathematics, social studies, and sciences. The results suggest that teachers were not aware of, and thus not using, the resources and strategies available. More than 50% had not used any resources. Overall, a bleak picture emerged of mainstream teachers' awareness and lack of using teaching resources and strategies to support ELLs. Although a small sample, the study provides insight into teachers' awareness and lack of using these resources (Edwards, 2014).

Significance of the Study

Firstly, since there is a dearth of literature on TSE alongside CBI, this study offers an understanding of TSE and CBI in a second-language context. Despite many studies investigating TSE research in a second-language context, there is only one study in NZ that has investigated how subject teachers perceive and manage to teach content and language to ELLs (Gleeson, 2010).

Secondly, the domination of quantitative methods continues in the field of teacher-efficacy research (Wyatt, 2018). Quantitative methods based on self-reported surveys used in a single study present several limitations such as loss of the complexity of teacher efficacy, failure to establish fundamental meanings, as well as behaviour, and validity, accuracy, and specificity issues (Glackin & Hohenstein, 2018). For the field to make progress, researchers have called for an increase in the use of mixed methods and qualitative designs, arguing that such approaches provide a broader, more in-depth understanding of teacher efficacy (Klassen et al., 2011). This sequential, explanatory, mixed-methods design allows an examination of TSE using quantitative and qualitative approaches, thus providing insights into the complexities, and understanding of teacher efficacy.

Thirdly, parallel to the call for mixed methods and qualitative studies, teacher-efficacy researchers have called for reviews in a wider range of cultural and international settings (Klassen et al., 2011; Yeom & Ginsburg, 2007). The current study bridges the gap and contributes to the body of teacher-efficacy literature by providing a perspective on how NZ secondary teachers perceive their

efficacy to teach content and language, and what instructional strategies they use to support ELLs content learning and language proficiency.

Thesis Structure and Organisation

Chapter 1 has set the scene by outlining the demographic trends in NZ followed by the challenges ELLs experience acquiring academic language. Next, the importance of CBI and TSE was highlighted to place the study in perspective. The chapter concluded with the purpose, significance of the study, and research questions.

Chapter 2 focuses on what is understood by teacher efficacy and situates the study within a theoretical backdrop of Bandura's self-efficacy theory. The next section of the chapter explores the theoretical and empirical underpinnings of teacher efficacy and how existing literature describes and operationalises the construct. It then reviews the literature on teacher preparedness in a NZ context, and considers the relationship between PLD and the changes in perceived levels of self-efficacy. The last section of the chapter examines the theoretical and empirical research on effective CBI approaches and its associated CB instructional strategies and teaching practices.

Chapter 3 describes the process for the newly developed scale used to collect quantitative data. Then, the methods for data collection and analysis involved in the sequential, explanatory, mixed-methods design are discussed as are the validation processes of the study.

Chapter 4 presents the findings from the survey data of secondary TSE perceptions regarding their use of CB instructional strategies, and the findings from the relationship between the extent of PLD and TSE.

Chapter 5 presents the findings from the sample of secondary teachers interviewed. This includes the survey data of their TSE perceptions regarding their use of CB instructional strategies and the interview data of reported CB instructional strategies. Further, the chapter examines the interplay between TSE perceptions and reported CB instructional strategies and teaching practices. It explores

whether teachers reported differently on instructional strategies according to their self-efficacy perceptions, specialised PLD and the subject they taught.

Chapter 6 discusses the key findings followed by the implications, limitations, and recommendations and proposes directions for future research.

Chapter Two: Literature Review

Theoretical and Empirical Orientation

This chapter examines the theoretical and empirical literature on TSE, teacher preparedness to manage content and language teaching for ELLs, as well as PLD and CBI. The first section of the chapter shows how existing literature describes and operationalises teacher efficacy in order to understand the conceptualisation, measurement, and definitional issues of the construct. The review also considers the theoretical perspective of self-efficacy development, and how teacher efficacy influences beliefs, behaviour, and the use of effective teaching practices and instructional strategies. The second section of the chapter reviews the influence of teacher preparedness with respect to how teachers manage content and language teaching for ELLs as well as PLD and the influence on self-efficacy. The third section of the chapter looks at the theoretical and empirical research on effective CB approaches and its associated CB instructional strategies.

Theoretical Framework

The theoretical framework that underpins this study is Bandura's social cognitive theory (SCT). Viewing self-efficacy through Bandura's (1977b) influential SCT implies that an individual's beliefs are usually influenced by their perception of their capabilities, and experiences with the environment which, in turn, determine their future behaviour. The three interdependent factors: individual, environment and behaviour, are the foundation of Bandura's reciprocal determinism. According to reciprocal determinism, as the environment influences human behaviour, it is this behaviour that often plays a role in changing the environment. Fundamental to human behaviour is "what people think, believe, and feel affects how they behave in that their beliefs control their thoughts, feelings, and actions" (Bandura, 1986, p. 25).

Self-efficacy is defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Bandura believed that self-efficacy is not about individuals' capabilities but about their perception regarding what they can do.

The influence of these beliefs may mean that people who are confident in their capabilities may view challenges as opportunities and they may expend the effort despite the challenges, while people who doubt their abilities may steer away from difficult tasks, feel discouraged and give up easier when confronted with challenges (Bandura, 1997). The resounding interest in Bandura's self-efficacy theory led researchers to investigate the idea of self-efficacy in the context of teaching, which became known as teacher efficacy (Ashton & Web, 1986; Tschannen-Moran et al., 1998). Teacher efficacy came to be understood as "the extent to which the teacher believes he or she has the capacity to affect student performance" (Berman et al., 1977, p. 137). Teacher efficacy is a future-oriented motivational construct that reflects the competence of teachers to carry out teaching tasks. Teachers' beliefs influence student achievement (McLaughlin & Marsh, 1978) and student motivation (Midgley et al., 1989); these beliefs also directly influence behaviours teachers choose to engage in, how they respond during tasks, how much commitment they invest in the task, and how much determination they exhibit when confronted with obstacles (Bandura, 1977a). Given the consistent relationship between HSE and positive behaviour, SCT is employed in the current study to explain the interplay between TSE perceptions and the influence on reported CB instructional strategies and teaching practices.

Understanding Teacher Efficacy

It is necessary to begin an exploration of teacher efficacy with an understanding of the conceptualisation, measurement, and definitional conundrums and how the construct is represented in both early and more recent research studies to better understand the findings in the current study. This section on teacher efficacy explores the literature in terms of four primary objectives: (1) to provide an overview of the conceptualisation, measurement, and definitional confusion around teacher efficacy; (2) to discuss the theoretical models of self-efficacy development in relation to the four sources that shape self-efficacy beliefs; and (3) to address how teacher efficacy influences beliefs, behaviour and the use of instructional strategies and teaching practices.

Conceptualisation, Measurement and Definitional Issues

There has been a resounding interest and ongoing theoretical discussion about the parameters of the construct of teacher efficacy regarding conceptualisation, measurement, and definitional confusions. To understand the parameters, it is important to outline the background and establish the salient features in developing definitions and associated measures. The beginnings of teacher efficacy developed from two strands of theory: Rotter's (1966) social learning theory and Bandura's (1977b) SCT.

Rotter's Social Learning Theory—Locus of Control

The first theoretical strand of teacher efficacy was grounded in Rotter's (1966) social learning theory of internal and external locus of control. *Internal* locus of control refers to a circumstance under one's influence while *external* locus of control refers to circumstances outside one's control. As an illustration, a teacher may believe that she is confident to teach ELLs and may attribute her confidence to her own capabilities (internal locus of control) or other factors such as high achievers in a class (external locus of control) while another teacher may attribute her/his lack of confidence to insufficient resources or time constraints (external locus of control). With the idea of locus of control, teacher efficacy came to be understood as the extent teachers believed that factors within their control (internal factors) had a greater influence on student learning outcomes than factors beyond their control such as the environment (external factors; Tschannen-Moran et al., 1998).

Relying on Rotter's (1966) locus of control, the term *teacher efficacy* was first used by a group of researchers from the American Rand Corporation (Armor et al., 1976) when they used two simple items to measure the influence of such control beliefs. The Rand studies asked teachers to indicate their level of agreement with each of these two statements: Rand Item 1: "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment" (Berman et al., 1977, p. 137). This item reflected an external control belief indicating that the home environment overpowers any influence that teachers can exert in school (W. K. Hoy & Woolfolk, 1990). Rand Item 2: "If I really try hard, I can get through to even the most

difficult or unmotivated students" (Berman et al., 1977, p. 137). This item reflected an internal control belief emphasising the influence of the teacher to make changes regardless of the environment (Tschannen-Moran et al., 1998). The results were strongly correlated to students' reading achievement, teacher behaviours that foster achievement, a willingness to accept change and an increased likelihood of implementing innovation successfully (Berman et al., 1977). These findings generated much interest; the combined total of these two Rand study items was the first evaluation of teacher efficacy.

Other researchers, such as Rose and Medway (1981) and Guskey (1981), followed Rotter's tradition using the definition of teacher efficacy in their work and in the development of measures from a locus of control perspective. Rose and Medway (1981) created the Teacher Locus of Control scale, requiring teachers to assess responsibility for student success and failure within or outside the teacher's control. Similarly, drawing on the Rand work and Rotter's theory, Guskey (1981) developed the Responsibility for Student Achievement scale. Using this scale, efficacy was defined as "a teachers' belief or conviction that he or she can influence how well students learn, even those who may be difficult or unmotivated" (Guskey, 1988, p. 41). Both theories reflect an individual's willingness to act because of perceived amounts of control over consequences.

Outcome Expectancy Versus Self-Efficacy Expectations

The second strand of theory relating to teacher efficacy was that of Bandura's (1977b) SCT. According to Bandura (1977a), self-efficacy is a belief that one can successfully perform the behaviour needed to produce results. Like other social-psychological theories, the two strands of teacher efficacy stress human agency—the belief that people can exercise control over the actions that affect their lives (Bandura, 1997). Researchers like Gibson and Dembo (1984) drew from Rotter (1966) and Bandura's (1977b) work and recognised that each Rand item resembled different expectancies of Bandura's SCT: outcome expectation and efficacy expectation.

The first Rand Item 1: "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment" (Berman et al., 1977, p. 137) was identified as an outcome expectation and served as a measure of

general teacher efficacy. This item evaluated the extent to which teachers would typically influence student learning despite environmental factors. The second Rand Item 2: "If I really try hard, I can get through to even the most difficult or unmotivated students" (Berman et al., 1977, p. 137) was identified as a measure of personal teaching efficacy expectation. This item evaluated the individual's confidence in their ability to serve students, demonstrating self-efficacy (Bandura, 1977a). The conceptual framework from the Rand researchers and Bandura's SCT laid the groundwork for Gibson and Dembo's (1984) new instrument for measuring teacher efficacy. The original measure constructed by Gibson and Dembo contained 30 items which claimed to measure two aspects of teacher efficacy. The first, outcome expectations, labelled as general teaching efficacy, was subsequently defined as "teachers' expectations that teaching can influence student learning" (Ashton & Webb, 1986, p. 4). Gibson and Dembo (1984) referred to this factor as a "belief that any teacher's ability to bring about change is significantly limited by factors external to the teacher" (p. 574). The second, efficacy expectations, titled personal teaching efficacy, is more specific to an individual's belief as to what teachers can accomplish rather than what teachers can do in general (e.g., Ashton & Webb, 1986). Gibson and Dembo (1984) described this as a teacher's "belief that one has the skills and abilities to bring about student learning" (p. 573). Researchers claimed that the definition of general teacher efficacy lends itself towards the measuring locus of control or outcome expectancy rather than self-efficacy (Tschannen-Moran et al., 1998).

Several researchers used the Gibson's and Dembo's 30-item scale and found more evidence for the existence of the two-factor structure, general and personal teaching efficacy (Podell & Soodak, 1993). The instrument was reduced to a 16-item measurement and was used extensively in research with additional evidence for the correlation between efficacy and student achievement (Moore & Esselman, 1992). However, in the last 2 decades, concerns about the two-factor structure arose regarding the inconsistency of the description of outcome expectations (Tschannen et al., 1998; Woolfolk & Hoy, 1990). While Gibson and Dembo's teacher-efficacy scale showed that teachers in general can go beyond external factors to influence student learning, Bandura (1977a) suggested that

outcome expectations are teachers' perception of possible behavioural outcomes. After an examination of the items in the Gibson and Dembo (1984) scale, Guskey and Passaro (1994) highlighted the inconsistencies whereby several items loaded on both factors and questioned whether these factors identified two types of efficacy (general efficacy or personal efficacy or if the dimension structure reflected internal and external locus of control).

Internal and External Orientations

Guskey and Passaro (1994) revised the altered version of the teacher efficacy scale proposed by Woolfolk and Hoy (1990). The modified version included the 16 items from the Gibson and Dembo (1984) measure that were found to be consistent, as well as the two Rand items and three additional items which Woolfolk and Hoy (1990) found to yield significant factor loadings. The two subscales indicating general or teaching efficacy and personal efficacy were revised to incorporate internal and external control dimensions. Consequently, four possible dimensions of efficacy (personal internal, personal external, general internal and, external beliefs) were explored. A principal component analysis was performed on the responses of inservice and preservice teachers demonstrating that two dimensions of efficacy existed: internal and external orientations rather than general and personal efficacy (Guskey & Passaro, 1994). The work of Guskey and Passaro demonstrated the importance of attempting to explain and understand the meaning of teacher efficacy from both a theoretical and a measurement viewpoint.

Domain-Specificity and Generalised Self-Efficacy

Bandura's (1986) contribution saw the conceptualisation of self-efficacy as situation specific instead of a more generalised self-efficacy. Bandura hypothesised that self-efficacy depends on the context rather than generalising between domains (Bandura, 1977a). An example of an item situated in a context may be "uses various methods or techniques (e.g., word and sentence walls, word picture cards) to make subject-specific vocabulary in science (e.g., omnivore, vertebrae, mineral) accessible to ELLs" (Turkan et al., 2012, p. 38). The domain of teaching ELLs science is different to teaching in

general. Bandura (1977a) argued that specific domains of self-efficacy are independent of each other. However, contrary to Bandura's claim that self-efficacy does not generalise between domains, Sherer et al. (1982) believed that the separate domains of self-efficacy contribute to "a general set of expectations that the individual carries into new situations" (p. 664). "This general self-efficacy then influences the individual's expectations of mastery in a new situation…and this informs an individual's performance in specific situations" (Shelton, 1990, p. 989). Individuals with varied and several success-related experiences may have positive self-efficacy expectancies in a wider range of situations and settings than individuals who have experienced limited success in fewer settings (Bandura, 1977a). From Bandura's proposition, Sherer et al. (1982) argued that the general belief of success-related capabilities, regardless of level of self-efficacy, is what an individual initially brings to the task which informs one's specific self-efficacy expectancies. The outcome of a specific experience provides positive or negative feedback to the individual's general self-efficacy. In sum, these generalised expectancies should influence an individual's expectations of mastery in new settings (Sherer et al., 1982).

In more current teacher-efficacy research, self-efficacy beliefs are considered to vary depending on different tasks, contexts, and circumstances (Tschannen-Moran et al., 1998). For example, as Tschannen-Moran et al. (1998) argued "Teachers feel efficacious for teaching particular subjects to certain students in specific settings, and they can be expected to feel more or less efficacious under different circumstances," as tasks or context shift (pp. 227–228). In later conceptualisation, Dellinger et al. (2008) purported to assess teacher-efficacy beliefs as "a teacher's individual beliefs in their capabilities to perform specific teaching tasks at a specified level of quality in a specified situation" (p. 752). In other words, self-efficacy beliefs are task and situation specific. As a point of illustration, a teacher may feel very competent in an area of mathematics, namely algebra, or when working with particular students (higher English-proficient ELLs) and feel less able in another area of mathematics, namely geometry, or with different students (lower English-proficient ELLs). Invariably, TSE beliefs can change depending on the specificity of the task and context.

While some researchers are more likely to use omnibus-type questionnaire tools that provide scores that are more global than context-specific judgements (e.g., Tschannen-Moran & Hoy, 2001), others have shown growing efforts to develop domain-specific questionnaires such as focusing on culturally responsive teaching practices (Siwatu, 2007); inclusive, responsive teaching practices (U. Sharma et al., 2012); and literacy (Tschannen-Moran & Johnson, 2011), using specifically focused items to gather data about self-efficacy.

Agent-Means and Agent-Ends Beliefs

With the progression of teacher-efficacy research, Wyatt (2015) argued that researchers do not differentiate explicitly between self-efficacy and outcome expectations, confusing agent-means, means-end and agent-ends beliefs in their definitions. An agent-means perspective refers to an individual's belief that he or she can carry out the actions to perform a certain task whereas a means-agent belief is that a given behavior can contribute to certain outcomes (Bandura, 1977a). An agent-ends perspective is an outcome expectation of the individual's estimation of the likely consequences of performing a task at the expected competence level (Bandura, 1986). Wyatt (2015) claimed that Tschannen-Moran et al. (1998) definition of TSE as "the capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233) reflects Bandura's (1977a) agent-means perspective, since the focus is on performance. Wyatt (2015) argued that Tschannen-Moran et al. intended their definition differently, implying it combines both agent-means and means-end perspectives. Several years after their initial study, Tschannen-Moran and Hoy (2001) adopted an agent-ends perspective in defining TSE as a belief in the ability "to deliver the desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p. 783), focusing on the outcomes rather than on the task. For instance, a mathematics teacher may believe that s/he has the confidence to teach a lesson on equations and the teaching will lead to positive learning outcomes such as a pass on an assessment. Wyatt (2014) claimed that the confusion between agent-means and agent-ends beliefs leads to "muddled" definitions (p. 118).

A more recent definition than that of Tschannen-Moran and Hoy (2001) is based on qualitative research that addresses the issue by combining an agent-means and an agent-ends perspective. TSE beliefs are teachers' "beliefs in their abilities to support learning in various task- and context-specific cognitive, metacognitive, affective and social ways" (Wyatt, 2010, p. 603). This definition considers the complexities of teaching and includes reference to both "learning outcomes and teaching methods— (i.e., allowing for the analysis of agent-means, means-ends and agent-ends beliefs)" (Wyatt, 2016, p. 9). For the purpose of this research, Tschannen-Moran et al. (1998) definition of TSE "the capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233) was used.

In summary, the birth of self-efficacy began with Rotter's social learning theory and Bandura's SCT which laid the theoretical foundation for self-efficacy. While the foundational studies (Berman et al., 1977; Gibson & Dembo, 1984; Guskey & Passaro, 1994; Tschannen-Moran et al., 1998) paved the way for a celebrated childhood, the adolescent years unleashed changes as researchers expressed concerns over conceptual, measurement and definitional issues (Tschannen-Moran et al., 1998). Researchers questioned the validity and reliability of existing measures, which sparked debate about the meaning of the two-factor structure in foundational studies.

There has also been debate over the conceptualisation of teacher efficacy, which contributes to a lack of consistency in the measurement of the construct. Questions were also raised about the extent to which teacher efficacy is specific to given contexts and the extent to which efficacy beliefs can be transferred across contexts. Additionally, the appropriate level of specificity in the measure of teacher efficacy was difficult to establish. With the heightened interest in research in the area, teacher efficacy research was categorised as approaching maturity: standing on the "verge of maturity," with a "promising and productive" future (Tschannen-Moran et al., 1998, p. 242). Since then, several researchers have offered guidance about future directions for teacher-efficacy research. To the present day, the theoretical and empirical underpinnings of teacher efficacy continue to be examined to bring coherence to the construct and its measurement.

Theoretical Models of Self-Efficacy Development

Based on Bandura's (1986, 1997) four sources of self-efficacy, educational researchers proposed theoretical models of how TSE may develop. The four sources are mastery experiences, vicarious experiences, social persuasion, and emotional/physiological states. The first source, mastery experience, has been defined as "a sense of satisfaction with one's past teaching successes" (Tschannen-Moran & Woolfolk Hoy, 2007, p. 945). Successful experiences in the classroom lead to greater feelings of self-efficacy whereas less successful experiences generally lead to lower self-efficacy. The second source, vicarious experiences, generally believed to be less influential than mastery experiences, occurs through the observation of others' success or failure. When the observer strongly associates favourably with the model, the observer's self-efficacy is increased, whereas the observer's self-efficacy is decreased when the model experiences failure. Thus, by seeing the achievements of others, teachers can increase their self-efficacy (Bandura, 1998). The third factor, verbal persuasion, generally considered the weakest source of self-efficacy beliefs, is the positive reinforcement that teachers receive from credible sources such as mentors or heads of department. Positive statements from others may lead to increased self-efficacy, although failure to achieve a specific target may lessen these effects. The fourth factor, emotional/physiological arousal, is the teacher's experience of emotional stimulation during instruction. The physical or emotional state in which someone contemplates action provides indications as to the possibility of success or failure. Factors such as stress, anxiety, worry and fear adversely affect self-efficacy and can contribute to a self-fulfilling prophecy to manage tasks (Pajares, 2002). Increased feelings of well-being like joy, pleasure, or satisfaction may typically result in increased self-efficacy, and negative psychological responses like stress, anxiety or worry may lead to decreased self-efficacy (Bandura, 1998).

Firmly rooted in Bandura's self-efficacy construct, Tschannen-Moran et al. (1998) proposed an integrated model based on a circular process through which efficacy beliefs are formed, assessed, and used, leading to new beliefs. Tschannen-Moran et al. (1998) argued:

> Greater efficacy leads to greater effort and persistence, which leads to better performance, which in turn leads to greater efficacy. The reverse is also true. Lower efficacy leads to less effort and giving up easily, which leads to poorer teaching outcomes, which then produce decreased efficacy. (p. 226)

According to the model, teachers with HSE may continue to increase their self-efficacy through enhanced motivation, commitment, persistence, and other positive qualities, which then influence teacher performance, serving as new sources of self-efficacy and the cycle continues (Tschannen-Moran et al., 1998). Alternatively, teachers with LSE may continue to experience a decrease in their self-efficacy through repeated failures damaging their self-efficacy beliefs in the long-term. Considering Tschannen-Moran et al.'s (1998) definition of teacher efficacy as the "capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233), this means that in making efficacy judgements, teachers must ascertain what they will need in the expected teaching situation (i.e., teaching task and context). This analysis generates inferences about the task's complexity and what an individual will need to be competent in this context (Tschannen-Moran et al., 1998). Contextual considerations include guidance from leadership, the school environment, and the involvement of other staff. Tschannen-Moran et al. claimed that the collaboration of task and context leads to judgements about self-efficacy for the teaching task at hand. The subsequent evaluation of the ability to plan and execute the actions required to achieve the desired outcome is the individual's teaching efficacy. This belief is associated with the goals, effort, and persistence that teachers employ—which then influences their performance (Tschannen-Moran et al., 1998). While these four sources play a role in establishing efficacy beliefs, the interpretation of the information is key:

> Cognitive processing determines how the sources of information will be weighed and how they will influence the analysis of the teaching task and the assessment of personal teaching competence. The interaction of task analysis and competence, in turn, shapes teacher efficacy. (Tschannen-Moran et al., 1998, p. 230)

Contrary to the integrated model, Wyatt (2016) proposed an alternative model claiming that a certain amount of doubt about "very specific aspects of a teacher's work…can be highly beneficial for various reasons" (p. 120). In that light, Wyatt (2016) distinguished between task-specific self-efficacy and global self-efficacy. Wyatt (2016) claimed that TSE beliefs could lead to more global self-efficacy and, although it is necessary to have high global self-efficacy as beliefs reflect more generalised confidence, some doubt about task-specific self-efficacy beliefs may lead to positive behaviour. As a result, Wyatt (2016) theorised how TSE beliefs could develop. Fundamental to Wyatt's (2016) model is the reflective process and its relation to practical knowledge of teachers similar to Southerland et al.'s (2011) idea of pedagogical discontentment (being critical of one's practice and having as openness to reform). Pajares (2002) also argued that "through reflection, people make sense of their experiences, explore their own cognitions and self-beliefs, engage in self-evaluation, [and begin the processes which] alter their thinking and behaviour accordingly" (para. 2). However, reflection is complex and involves observing, listening, assessing, problem solving, making assumptions, and articulating evidence-based claims.

Although Wyatt (2016) retained Bandura's (1997) four sources of self-efficacy beliefs, the terminology was altered. Mastery experience shifted to teachers' knowledge, beliefs changed to "concrete experience" to focus on teachers' reflection and learning from negative experiences; verbal persuasion became "interactive experience" to focus on verbal interactions in which teachers often engage, which are viewed as a means of reflection. Finally, vicarious experience was transformed into "vicarious and interactive experience" which involves the drawing of professional research knowledge (Wyatt, 2016, pp. 10–11). Wyatt's (2016) model seems more complex than the integrated model, and this complexity allows for more convincing analysis, particularly when using data-rich qualitative

measures (Karas, 2019). The two models are useful lenses to consider TSE beliefs as they show the divide between quantitatively and qualitatively orientated researchers (Karas, 2019). For the purpose of the current study, it is important to consider global self-efficacy scores when comparisons are made between high, medium and low self-efficacy teachers as well as looking at task-specific self-efficacy scores as the data is likely to suggest where teachers may need specific PLD to support ELLs' teaching of content and language.

Teacher Efficacy and Associated Beliefs, Behaviour and Teaching Practices

Quantitative studies have been consistent in showing the favourable influence of teacher efficacy on student achievement and motivation (Gibson & Dembo, 1984), teachers' use of innovation (Ghaith & Yaghi, 1997; Guskey, 1988), dedication to teaching (Coladarci, 1992), and teachers' classroom management and instructional strategies (Chacón, 2005). Gibson and Dembo's (1984) analysis of TSE found significant variations between teachers with HSE and teachers with LSE. High self-efficacy teachers persevered with low-achieving students, made better use of time, criticised incorrect student responses less and were more effective in supporting students through questioning skills. Alternatively, LSE teachers spent more time in non-academic activities and made use of less-effective methods and strategies. Coladarci (1992) found that both personal teaching efficacy (relates to a teacher's own feeling of confidence regarding their teaching abilities) and general teaching efficacy (relates to a teacher's general belief that one can influence learning in the classroom) were two of the strongest indicators of commitment to teaching. The results implied that teachers who become more efficacious in their capabilities to influence student achievement and take moral responsibility appeared to be more dedicated to instruction. Furthermore, high teaching-efficacy beliefs showed increased effort, persistence, resilience, enthusiasm, and behaviours conducive to overcoming barriers to ensuring positive learning outcomes (Ashton & Webb, 1986; Cantrell & Callaway, 2008; Chacón, 2005; Cousins & Walker, 2000; Gibson & Dembo, 1984; Hines, 2008). As TSE increased, their performance improved, which further enhanced self-efficacy.

Alternatively, teachers that showed LSE beliefs have been observed to reflect the perception that they have little influence to make a real difference and that time constraints limit their use of instructional strategies; and they seem the least receptive to innovation and change (Cantrell & Callaway, 2008). They are more likely to use traditional approaches such as textbook reading, which may be a contributory factor to their reported feelings of minimal influence over student achievement (Cho & Shim, 2013). They also tend to give up more easily, and blame external circumstances (i.e., external locus of control) such as a lack of resources, absence of parental involvement, or the socioeconomic status of students (Ashton & Webb, 1986; Bandura, 1997).

The influence of teacher efficacy on teachers' pedagogical decisions was demonstrated in a study conducted in the UK. Glackin (2013) investigated the influence of a 2-year outdoor science professional development (PD) programme on science teachers' beliefs and on the efficacy of their pedagogical practices outside the classroom. Data collection included interviews, lesson observations and session evaluations of six case study teachers who completed and implemented practices from the PD programme (Glackin, 2013). Teacher efficacy, including high, low, and moderate efficacy, appeared to influence teachers' pedagogical decisions across a variety of levels. Where HSE was established, characteristics included persistence to trial and modify practices; LSE tended to impede efforts, resulting in teachers giving up before any significant work was completed to show improvement. Moreover, teachers with HSE were more open to a broad array of curriculum approaches than teachers considered to have conventional teaching approaches and moderate to LSE (Glackin, 2013); they trialled fewer activities. Higher efficacy teachers used more teaching methods and lesson strategies from the curriculum, providing more opportunities to share their expertise with their departments and wider school staff. However, all teachers indicated trialling approaches and strategies was essential for change to occur (Glackin, 2013).

In another study reinforcing the relationship between teacher efficacy and teacher behaviour, Chacón (2005) explored the relationship between teacher efficacy and English as a foreign language (EFL) proficiency in selected schools in Venezuela. The sample consisted of 100 middle school

secondary EFL teachers who completed the English Teachers' Sense of Efficacy Scale. Summed scores of the items, measuring efficacy for engagement, management, and instructional strategies, were used to select interviewees who scored the highest and lowest in the three efficacy subscales (Chacón, 2005). The findings showed that the more proficient the participants judged themselves, personally, to perform across the four skills (i.e., speaking, listening, reading, and writing) the higher their self-efficacy. In other words, the higher the perceived efficacy in EFL teaching skill, the higher their self-efficacy to encourage learners, to engage learners to communicate in English and to develop instructional strategies. Consequently, a lack of competence in EFL lowered teacher efficacy and resulted in less effort to encourage students to learn English (Chacón, 2005).

While teachers with HSE and LSE beliefs may demonstrate important differences, these teachers may also demonstrate similarities in their responses of efficacy beliefs. In a U.S. study concerning the teacher-efficacy beliefs for content-literacy instruction, Cantrell, and Callaway (2008) observed and interviewed 16 teachers to explain the similarities and differences between high and low implementers over a year-long PD course.

The similarities illustrated that both high-level and low-level iimplementers' beliefs were characterised by perceptions of barriers to use content-literacy strategies. Both groups indicated that the environment such as students' home and family background were important influences in developing students' literacy and learning. Teachers indicated the benefits of students whose parents have strong aspirations for them as well as expressing concerns about those students with limited parental support. They also perceived motivation and attitudes as essential influences on student learning (Cantrell & Callaway, 2008). The differences demonstrated that high-level implementers were characterised by persistence and determination that allowed them to overcome difficulties and achieve some degree of success with the strategies, while low-level implementers reported the perception that teachers had little influence to make a meaningful difference on students' literacy learning if parents were not actively engaged, encouraged and supportive (Cantrell & Callaway, 2008). They also considered content-literacy practices to be additional work within an already full curriculum. Often, low-level

implementers were not able to see how content-literacy strategies were applied to their subject areas (Cantrell & Callaway, 2008).

While high levels of teacher efficacy have been correlated with positive learning and teaching results, a minority of studies have indicated that there are related benefits regarding low levels of self-efficacy (Wheatley, 2002). Having doubts regarding one's ability to teach effectively may contribute to the possibility that self-reflection is likely to occur, which can increase the desire to improve. Moreover, as teachers' perceptions of themselves and their current behaviours are questioned, they become more inclined to change their thinking, behaviour, and pedagogical practices. Generally, however, researchers agree that HSE is better than LSE.

Teacher Preparedness in NZ

Teacher preparedness in a NZ context is considered since this is an important influence on how inservice teachers manage content and language teaching for ELLs. Graduates with a completed university subject qualification, at least at undergraduate level, may choose secondary teaching as a profession. Prospective teachers enrol in a 1-year initial teacher education (ITE) programme. The aim of the 1-year ITE programme is to develop prospective teachers' pedagogical content knowledge through a combination of lectures, tutorials, workshops, and seminars as well as professional experience, also known as practicum. Shulman (1987) described pedagogical content knowledge as "the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented and adapted to the diverse interests and abilities of learners, and presented for instruction" (p. 8). For example, prospective teachers learn about the NZC, acquire fundamental te reo Māori skills and learn how to teach specific subjects (e.g., history, mathematics, English, science, or arts). For the practicum component, students visit schools twice a year for approximately 7–8 weeks which allows them to learn and develop their expertise, to help them appreciate the connection between theory and practice and to gain experience in authentic learning environment. The New Zealand Teachers Council (2007), the body responsible for the initial training

and registration of teachers in NZ, has published a list of seven Graduating Teacher Standards[8] now called the Standards for the Teaching Profession which are framed as performance and approval benchmarks; they are descriptive in that they explain what teachers at the graduation stage will know, understand and be able to do; and prescriptive as the basis for the Council's approval of ITE programmes. Standard One (Graduating teachers know what to teach) states that graduating teachers must "have content and pedagogical content knowledge for supporting English as an Additional Language (EAL) learners to succeed in the curriculum" (New Zealand Teachers Council, 2007, para. 1). Furthermore, the ITE Programme Approval, Monitoring and Review Requirements (Unpacking the Standards) states that:

> Inclusive practices and universal design for learning should extend to all children and young people, including those with a range of different abilities. All student teachers need to be able to teach in inclusive ways, as all children have the right to access equitable educational opportunities. Teachers should be equipped to respond appropriately to all children's needs. These can be many and varied, and often not yet diagnosed. Student teachers will, therefore, need to recognise differences, know how to respond appropriately, and how to access support for the learner. In order to do this, initial teacher education graduates need to have the necessary pedagogical knowledge to identify, understand and manage the increasing diversity and complexity of students' learning needs. (Teaching Council of Aotearoa New Zealand, 2019, p. 17)

The standards clearly expect teachers to acquire the necessary pedagogical content knowledge in their ITE programmes to enable them to work and support ELLs' learning needs with some degree of confidence. The New Zealand Teachers Council established a graduate profile for ITE that specifically connects the standards and the graduate profile, stating that it requires all teacher education

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[8] https://teachingcouncil.nz/content/graduating-teacher-standards-poster-english-pdf-616kb

providers to align their profiles with the Graduating Teacher Criteria. However, a review of the standards showed that there was insufficient consideration given to diverse students:

> When it comes to diversity, the standards are patchy. The Treaty of Waitangi features prominently in the preface ("These standards recognise that the Treaty of Waitangi extends equal status and rights to Māori and Pakeha alike"), and English as an Additional Language (EAL) learners get a mention, but for the most part the standards refer generically to "learners." "Diverse learners" appears only twice, in relation to metacognition and promoting a learning culture; "all learners" appears only once. (Aitken et al., 2013, p. 16)

According to the authors, the standards do not mention diversity much. This creates a gap between the specification of what teachers need to know and the reality of the needs of the students in front of them.

After graduating from the ITE programme, the teacher becomes provisionally certificated. NZ has a 2-year induction programme for all secondary provisionally certified teachers once they begin teaching: they receive 20% release time in the first year and 10% in the second year to facilitate their professional learning (PL). PL comprises mentoring (i.e., typically provided within subject departments, with additional assistance from other teachers responsible for providing general pedagogical guidance), PLD opportunities and formative and summative evaluations of professional practice (New Zealand Teachers Council, 2011).

To investigate how well-trained beginning NZ primary teachers are to meet the needs of ELLs, Edwards and Easto (2013) surveyed provisionally registered teachers to examine whether their ITE programme properly equipped them to teach ELLs. Teachers were asked if the programme prepared them with knowledge of SLA, and appropriate resources and strategies to teach ELLs. The data showed that the provisionally registered teachers felt underprepared to meet the needs of the ELLs as confirmed by teachers' comments: "extremely under-prepared," "I was/am really disappointed by the lack of information we were provided with," and "English Languages Learners was a topic covered only briefly" (p. 9). Although the sample size was small and limited to a selection of primary

school teachers from one NZ institution, clear patterns emerged concerning preparedness to teach ELLs.

Consistent reports of teachers receiving limited training to teach ELLs are common in countries like the US (H. Berg et al., 2012; Gándara & Santibañez, 2016; Reeves 2006; Téllez & Manthey, 2015; Walker et al., 2004). Reeves's (2006) study showed that 90% of the 279 secondary school subject teachers surveyed had received no preparation from their teacher training education to work with ELLs. Only 17 secondary subject teachers reported receiving training from college course work, inservice workshops, and seminars. Similarly, Durgunoglu and Hughes's (2010) U.S. study found that while preservice teachers had just completed teacher education as well as diversity training, preservice teachers held negative views about their preparedness to teach ELLs. Observations in the classroom showed that preservice teachers dismissed the ELLs in their classes and made very little effort to communicate with them. Teachers regarded non-participation of ELLs as cultural and did not allow them the opportunity to participate in learning (Durgunoglu & Hughes, 2010). While subject teachers generally feel unprepared to teach ELLs, their sense of instructional self-efficacy may not necessarily be consistent across subjects such as English, science, social studies, and mathematics (Bandura, 1997). Gleeson's (2010) NZ study found that teachers' responses to language teaching appeared to be influenced by their beliefs about their subjects and pedagogical content knowledge. They failed to distinguish between language and literacy instruction, and generally believed language to be vocabulary; suggesting that many language challenges ELLs face may be invisible to teachers (Gleeson, 2010). Rubinstein-Avila and Leckie (2014) believed that subject teachers may find it overwhelming to place language at the core of content instruction. For example, teachers who may judge themselves as highly efficacious implementing social studies or mathematics instruction may be less efficacious implementing language instruction in their subject. However, many subject teachers believe it is not their responsibility to teach content and language although it is clear that "language is the primary medium through which any discipline is negotiated, constructed, and learned" (Borgioli, 2008, p. 189).

Professional Learning and Development Opportunities in NZ

PLD is examined in a NZ context to understand the nature of PLD offered to support mainstream teachers to work with ELLs. In NZ, there are PLD opportunities intended to support teachers to improve the effectiveness of their teaching practices in specialised areas such as how to meet the needs of ELLs or students with learning support needs. PLD to support ELLs can take many forms such as whole-school approaches by senior leadership teams, teachers with specialised expertise such as head of department (ESOL), department-led PLD, courses and programmes offered by external facilitators, cluster group meetings, and Teachers of English to Speakers of Other Languages Aotearoa New Zealand seminars, workshops, and conferences. In recent years, school-reform PLD initiatives have changed from an emphasis on small-scale PLD to an increased emphasis on large-scale, whole-school reform. Research shows that, if there is a clear whole-school strategy, including a common pedagogical goal, teachers are more likely to be motivated to acquire the requisite pedagogical skills to function effectively with students (Haworth, 2009).

For example, Alton-Lee's (2003) synthesis on effective teaching for diverse students, relates a "whole school alignment" to quality teaching for diverse students by improved collaboration among staff.

> Quality teaching is optimised when there is whole school alignment … Whole school alignment can enhance the focus on achievement, optimise inclusion (rather than exclusion) across the daily experiences of diverse students, and increase opportunity to learn … Whole school alignment can optimise collaboration and provide processes to support, resource and sustain quality teaching. (p. 91)

To find out how ESOL support was led and managed as a whole-school approach, McGee et al. (2014) conducted an exploratory inquiry of two NZ primary schools situated in high- and low-socioeconomic areas. Semi-structured interviews were conducted with the principal, the ESOL lead teacher, teachers in senior leadership positions, ESOL learning assistants, and classroom teachers. The two schools under inquiry showed that their whole-school PLD initiatives depended upon their ELLs'

needs. School 1 reported that their ELLs did not have high educational needs and teachers had the notion that short-term international students were in NZ schools for the experience. In contrast, families of ELLs from School 2 were permanent residents and the ELLs' long-term educational needs were perceived as more visible (McGee et al., 2014). The whole-school approach did not serve ELLs and their teachers equally in both settings owing to the different needs of ELLs. Because the needs of ELLs were more visible in School 2, providing a professional learning focus for ESOL teaching was clear in School 2—the focus was recognised through teaching, planning, communication and PLD (McGee et al., 2014). Teachers in leadership roles with ESOL experts were role models in School 2. For example, the principal was making contact and building relationships with families and the ESOL teacher was sharing cultural knowledge regarding ELLs with the wider staff. Leadership teams played an important role in empowering teachers by putting several systems and structures in place such as assessment, planning, resources, collaborative structures, and time for professional learning, but they also experienced challenges like the marginalisation of ESOL seen in some schools (McGee et al., 2014).

Other approaches that may afford opportunities to teachers include collaboration between ESOL and subject teachers. However, collaboration between ESOL and subject teachers may position ESOL teachers in a supportive role rather than one of working together. In a NZ study, while one subject-initiated arrangement showed a teacher reported working closely with an ESOL teacher to find ways to integrate content and language teaching and saw the value of receiving extra linguistic input with the support of a specialist teacher, other teachers saw working together as creating tension between the ESOL teachers and subject teachers (Gleeson, 2010). Gleeson's (2010) study also showed that in many cases, there was a lack of communication between ESOL teachers and subject teachers regarding ELLs' English proficiency levels and needs and somehow subject teachers felt that they could work independently of the ESOL teachers.

As mentioned in Chapter 1, the Ministry of Education has set up a range of resources and offers incentives to encourage subject teachers to enrol in tertiary programmes such as the

GradDipTESSOL to learn how to teach content and language. Researchers in NZ were interested to find out the influence of the GradDipTESSOL programme on the teaching practices of seven secondary subject teachers (Feryok & Barkhuizen, 2008). Data collection included interviews and classroom observations with seven secondary teachers from four different subject areas who had completed the programme. Interview data showed the programme influenced teacher cognitions and practices. The teachers believed they had learned new teaching methods that enabled them to meet ELLs' language needs by improving teacher language, specifically concentrating on teaching vocabulary, and creating learning opportunities. Examples of teaching and instructional methods to promote vocabulary learning included offering vocabulary cloze exercises; presenting vocabulary descriptions, examples, and synonyms; recapturing vocabulary from previous lessons and during the day's lesson; and recommending mnemonic devices to recall vocabulary (Feryok & Barkhuizen, 2008). Teachers increased the use of scaffolding strategies and created opportunities for engaging ELLs using group learning, peer instruction, and collaborative tasks. Overall findings showed that the content of the programme helped teachers evaluate and rethink their teaching activities aimed at language needs (Feryok & Barkhuizen, 2008).

Of interest was that teachers developed beliefs and acquired practices from outside their field of expertise from extensive exposure to a professional language teaching and learning discourse community (Feryok & Barkhuizen, 2008). Although this study was limited to seven participants with one classroom observation, it showed the influence of such a programme on teacher cognition and teaching practices. It also showed how teacher cognitions and practices are capable of change even across different discourse communities of content and language teaching (Feryok & Barkhuizen, 2008).

In a similar study, Gray (2009) examined how a pair of secondary subject teachers in NZ used the theoretical input they got from the content of the GradDipTESSOL programme to plan and implement lessons with a focus on content and language. She set up an action research project with teachers from the social studies learning area (Gray, 2009). The data collection methods were a focus

group over 2 days, document analysis and a 1-hour interview. The examination of the secondary content teachers' uptake of some of the theoretical input introduced in the TESSOL programme had three implications for the programme, as suggested by Gray (2009). Firstly, while Gray noticed that teachers collaborated to prepare task-based lessons and incorporate a variety of strategies such as oral communication that facilitated clear language learning for their ELLs, teachers found it difficult to include language goals considering the time pressures to complete secondary school assessments. Secondly, the study also demonstrated the need for further theoretical input beyond what they acquired concerning SLA and linguistics (Gray, 2009). Thirdly, the study determined that teachers should analyse lesson preparation not just from the existing literature and research, but also from their own experience and the school context in which they prepare (Gray, 2009). This research demonstrated how teachers collaborated to bring theory into practice and addressed their own needs as well as meeting students' needs (Gray, 2009).

Similar initiatives in the US like scholarships have enabled teachers to take graduate classes designed to support graduate-level training related to school programmes. The purpose of the coursework tailored to Balderas Elementary School in Fresno, California, and its students, included developing a custom student language programme and learning how to teach ELLs (Téllez & Waxman, 2005). In NZ, further to undergraduate programmes like the GradDipTESSOL, there are postgraduate programmes such as the Master of Teaching English to Speakers of Other Languages. While consistent reports show that teachers receive limited training to teach ELLs, there are PLD opportunities for subject teachers to engage in specialized PLD for ELLs. However, subject teachers do not take up these opportunities due to time constraints and work overload. There are no mandatory programmes or course work to support content and language teaching of ELLs.

Professional Learning and Development and Self-Efficacy

Empirical studies suggest that PLD designed to provide teachers with opportunities to enhance their self-efficacy beliefs using Bandura's (1997) four sources of self-efficacy beliefs (i.e., mastery

experiences, vicarious experiences, social persuasion, and emotional/physiological states) greatly increases confidence.

Tschannen-Moran and McMaster (2009) undertook a quasi-experimental quantitative design to examine the effectiveness of the sources of self-efficacy for 93 primary teachers in nine U.S. schools. The teachers reported on the implementation of a new reading strategy encountered during the PLD. The PLD consisted of Treatment 1 (information), a 3-hour reading strategies workshop. Treatment 2 (information and modelling) added a vicarious modelling experience. Treatment 3 (information, training, and exercise) provided an hour-and-a-half practice experience. Treatment 4 (information, training, work, and coaching) brought greater mastery experience with coaching included (Tschannen-Moran & McMaster, 2009). Findings showed that the PLD treatments, which facilitated mastery experiences through follow-up coaching, had the most influence on self-efficacy both in teaching reading and implementing the new reading strategy. Most teachers participating in formats that included a demonstration and planning practice session, but with no follow-up coaching, observed a decrease in their reading instruction self-efficacy (Tschannen-Moran & McMaster, 2009).

Using other formats such as online PLD courses integrating the sources of efficacy beliefs into the online programme yielded positive results. Yoo (2016) examined the influence of the sources of efficacy on teacher perceptions in an online PD learning experience using the teachers' efficacy scale (Tschannen-Moran & Hoy, 2001) before and after the study. The online programme comprised a 5-week online learning module. For mastery experiences, participants were involved in applying motivational theories and instructional strategies in their classrooms through various learning media. For vicarious experiences, participants observed their colleagues and exemplary models of teaching in the classrooms. For social persuasion, participants were given feedback and encouragement; and for physiological and affective states, participants were coached to make abstract and big ideas into more concrete chunks. The results showed that gaining new knowledge using the four sources of efficacy-shaping beliefs was positively related to teacher efficacy (Yoo, 2016).

Longitudinal research conducted in NZ sought to investigate shifts in student teacher-efficacy beliefs to teach priority learners over a 1-year postgraduate Master of Teaching and Learning programme (Hansen et al., 2017). The study comprised 23 student teachers participating in a pilot initial teacher education programme specifically designed to improve student teacher skills to teach priority learners (ESOL students, students with low socioeconomic status, and Māori learners). With the completion of a self-efficacy scale at the beginning of the programme and then at the end, findings showed that student teacher-efficacy expectations for teaching priority learners improved significantly. Specifically, the results showed that their reported efficacy beliefs for adopting approaches to teach ESOL students, students with low socioeconomic status, and Māori learners had increased dramatically (Hansen et al., 2017). In the two partner schools, where students worked with priority learners to incorporate their university learning about cultural identity and culturally sensitive pedagogies, mastery experiences were sustained through close interactions between mentor teachers, and university supervisors offering ample opportunities for enactive and vicarious mastery of skills through exceptional mentoring and close monitoring to incorporate high-leverage pedagogies and social persuasion. The programme stressed nurturing relationships, ongoing professional support, and offering stress-management resources to help develop teacher resilience to dynamic teaching demands (Hansen et al., 2017).

In comparison to studies that included opportunities for modelling and mastery experiences in the courses, Siwatu's (2011) U.S. study reported that preservice teachers identified missed opportunities to engage in experiences that potentially shape self-efficacy (e.g., to observe and practise culturally responsive teaching). The rationale, the authors clarified, was that their teacher education research was restricted to discussion of culturally responsive instruction, rather than the actual practice of the skills needed to implement the awareness (Siwatu, 2011). Teacher efficacy is more likely to increase by developing practical professional learning activities that include modelling and opportunities to observe (Bandura, 1986, 2006). According to A. W. Hoy (2000), it is easier to change preservice TSE beliefs, whereas inservice TSE are more challenging to change because TSE beliefs

are relatively stable over time. Consequently, the first years of teaching could be critical for the long-term development of teacher efficacy (A. W. Hoy, 2000).

Content-Based Instruction Framework

This section of the chapter provides a conceptual framework for the qualitative analyses in the current study through a review of the relevant literature on effective CB instructional strategies. Firstly, the theoretical concepts of SLA are discussed, followed by the models that integrate content and language teaching. Then, a literature-driven summary of the CB instructional strategies that provide effective support for the content and language development skills of ELLs are discussed.

CBI refers to "an approach to second language teaching in which teaching is organized around the content or information that students will acquire, rather than around a linguistic or other type of syllabus" (Richards & Rodgers, 2001, p. 204). In other words, CBI is an approach designed to provide second-language learners instruction in content and language. The work of Mohan (1986) in the 1980's was the first appearance of what we know today as CBI. His approach calls for the integration of content and language and recognises the subject class as an environment for communicative language learning as language is used to access content in an authentic and meaningful way.

Second Language Acquisition Theories

CBI are supported by the theories of SLA. Three well-known theories are explored – BICS/CALP, Input/output hypothesis and interaction and Linguistic interdependence hypothesis offer insights into understanding how language is acquired in the classroom.

Understanding the Importance of BICS/CALP

In his early works, Cummins (1981) presented one of the first paradigms for conceptualising the two distinctive categories of language proficiency which he classified as BICS (social conversational language and CALP (academic language). BICS is a second-language learner's social, everyday conversational language, whereas CALP is the more technical language used in academic subject areas. The latter requires the ability to engage in productive discussions, to critically evaluate, to

make connections to real life, to use advanced vocabulary and to use more complex sentences and grammatical structures to create meaning. Researchers offer various interpretations of academic language owing to its complexity. From a linguistic perspective, Sato (2011) defined academic language as, "the language (e.g., lexicon, grammar, discourse features, and functions) that students need to access, meaningfully engage with, and achieve rigorous academic content as they prepare for college and careers" (p. 6). Similarly, Bailey (2007) defined academic language as "knowing and being able to use general and content-specific vocabulary, as well as specialized or complex grammatical structures—all for the purpose of acquiring new knowledge and skills, interacting about a topic, or imparting information to others" (p. 42). Others, like Goldenberg (2008), explained that academic language is "a term that refers to more abstract, complex and challenging language that will eventually permit you to participate successfully in mainstream classroom instruction" (p. 2). Most researchers described academic language in relation to linguistic elements across a range of subject areas. However, in contrast to academic language as a linguistic register, Gee (1992) stated that academic language is more than words, conventions, and genres. It requires knowledge of ways of being in the world and ways of thinking connected to specific identities and social roles. In other words, language must be understood in relation to the speaker, the purpose of communication, and the audience (Gottlieb & Ernst-Slavit, 2014). While researchers debate on the understandings of academic language, it is clear that ELLs' need explicit and direct instruction, often through scaffolding, to acquire the academic language needed to access content in different subjects (Deussen et al., 2008).

Although Cummins's work was foundational in raising awareness of the differences between BICS and CALP, it was criticised for creating a dichotomy between them. The initial BICS/CALP distinction was explained as two intersecting continua (Cummins, 1981) that emphasised the range of cognitive demands and contextual support involved in particular language tasks (context embedded/context reduced, cognitively undemanding/cognitively demanding). In this model, language tasks can be classified as context-reduced or context embedded, and tasks may be presented through language as cognitively demanding or undemanding. For context embedded language tasks, support

for meaning becomes readily accessible through the immediate communicative environment, whether by background knowledge or by visual or other contextual clues. Context-reduced exercises, on the other hand, give no accessible contextual support for the learner to infer meaning from the immediate communicative environment. The internal and external dimensions of the context were differentiated to illustrate that the context consists of both what we bring to the task (e.g., our previous experience, interests and motivation) and the range of resources that can be integrated into the task itself (e.g., graphical support such as graphic organisers). Cummins (1981) distinguished between cognitively undemanding communication which has minimal abstract or critical thinking, like social conversations in the playground, and cognitively demanding communication which requires a learner to analyse and synthesise information and contains abstract or specialised concepts, like academic subjects such as social studies or science. The challenge with this model is that what is context embedded and cognitively undemanding for one learner can be quite different for another learner. However, without knowledge of BICS and CALP, it may be difficult for a teacher to know where their learners are at regarding their understanding of academic language.

Researchers like Hakuta et al. (2000) agree with Cummins that academic language takes longer to develop. Hakuta et al. analysed the evidence from four separate schools, two in the San Francisco Bay Area and two in Canada, to address the amount of time needed to develop academic language skills. Acknowledging the complexities of acquiring academic language proficiency, standardised tests were used to measure proficiency. The data analysis found that although the Californian schools implemented successful programmes for ELLs, it still takes about 3–5 years to acquire basic English skills and 4–7 years to achieve academic English proficiency. The Canadian school districts showed similar findings (Hakuta et al., 2000). This means that despite effective programmes to develop ELLs' academic language skills, learning English as a second language still comes with its challenges. Teachers may not understand the process involved in ELLs acquiring English as a second language. The implications for the teacher may mean that s/he does not explicitly

focus on teaching academic language as s/he believes that ELLs had sufficient opportunities to develop academic skills in the past year or two.

Input/ Output Hypothesis and Interaction

The input hypothesis proposes that language is acquired in "only one way," that is, by "understanding" messages, or by receiving "comprehensible input" (Krashen, 1985, p. 2). Since the input hypothesis relates to acquisition, not learning, the input hypothesis makes the following claim: "a necessary (but not sufficient) condition to move from stage *i* to stage *i + 1* is that the acquirer understand input that contains *i + 1,* where 'understand' means that the acquirer is focussed on the meaning and not the form of the message" (Krashen, 1982, p. 21). It is described as one level above that of learners if it can only just be understood. According to Krashen's (1985) SLA theory, such input allows ELLs to acquire language naturally in an authentic environment rather than to learn it intentionally. Comprehensible input is language input that can be understood by learners even if the words and meanings therein are not completely known.

Krashen's comprehensible input hypothesis theory has been met with criticism for being overly simplistic, vague, and ambiguous. McLaughlin (1987) conceded that Krashen did not define "comprehensible input" precisely thereby resulting in an unverified hypothesis. The ambiguity is expressed mainly in what the interpretation of *i+1* means and what "comprehensible input" implies. Krashen does not give an exact definition and as a result there are somewhat different interpretations of the concept. According to the definition of "comprehensible input," Krashen (1985) refers to *i* as "our current level of competence" and *i+1* as "the next level along the natural order" (p. 2). However, Krashen limits competence to grammar alone and fails to give the specifics of grammar such as syntactics (White, 1987).

In contrast to the input theory lies the output theory proposed by Swain (1985). The output theory proposes that SLA is more likely to occur through language production (written or spoken). Swain claimed that learners recognise what they know and what they do not know during the language production stages. For example, a learner may want to communicate a message, but his/her linguistic

ability does not allow this. What one conveys and what one wants to convey in the message is referred to as the "gap" by Swain. It would be in recognising the gap that ELLs are prompted to change their output to learn something new about the target language. Supporting the output hypothesis theory, Sharpe (2008) examined the impact of oral language on student learning. The author studied the first 17 history lessons of the year to investigate how the teacher's talk created a scaffold into academic language for high school boys in their first year. Using systemic functional linguists' tools to evaluate transcripts from several lessons, she identified several teacher oral strategies including repetition, decontextualisation, questioning, and clarification that resulted in increased use of academic language. Sharpe concluded that, by using such oral strategies, the teacher encouraged her students to use the correct academic language. Work such as Sharpe's and earlier work on comprehensibility and engagement has shown a closer relationship between language acquisition studies and teaching practice.

Where Krashen (1982) saw input as highly important for language learning, Swain (1985) considered output; where the latter believed that language development is of utmost importance, the former saw it as unnecessary, as something that should not be forced, because it will inevitably occur after a certain amount of comprehensible input.

Contrary to these claims, the interactionist theorists believe that input and output should complement each other in order to acquire the target language. A theoretical account of the interaction hypothesis theory provides an understanding of the importance of comprehensible input and the role of interactions in the language-learning process. Long's (1981) interaction hypothesis progressed from Hatch's (1978) work on the importance of language-related communication and from Krashen's (1985) claim that comprehensible input is a necessary requirement for SLA. In the context of the interaction hypothesis, the interconnectedness between comprehensible input and output are seen as constructs within an environment that facilitates interactions and communication (Long, 1989). Analysing the input and output of a learner, is likely to determine their language proficiency. The value of interaction as the cause of language learning is confirmed by a study conducted by Pica et al. (1987),

which proved to some extent that Krashen's comprehensible input was less successful than interaction, suggesting both input and output are effective in acquiring the target language. The authors documented the influence of interaction on learners' ability to improve linguistic output. Under two separate experimental conditions, 16 adult non-native speakers (NNS) from different language backgrounds were compared following oral directions given by the native speakers (NS). For one example, the NS read a condensed script and repeated instructions as required but did not interact with the NNS performing the task. In the other, the NNS was encouraged to ask questions and ask for an explanation, if needed, from the NS who read the unmodified text. Allowing NNS time to process information was deemed more important than merely changing input to make it clearer. The results of the research were that teachers had to provide incentives for interaction and that repetition and explanations were also necessary (Pica et al., 1987). Evidently, teachers need to know how to make language comprehensible, provide incentives for ELLs' to speak with NS and NNS in the classroom setting.

Linguistic Interdependence Hypothesis

Cummins' (1979, 2005) linguistic interdependence hypothesis, also referred to as the "dual iceberg" metaphor demonstrates that "although the surface aspects (e.g., pronunciation fluency) of different languages are clearly separate, there is a common underlying proficiency (CUP) that is shared across languages" (Cummins, 2005, p. 3) depending on students' previous educational experiences. The idea of the CUP is contrary to earlier research that suggested concepts learnt in a different language were stored separately in the brain—separate underlying proficiency—or that to acquire literacy in a heritage language, the first (L1) and second (L2) languages had to be taught independently of each other (C. Baker, 2006). It can be seen that the CUP provides the foundation for the development of both the L1 and the L2. Cummins believes that, in the process of learning one language, a child acquires a set of skills and implicit metalinguistic knowledge that can be used when learning another language. In other words, that there is one central processing "think tank" in the brain that allows cross-linguistic transfer to occur between L1 and L2 (Cummins, 2008). It follows that as

students are able to utilise their language resources by accessing their CUP in both L1 and L2, their academic learning can progress at the same rate, rather than sequentially, as is historically deemed the most acceptable response to bilingual education (Garcia, 2009).

Models for Integrating Content-Based Instruction

Examining the models for content and language teaching gives us an understanding of the common principles that underpin CBI. Several models for integrating content and language teaching have been adopted internationally, with the European models of content and language integrated learning applied less consistently owing to educational variations across Europe (Coyle, 2007). Conversely, three well-documented interventions to promote the integration of content and language teaching have been employed extensively in nearly 50 states across the US over 10 years: Sheltered Instruction Observation Protocol, Quality Teaching for English Learners and World-Class Instructional Design and Assessment. Sheltered Instruction Observation Protocol was a 7-year initiative by the Center for Research on Education, Diversity and Excellence and sponsored by the US Department of Education (Echevarría et al., 2013). The model addresses both macro-and micro-scaffolding, which focuses teachers on specific practices that can be integrated into their teaching plans to support language learning in their subject areas. Such practices include clear language goals, a slower pace, links with students' background experiences, providing comprehensible language input and facilitating interaction and engagement with others.

Quality Teaching for English Learners, created by WestEd, is an approach that intends to improve teaching at the secondary school level for ELLs (Walqui & van Lier, 2010). Through increasing the effectiveness of teachers working with ELLs, the intervention further aims to enhance the standard of instruction for all students in mainstream classes. World-Class Instructional Design and Assessment works in partnership with states in the US committed to the advancement of academic language learning for linguistically diverse students through high quality standards, assessments, research, and professional growth. The Ministry of Education (n.d.) also highlights ESOL principles

for making language and learning work that aim to accelerate ELLs' achievement. Five salient dimensions emerged from the principles across the four models, presented in Table 2.1, that encapsulate the principles from each of these models: (1) making connections to students' background, language and culture; (2) focusing explicitly on teaching academic vocabulary and language; (3) increasing comprehensible language input; (4) promoting classroom interaction (output) and (5) stimulating higher order thinking and teaching metacognitive skills.

Correspondingly, the principles of CBI recognise students' cultural knowledge, background and experiences; and draw on these experiences to shape lesson planning, integrate students' cultural world views, recognise the home language as an asset that students bring to the classroom, assume familiarity with students' linguistic and academic backgrounds, scaffold academic vocabulary and language, and provide students with the linguistic skills required to succeed in mainstream classes (Lucas et al., 2008). Other practices include designing production activities, scaffolding, providing opportunities to engage students and stimulating higher order thinking and developing metacognitive thinking skills. The analysis of the literature shows what teachers of ELLs need to know and be able to do in order to effectively teach content and language to ELLs. De Jong and Harper (2005) claim that "just good teaching" (p. 102) practices such as building on prior learning and using collaborative learning are valuable in the teaching of ELLs; however, explicit consideration of cultural and linguistic needs of ELLs are equally important.

Table 2.1

Principles Across the Content-Based Instructional Models

SIOP* (Echevarría et al., 2013)	QTEL* (Walqui & van Lier, 2010)	WIDA* (Gottlieb, 2013)	Principles for making language and learning work (MoE, n.d.)	*Five salient dimensions*
Concepts are linked to students' backgrounds	Connect students' experiences and subject matter	Capitalise on the resources and experiences of ELLs	Know your learners—their language background, their language proficiency, their experiential background	*Making connections to students' background, language, and culture*
Content and language objectives clearly defined Develop strategies to teach vocabulary	Sustain a language focus and share clear criteria Share language and content objectives Develop strategies for vocabulary learning Promote disciplinary language use in meaningful contexts	Plan for language teaching and learning around discipline-specific topics Analyse the academic demands Connect language and content to make meaning relevant	Identify the learning outcomes including the language demands of the teaching and learning Maintain and make explicit the same learning outcomes for all learners	*Focusing explicitly on teaching academic vocabulary and language*
Ensure comprehensible input		Plan differentiated language	Begin with context-embedded tasks which make the abstract concrete	*Increasing comprehensible language input*
Provide ample opportunities for students to use learning strategies		Create language-rich classroom environments for ample time for language practice and use	Provide multiple opportunities for authentic language use with a focus on students using academic language	
Provide frequent opportunities for interaction and discussion	Engage students in quality interactions Use first language (L1) strategically		Ensure a balance between receptive and productive language	*Promoting classroom interaction (output)*
Enable comprehensive opportunities for review	Provide adequate feedback	Provide opportunity for ELLs to engage in higher order thinking	Include opportunities for monitoring and self-evaluation	*Stimulating higher order thinking and teaching metacognitive skills*

Note: *SIOP: Sheltered Instruction Observation Protocol; QTEL: Quality Teaching for English Learners; WIDA: World-Class Instructional Design and Assessment

Effective Content-Based Instructional Strategies and Teaching Practices

Effective CB instructional strategies have been synthesised from a close review of the literature on preparing mainstream teachers to integrate content and language teaching in their subject areas according to the five dimensions: (1) making connections to students' background, language and culture; (2) focusing explicitly on teaching academic vocabulary and language; (3) increasing comprehensible language input; (4) promoting classroom interaction (output) and (5) stimulating higher order thinking and teaching metacognitive skills.

Making Connections to Students' Background, Language, and Culture

Téllez and Waxman (2005), in their metasynthesis on effective teaching practices for ELLs, identify "building on prior knowledge" where "teachers work to connect students' lives to school themes" as an effective "instructional orientation" (p. 245). Likewise, one of the seven teacher actions described in the NZC as being effective is to make connections to prior learning (MoE, 2007). Teaching practices and strategies for building on prior knowledge for NS of English differ from those for NNS in that teachers of ELLs acknowledge and understand that ELLs' background knowledge (schemata) develops through their cultural experiences (De Jong & Harper, 2005). Such understanding, that ELLs' background develops through their cultural experiences, maps onto the notions of the first ESOL principle, "Knowing the learner" as stated in the Ministry of Education (2008) document:

> Each learner has a unique set of family and cultural experiences, knowledge and understandings, and attitudes and perspectives. These have an impact on their language acquisition and learning as well as on their general learning and understandings. (p. 6)

Si'ilata (2014) reported how effective teachers had specific knowledge of their students' language and literacy needs and capitalised on that knowledge in their teaching. One of the effective teachers in Si'ilata's research demonstrated how she explored, acknowledged, and drew on students' cultural funds of knowledge and used them as springboards for classroom literacy activities. For

example, the writing lesson was based on the students' experiences of a school gala the previous week; in reliving their experiences of the gala, students had to demonstrate and describe for the teacher how the Cook Island dance was performed at the gala. This teacher provided meaningful opportunities for her students to use their cultural and linguistic capital in the classroom (Si'ilata, 2014).

Culturally responsive instruction provides an important approach through which to make connections for ELLs given the "differences in students' linguistic, cultural, and experiential backgrounds" (Lee, 2010, p. 453). Instructional strategies to activate ELLs' existing background knowledge include providing opportunities for ELLs to create their own schemata (i.e., a mental structure that organises information so that a connection can be made between background knowledge and existing knowledge); making links between texts and their experiences; providing the necessary vocabulary; and using visuals, modelling, and demonstrations (Short & Fitzsimmons, 2007).

Focusing Explicitly on Teaching Academic Vocabulary and Language

Academic language tends to place higher demands on student cognition due to its linguistic complexities around discourse features such as language functions, grammatical constructions, and vocabulary (Schleppegrell, 2004). As an illustration, social science textbooks often use complex syntax such as long sentences with multiple dependent clauses, passive verbs and abstract nouns that are quite different from conversational, social language (Schleppegrell & de Oliveira, 2006).

A case study in the US showed an example of how a teacher taught grammar and discourse functions of two genres in a science writing class (Schleppegrell, 2004). The teacher taught procedural writing for conducting an experiment and report writing to record the results of the experiment. The teacher compared and contrasted features of each genre including the grammatical structures and language features. Much of the explicit teaching involved a discussion on discourse markers such as "because" and "for example" (J. Hammond, 2006). The findings suggested that all teachers working with ELLs should have the kind of linguistic and practical knowledge to support students to see how grammatical choices lead to differences in genres.

The value of teaching academic language was also shown in a study conducted by J. Hammond (2006) in a seventh-grade English literature classroom in Australia where academically gifted ELLs were provided with ongoing language-learning support. The teacher first attempted PL on the relationship between social communication, language, and learning (Halliday & Hasan, 1985). Needs assessments were performed to identify language barriers facing students. The teacher developed a *Romeo and Juliet* project with both curriculum and language objectives; it also met language-learning requirements for students to engage fully in the English curriculum. Learning was followed by regular language study, including rhetorical constructs and linguistic features of written genres to engage students in text analysis. J. Hammond (2006) observed that many teaching strategies seemed to generate positive student outcomes. One of these strategies included a specific focus on teaching academic language, such as metalanguage, or language used to interact and draw on students' own understanding of language. J. Hammond (2006) argued that purposeful content teaching combined with academic language teaching provided a constructive response to the tendency of well-meaning teachers to meet ELLs' needs by revising their curriculum to make it less difficult. J. Hammond's (2006) work shows that ELLs require personalised assistance to enhance their content learning through academic language. These two studies show the importance of developing the academic language skills of ELLs to enhance textual understanding. It also shows the importance of focusing explicitly on teaching academic language to increase ELLs' understanding of content and make meaning accessible.

Mastery of academic language, as noted above, together with vocabulary, as noted below, are important indicators of overall performance (S. Baker et al., 2014). Academic vocabulary includes domain-specific academic vocabulary—such as *central tendency, mean, median, mode, range,* and *standard deviation* used in the field of statistics, for example (Marzano & Pickering, 2005), whereas examples of general academic vocabulary used across subjects are *describe*, *analyse*, and *explain*. Both domain-specific academic vocabulary and general academic vocabulary are considered essential for subject teachers if they are to anticipate language-related difficulties for ELLs and to plan

effectively for their learning (D. L. Baker et al., 2014). Research shows that different forms of vocabulary intervention have a positive influence on improving vocabulary. One example of such a study showed that Word Generation, as a form of intervention, had varying influences on ELLs' academic knowledge (Hwang et al., 2015).

The study by Hwang et al. (2015) aimed at understanding the reading performance of different ELL groups and examining whether a research-based academic vocabulary intervention such as Word Generation influenced the academic vocabulary knowledge of ELLs (Hwang et al., 2015). Word Generation specifically teaches five general academic words selected from the Academic Word List each week (Coxhead, 2000). Throughout the week, students are encouraged to engage with such vocabulary by reading, writing, and speaking. Students from 13 middle schools in the US were designated to either treatment (n = 3,539) or control (n = 2,630) environments. Students were grouped as either English-only or minority-language students. Language-minority students were also further classified into two levels of English proficiency: initially fluent, redesignated fluent English skills (having attained minimum English skills so that they would be able to attend school without additional English development support) and minimal or limited English skills. In the academic year 2010–2011, seven schools were allocated to the treatment condition integrating the Word Generation system into their curriculum, and the normal instruction was provided to students in the six control schools. There was a major difference between the ability groups in terms of academic vocabulary and comprehension performance at posttest for both treatment and control schools. Results showed that limited English-skilled ELL scores on reading tests were slightly below those of English-only students, whereas redesignated fluent English-skilled ELLs were comparable to English-only scores. Ironically, the initially fluent ELLs ranked above English-only graduates. However, the study indicates that the impact of research-based intervention can vary depending on students' English ability levels (Hwang et al., 2015).

In another vocabulary intervention study, instructional strategies such as research-based vocabulary and concept instruction, the use of media to enhance comprehension and conceptual

knowledge, use of graphic organisers, and organised peer-to-peer skills were employed (Vaughn et al., 2009). The sample groups (n = 381 and n = 507) were 7th graders with low English proficiency from two middle school districts in the US. Students in the treatment classes underwent the daily instruction of the above-mentioned activities during the social studies class for 50 minutes a day, 5 days a week for about 9 to 12 weeks, while the other classes were provided with regular teaching. The targeted vocabulary intervention addressed both key social studies terminology and how those terms reinforced students' understanding of central unit concepts. According to the researchers, it "shifted the instructional emphasis from the acquisition of historical facts to one in which the big ideas provided context for promoting students' using language and understanding the content" (Vaughn et al., 2009, p. 316). For ELLs, this expanded vocabulary learning led to better levels of curriculum-based vocabulary and reading comprehension. Effect sizes for both vocabulary and comprehension were large.

The value of explicit teaching of vocabulary using effective instructional strategies was shown in an action research facilitated by a PLD team in NZ secondary schools (Luxton et al., 2017). To provide baseline data, Nation's (1990) Vocabulary Levels test (Version 1) was administered to students, particularly ELLs, in Term 1. An equivalent version (Version 2) of the Vocabulary Levels test was administered in Term 4. The seven ESOL principles (MoE, n.d.) were used throughout the PLD to coach teachers on effective vocabulary strategies to adopt in their teaching practices. The findings showed significant shifts in academic vocabulary learning across different ethnic groups like Pākehā, Māori, Pasifika and Asian). ELLs in English-support classes also improved their academic vocabulary scores by an average of 12.6% compared to 7.3% for other students. This study supports the value of teacher awareness and understanding of the importance of academic vocabulary across a range of learning areas in the secondary context.

To ensure the explicit teaching and learning of vocabulary in the class, Luxton et al. (2017) recommended that teachers should: (a) have an awareness of students' academic vocabulary knowledge; (b) have an ability to identify general as well as specialised subject-specific academic vocabulary; (c) provide multiple receptive and productive activities for students to use academic

vocabulary; (d) include opportunities for metacognitive thinking on how students learn vocabulary in a range of ways.

In order to test the effectiveness of extended vocabulary instruction (i.e., teacher directed instruction that provides definitional and contextual information, and involves students in active, deep processing of words) and embedded vocabulary instruction (i.e., brief definitions of targeted words in the text), August et al. (2016) conducted a summer programme for 5 weeks with vocabulary intervention for ELLs. The findings showed that both extended vocabulary (such as visuals, bilingual definitions, examples, and spelling) and discussions about the meanings of the vocabulary words were more effective than teachers who taught vocabulary using brief definitions to apply to embedded text, writing activities, or songs. There is widespread agreement for the effectiveness of rich vocabulary teaching, as well as a blend of evidence-based strategies, like direct instruction, offering ample opportunities for words in multiple contexts, and student involvement in active practice (Beck et al., 2002). While explicit vocabulary instruction may be effective, one must address the exceptional problems students face when learning their second language (L2) vocabulary such as limited instructional time (August et al., 2005), and abstract words that are not readily supported by graphics or pictures (August et al., 2005).

Researchers also suggested other effective instructional strategies such as Frayer models,[9] word sorts, concept maps, and semantic feature analysis. Knowledge rating guides, vocabulary discussions, triple-entry vocabulary journals, partner/small group preview activities, and vocabulary quick writes can also help students learn important technical or specialised terms (Blachowicz & Fisher, 2000). The ESOL Online website offers teachers in NZ ideas and activities related to such strategies. Teaching word-learning strategies is important so that ELLs may decide the meaning of words on their own. Three word-learning strategies include: morphology (i.e., word parts), context

[9] The Frayer model is a graphic organiser for the building of student vocabulary. This technique requires students to define the target vocabulary and to apply their knowledge by creating examples and non-examples, providing characteristics, and/or drawing an image to demonstrate the meaning of the term.

clues, and cognates (see S. Baker et al., 2014). Teaching students about parts of the word, such as prefixes, suffixes, and root words, allows them to use familiar parts of the word to determine the meaning of the word (Lesaux et al., 2014; Vadasy & Sanders, 2015). This strategy can be paired with the use of context clues such that students first begin to search for common parts of words and interpret meaning, and then use context clues to confirm their predictions (Lesaux et al., 2014).

Increasing Comprehensible Language Input

Effective teachers of CBI have an extensive range of scaffolding strategies to create comprehensible input and they choose the most appropriate strategies to accelerate the learning process, promote academic achievement, and foster academic language acquisition (Levine et al., 2012). The instructional strategies used to make academic content accessible and meaningful are often referred to as *scaffolds* (see Echevarría et al., 2013). First expounded by Wood et al. (1976), scaffolding is the instructional response to Vygotsky's (1978) zone of proximal development and has historically been defined as a process in which an expert helps learners complete a specific task or achieve a specific goal (Wood et al., 1976). These frameworks include relationships between an expert (i.e., teacher) and a novice (i.e., learner), where the expert helps the novice accomplish a particular function. Therefore, scaffolding operationalises Vygotsky's relationship between instruction and psychological development. Thus, the zone of proximal development provides a conceptual framework to select individual learning activities, while scaffolding provides a theoretical framework to select and execute strategies to facilitate particular learning (Vygotsky, 1978).

Six main types of instructional scaffolding are especially salient to accelerate the learning process and facilitate academic language acquisition: modelling, bridging, contextualisation, building schemata, developing metacognition, and re-presenting texts (Levine et al., 2013). Table 2.2 shows the list of instructional scaffolding strategies with examples. Teacher modelling, including teacher think-aloud strategy (active modelling) and samples of work (passive modelling), is an essential component of contextualised and explicit teaching and provides students with appropriate resources. Bridging comprises activating prior knowledge and making connections to new knowledge using a common

strategy such as the K-W-L chart (what I know, what I want to know, and what I learned). This is a graphic organiser that can be used to engage students in a new topic, activate prior knowledge, and monitor students' learning. Another type of instructional support is contextualised instruction which uses real-life experiences and visuals like graphic organisers (i.e., T-charts, brainstorming webs, Venn diagrams, timelines, word maps and flow charts) that provide students with relevance and extra language support (Verplaetse & Migliacci, 2017). Graphic organisers used across subjects are powerful instructional assessment tools, as they allow students to express their ideas with reduced dependence on text (Gottlieb, 2006). "Graphic organizers combine the linguistic mode in that they use words and phrases, and the non-linguistic mode in that they use symbols and arrows to represent relationships" (Marzano et al., 2001, p. 75). An effective way to help ELLs connect to new learning is by activating previously learned knowledge stored in the schemata (Z. Hammond, 2015). Teachers may use visuals, learning covered in prior lessons, or prior experiences to provide an anchor or point of reference for the students. If there are no schemata, or prior knowledge, teachers will have to build background knowledge for ELLs to have a foundation on which to place the new knowledge. Metacognition is discussed later in this section of the chapter. Re-presenting texts involves transforming a text from one form of genre to another while taking into account the structural and linguistic features of the genre. For example, transforming a poem into a narrative text using the five components: the characters, the setting, the plot, the conflict, and the resolution.

Table 2.2

Examples and Descriptions of Six Scaffolding Strategies

Scaffolding strategy	Description	Examples of instructional strategies
Modelling	Imitating models of effective reading, writing, and speaking	Samples of work
Bridging	Making connections between prior knowledge and new concepts	Brainstorming, K-W-L charts
Contextualising	Making the abstract concrete	Visuals, real-life examples
Schema	Process of organising learners' knowledge and understanding	Graphic organisers, templates, and visuals
Metacognition	Understanding of one's own thought process	Think-aloud, think-pair-share
Re-presenting text	Transforming linguistic construction students have already presented into forms of other genres	Poem as a narrative Scientific text as a letter

Promoting Classroom Interaction (Output)

Promoting classroom interaction is readily incorporated into CBI as it is consistent with the goals of this paradigm. Collaborative learning involves small groups of students working together to learn knowledge and accomplish different tasks, encouraging peer-group support and peer instruction. As Dupuy (2000) pointed out, "small group work, team learning, jigsaw reading, and peer editing are among the many techniques CBI calls on to provide students with ample opportunities to interact, share ideas, test hypothesis, and construct knowledge in a low-risk forum" (p. 207). Think-pair-share is a collaborative learning strategy commonly used in NZ classrooms (S. Sharma, 2016). The strategy involves students working together to solve a problem and answer a question about an assigned topic. The strategy requires students to (1) think individually about a topic or answer to a question; (2) pair up with a classmate and (3) share ideas with each other. This gives ELLs the opportunity to practice their oral language skills by conversing with NNS as well as NS (S. Sharma, 2016). In this regard, providing opportunities for ELLs to use L1 to support L2 enable them to acquire academic language proficiency and maintain content learning. The ELLP document (MoE, 2008) encourages teachers to promote and facilitate more learning in and through ELLs' first language and to promote bilingual education.

> It is very important to support and encourage the use of a learner's first language when they are learning an additional language. The learner who maintains their first language and continues to develop their first language CALP generally achieves better in the additional language than the learner who has not maintained their first language. When a learner can access concepts that they already understand in their first language, it's easier for them to learn new language and content. Teachers should encourage thinking and discussion in the first language and provide bilingual support where possible. (MoE, 2008, p. 4)

The issue of using L1 to support L2 in a NZ context has been examined to some extent. Studies have shown how optimal use of L1 can improve learning in the English (second-language) classroom (Lameta-Tufuga, 1994; Laufer & Girsai, 2008). In her master's thesis, Lameta-Tufuga (1994) studied the impact of having one class to discuss science tasks in their L1 (Samoan) while a control class with equivalent science and English abilities and the same L1 were restricted to using English for the same tasks in a NZ school. All students needed to use English to report findings. She noted that students utilising their L1 were on track (speaking about science) and noticed that the opportunity to use their L1 to learn, explore and communicate with others allowed the experimental class to discuss ideas at a higher level and yielded better results.

Teaching for transfer across languages such as using interlanguage, code switching and translanguaging also have a role to play within communicative approaches to academic language learning. Interlanguage, first introduced by Selinker (1972), refers to a linguistic system created by the learners of a second language which is between the target language and the learner's L1. In other words, the learner preserves some features of their L1 in speaking or writing the target language. Code switching is when a speaker alternates between two or more languages. Translanguaging, a term originally coined by Williams (1996) is the process whereby multilinguals use their languages as an integrated communicative system. In other words, it is a pedagogical practice that switches language modes—essentially students receive input in one language and output in the second language (Garcia, 2009).

> Translanguagings are *multiple discursive practices* in which bilinguals engage in order *to make sense of their bilingual worlds*. Translanguaging therefore goes beyond what has been termed code switching… although it includes it, as well as other kinds of bilingual language use and bilingual contact. Translanguaging…extends what Gutierrez and her colleagues have called "hybrid language use," that is, a systematic, strategic, affiliative, and sense-making process. (Gutierrez et al., 2001, p. 128)
>
> Cummins (2008) proposed five possible ways in which to transfer across languages:
>
> - Transfer of conceptual elements (e.g., understanding the concept of photosynthesis)
> - Transfer of metacognitive and metalinguistic strategies (e.g., strategies of visualising, use of graphic organisers, mnemonic devices, vocabulary acquisition strategies, etc.)
> - Transfer of pragmatic aspects of language use (willingness to take risks in communication through L2, ability to use paralinguistic features such as gestures to aid communication, etc.)
> - Transfer of specific linguistic elements (knowledge of the meaning of photo in photosynthesis)
> - Transfer of phonological awareness—the knowledge that words are composed of distinct sounds. (p. 69)

Stimulating Higher Order Thinking and Teaching Metacognition Skills

Research shows that providing higher order thinking opportunities is consistent with CB language teaching (Reyes & Vallone, 2007). Having high expectations for ELLs' is extremely important and teachers need to understand how to scaffold their instruction so that content and language expectations can be met. Higher order thinking encourages students to think beyond literal questions and thereby encourages application, analysis, synthesis, and evaluation (Yen & Halili, 2015). Students learn language and attain higher order thinking as they study content, especially in secondary school settings (Zwiers, 2006). One of the more common instructional strategies is Bloom's taxonomy (Bloom, 1956). There are six levels in the cognitive domain of the taxonomy: evaluation, synthesis, analysis, application, comprehension, and knowledge. Bloom's taxonomy is helpful to guide teachers

to ensure instruction includes a range of lower and higher order tasks and questions teachers tend to associate lower proficiency levels with lower levels on the taxonomy. In other words, the levels can be used as a tool to differentiate instruction for ELLs. Rather than simplifying instructions for ELLs, Bloom's taxonomy provides opportunities to master lower levels of thinking before ELLs can attempt higher order thinking skills necessary for academic success. In NZ, one of the instructional resources secondary schools increasingly prefer to use involves the structure of observed learning outcomes (SOLO) taxonomy (a model that describes levels of increasing complexity in students' understanding of subjects) to match the complexity of thinking at different NCEA levels (Biggs & Collis,1982). Using the SOLO taxonomy, students can be involved in evaluating their own level in terms of their thinking. It highlights the difference between surface and deep understanding helping students know where they are on that spectrum, and what they need to do to progress.

During the process of learning content and language, ELLs' are expected to have an awareness about their own learning. Metacognition was first proposed by Flavell (1976) and it was defined as "one's knowledge concerning one's own cognitive processes and products, or anything related to them" (p. 232). In his later research, Flavell (1979) redefined metacognition as individuals' information and awareness about their own cognition. Bransford et al., (1999), on the other hand, defined metacognition as "the ability to monitor one's current level of understanding and decide when it is not adequate" (p. 35). According to Walqui (2006), metacognition refers to how students manage their thinking, and it includes at least the following four aspects:

> Consciously applying learned strategies during engagement in tasks; knowledge, and awareness of strategic options and the ability of the learner to choose the most effective one for particular activities; monitoring, evaluating and adjusting performance during activity; and planning for future performance based on evaluation of past performance. (Walqui, 2006, p. 176)

Although there are numerous definitions in literature, they all share the common idea of an individual's awareness of their learning process. The concept metacognition encompasses two underlying parts:

metacognitive awareness as well as metacognitive strategies. While metacognitive awareness is the understanding about their learning, metacognitive strategies refers to how learners regulate and manage their learning. These encompass a wide range of activities such as selecting appropriate strategies, planning, monitoring, regulating, and evaluating (Schraw et al., 2006). Research on metacognition suggests that metacognitive thinking is closely related to improved positive outcomes for ELLs. ELLs who use metacognitive thinking skills are aware of their own learning, and they understand when and how to employ the most appropriate strategies to accomplish tasks (Zhang & Goh, 2006). Strategies to promote metacognitive skills include reciprocal teaching, think-alouds, and self-assessment opportunities (Walqui, 2006).

In summary, there is extensive empirical and evidence-based literature on effective teaching practices and strategies to support ELLs' content and language development. However, the literature consistently shows effective CB instructional strategies and teaching practices such as making connections to ELLs' cultural, linguistic and background experiences, providing opportunities to extend input/output and interaction, teaching metacognitive thinking skills, and applying their thinking to real-life situations to expand on ELLs' understanding is important to support ELLs' content and language learning. Effective content and language teaching are a "blend of research-grounded appropriate practices and context responsiveness" to support ELLs (Meltzer & Hamann, 2005, p. 61). Using a mixture of different effective CB instructional strategies and teaching practices is more likely to generate positive outcomes than using any one instructional strategy/practice.

Chapter Summary

The literature review in Chapter 2 sought to achieve three goals: to provide an overview of how past and present literature operationalises teacher efficacy, to examine teacher preparedness and PLD opportunities in NZ, and to provide a CBI framework for the purpose of data analysis. In meeting the first of these goals, the progression of the conceptualisation, measurement and definitional issues

has been detailed. This detailing has illustrated that two theoretical frameworks underpin teacher-efficacy research: Rotter's (1966) social learning theory and Bandura's (1977b) SCT.

These frameworks measure separate components of teachers' efficacy beliefs and must be acknowledged and understood when exploring any work on teacher efficacy. The important way to understand these frameworks is through careful consideration of the measuring tools used to assess self-efficacy, as well as the research issues being explored. The definition of teacher efficacy and an understanding of the power of this construct continues to be developed in the literature. The most recent definition combines an agent-means and an agent-ends perspective; however, more research needs to be done in this area. This review has also highlighted the research undertaken to illustrate the influence of teacher efficacy on student outcomes as well as on teachers' beliefs, behaviour, and teaching practices. In meeting the second goal, an overview of PLD programmes has been discussed looking specifically at the ITE programme, PLD and self-efficacy. There is consensus that PLD that includes sources that shape efficacy (mastery experience, vicarious experience, social persuasion, and emotional and psychological states) is a strong predictor for influencing beliefs. The literature presents a pessimistic overview of teacher preparedness to possess content and language teaching practices to teach ELLs in subject classes. To meet the third goal, to provide a CBI framework for the purpose of data analysis, the literature highlights the importance of understanding the theories of SLA and their associated instructional strategies which encompasses teaching practices such as providing opportunities for extended input/meaningful output using communicative tasks, explicitly teaching academic vocabulary and language, promoting collaborative learning to increase interaction, stimulating higher order thinking and providing opportunities to develop metacognitive skills.

Chapter Three: Method

Sequential, Explanatory, Mixed Methods

This chapter describes the process of data collection, data analysis and data interpretation in the two-phase sequential, explanatory mixed-methods design for this study. The first section of this chapter describes the strengths and limitations of quantitative and qualitative research designs and provides a rationale for the mixed-methods design for the current study. Following a discussion on the research designs, the rationale for a newly developed scale is presented. Then, the processes involved in the development of instruments for the collection of quantitative and qualitative data are described. Issues relating to the validity and reliability of the quantitative data collection phase and establishing trustworthiness of the qualitative phase are addressed. Ethical considerations are finally presented.

Research Designs

This section of the chapter describes the strengths as well as the limitations of the two analytical strands (i.e., quantitative, and qualitative research designs) to understand the rationale for the use of the third analytical strand (i.e., mixed-methods research design) in the current study.

Quantitative Research Design

Quantitative research, the first analytical strand is "a research strategy that emphasises quantification in the collection and analysis of data" (Bryman, 2012, p. 35). The researcher relies on statistical, mathematical, or numerical data to explore how many, how much or to what extent type of questions in research (Rasinger, 2013). The quantitative method dominates social science research, using standardised tests, experiments, surveys, and statistical analysis. Likewise, quantitative methods using primarily Likert-based scales overshadow qualitative methods in teacher-efficacy research (Klassen et al., 2011; Wheatley, 2005). For example, 76.7% of empirical teacher-efficacy studies published in peer-reviewed journals from 1998–2009 utilised quantitative approaches, 8.7% qualitative

methods, and 14.7% opted for mixed-methods approaches in various subject areas such as science, mathematics, technology, physical education, language, and literacy (Klassen et al., 2011).

In a recent review of empirical teacher-efficacy research, studies published from 2005–2016 showed an increase in qualitative and mixed-methods designs (Wyatt, 2018). In a selection of empirical studies on the efficacy beliefs of language teachers, 68% of studies utilised quantitative approaches, 44% qualitative approaches, and 24% opted for mixed-method approaches. While the review showed a decline in quantitative studies and a substantial surge in qualitative and mixed-methods studies, quantitative studies still dominate teacher-efficacy research.

Several factors may explain the dominance of quantitative approaches such as ease-of-use, transferability, and the use of multiple questions to measure efficacy. Additionally, bias towards the quantitative method is a result of theory underpinning the construct, as "self-efficacy presents the construct as measurable, leaning towards a positivist epistemology" (Glackin & Hohenstein, 2018, p. 273). However, several researchers have voiced concerns about the ability of Likert-based scales to provide a holistic understanding of human experiences. In other words, Likert-based scales are used to take a "snapshot" of the construct which may result in the "loss of the construct's complexity" as one-off self-report data at one given time may disregard the complexity of the construct (Glackin & Hohenstein, 2018, p. 273). For instance, despite the large number of survey respondents ($n = 251$) in one quantitative study, Karas (2019) reported that the lack of qualitative methods limited further interpretations and nuances of teacher efficacy. The author also pointed out that scholars should follow the recommendations made by researchers to use a variety of methodologies to gain different perspectives on teacher efficacy. The next concern by researchers was that quantitative methods on their own fail to establish fundamental meanings and behaviours. For instance, a study conducted by Paneque and Barbetta (2006) examined teacher efficacy of 202 elementary special education teachers of ELLs with disabilities. Although the general findings showed that teacher efficacy was high, qualitative data in the study would have made valuable contributions towards understanding the beliefs, behaviours, and teaching practices of HSE teachers. Despite the limitations of quantitative

methods, they are valuable for developing an understanding of cause and effect thinking, for testing theories/hypotheses, and for generalising results. In contrast to quantitative data, qualitative methods are valuable in that they generate thick (detailed) descriptions of participants' thoughts, perceptions, and experiences in the form of text data.

Qualitative Research Design

Qualitative research, the second analytical strand, is "about a persons' lives [*sic*] experiences, behaviours, emotions, and feelings as well as about organisational functioning, social movements, cultural phenomena, and interactions between nations" (Strauss & Corbin, 1990, p. 11). Data-gathering activities such as observations, interviews, documents, and artefacts are typically carried out in a natural setting thereby providing a holistic understanding of human experience. Qualitative research provides more insight into issues and presents a wider range of epistemological viewpoints, research methods, interpretative methods of understanding human experiences, and "supplements, validates or illuminates quantitative data" collected from the same setting (Miles et al., 2014, p. 31). Although there are limitations of qualitative data such as subjectivity, the epistemological position of the researcher (personal values, attitudes and beliefs), a focus on meanings and experiences, smaller sample sizes, and the complexity of data analyses, qualitative approaches are nevertheless valuable in research (Rahman, 2017). For example, Wyatt (2015) used a qualitative case study research methodology (i.e., observations and semi-structured interviews) to gain a better understanding of the relationship between self-efficacy beliefs and teacher cognitions, including their practical knowledge. In another qualitative case study, Correll (2016) was interested in finding out teachers' perceptions of their preparedness to teach ELLs as well as the types of preparatory experiences that they perceived as supportive and whether their perceptions shaped their teaching practices for working with ELLs. The findings showed that many participants reported that there was a lack of preparatory coursework on teaching strategies, little observational experience in classrooms, and a lack of experience working with ELLs during field placements. The findings also indicated that teacher classroom practices aligned with their perceptions of their preparation for teaching ELLs. These two qualitative studies provided insight into teachers'

perceptions, behaviours and teaching practices that would otherwise not be possible with quantitative research design on its own.

Given the strengths and limitations of the research designs, the underlying premise is to use the strengths and minimise the weaknesses of both research designs in a single study. The fundamental argument is that the complementary nature of the quantitative and qualitative designs contributes to a more holistic understanding of the study's phenomena (Miles et al., 2014).

Mixed-Methods Research Design

Mixed-methods research, the third analytical strand, entails "mix[ing] or combin[ing] quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study" (Johnson & Onwuegbuzie, 2004, p. 17). In mixed-method studies, the researchers construct knowledge on pragmatic grounds believing that reality is "what works" (Howe, 1988). Mixed-method researchers use approaches from quantitative and qualitative methodologies to find answers to their research questions. In the current study, the sequential, explanatory, mixed-methods design assimilates dialectical pragmatist belief that involves mixing qualitative and quantitative approaches at several stages in the data analysis process (Onwuegbuzie & Combs, 2010). Studies that employed quantitative research designs alongside qualitative research designs by complementing numbers with words, subsequently provided further insights into the complexities and interpretations of the phenomenon under review. For example, Glackin and Hohenstein (2018) used a qualitative framework alongside a traditional quantitative self-efficacy scale to investigate the self-efficacy of UK secondary science teachers participating in a 2-year PD programme. The authors suggested that in order to create a more accurate and detailed picture of TSE, it is important that quantitative approaches be triangulated and combined with other data sources (Glackin & Hohenstein, 2018).

Chacón's (2005) research cross-compared survey data on English Foreign Language teachers' beliefs using the Teachers' Sense of Efficacy Scale to measure efficacy beliefs for instructional strategies, classroom management and student engagement with interview data concerning self-reported English proficiency. The survey data triangulated with the interview data showed that

English-language skills were positively correlated with TSE. Accordingly, LSE teachers tend to put in less effort into motivating students while those teachers who perceive their efficacy in English as high, are more likely to engage students in mastery experiences. Patterns in the perceptions of the interviewees were identified to provide an in-depth understanding of language teachers' self-efficacy beliefs (Chacón, 2005).

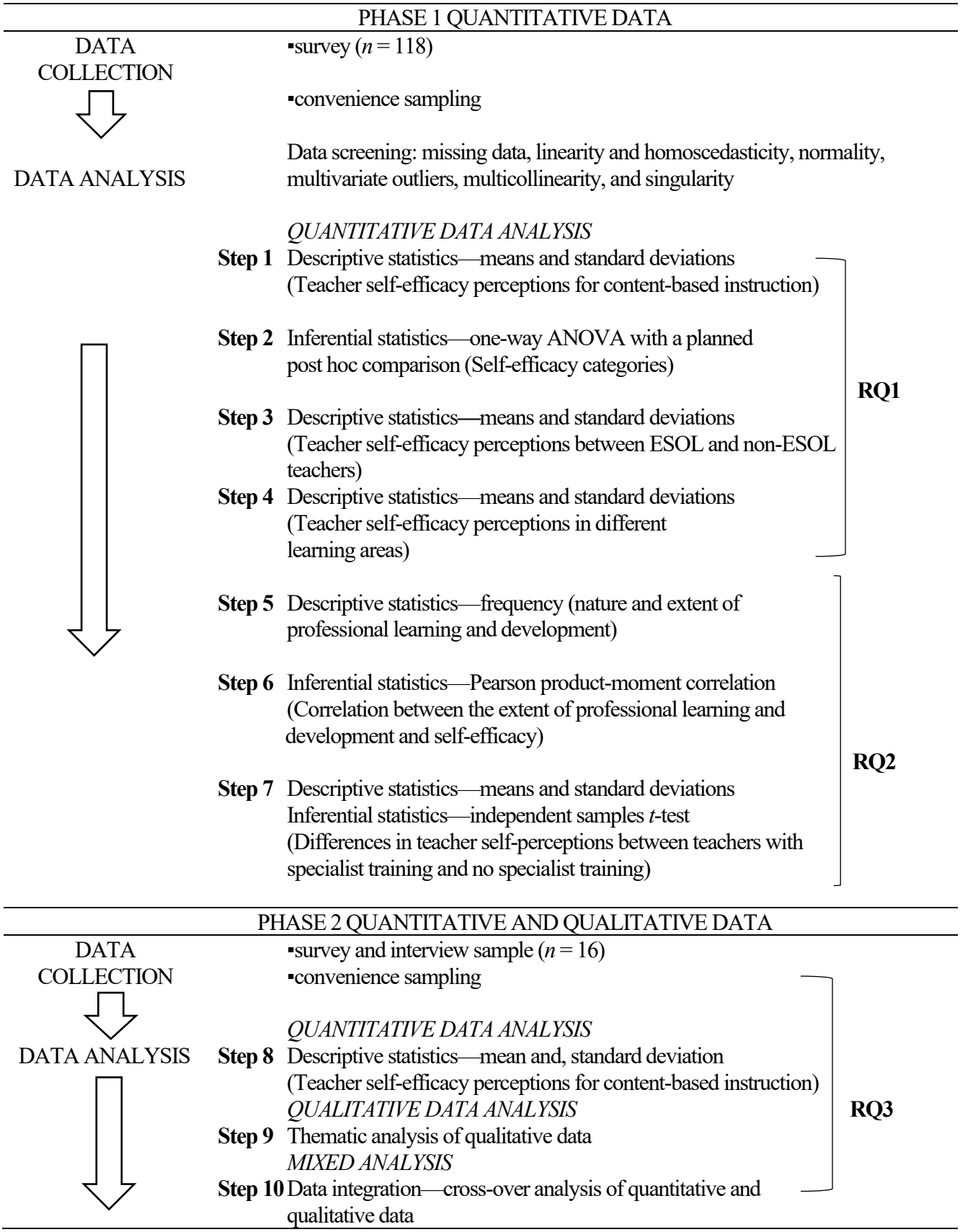
Current Study

The purpose of the mixed-methods design in the current study is for the qualitative data to complement the survey responses and to help give us a better understanding of the interplay between TSE perceptions and reported CB instructional strategies. As elaborated by Combs and Onwuegbuzie (2010), "if complementarity is noted as the purpose for the mixed analysis, then the researcher would seek elaboration, illustration, enhancement, and clarification of the findings from one analytical strand [e.g., qualitative] with results from the other analytical strand [e.g., quantitative]" (p. 3). The data collection process involved two phases conducted sequentially. The visual model (see Figure 3.1) shows the procedures for the sequential, explanatory, mixed-methods design. The visual model includes the sequence of the quantitative data collection and analyses, then the qualitative data collection and analyses followed by mixed analyses (Ivankova et al., 2006). In Phase 1of the study, data collection involved 118 secondary teachers who completed the online teacher-self-efficacy-scale survey. The survey collected information on demographics, the nature and extent of PLD, and teachers' confidence to use CB instructional strategies and teaching practices to support ELLs. Phase 1 of the data analysis process involved Steps 1–7 (see Figure 3.1) to address Research Question 1 "What is the nature of differences in self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction?" and Research Question 2 "Is there a relationship between the extent of professional learning and development and self-efficacy perceptions of secondary teachers for content-based instruction?" In Phase 2 of the study, data collection involved 16 secondary teachers who completed the survey again and were interviewed. The interview participants were asked about the instructional strategies used in their classes to support ELLs' content and language development.

Phase 2 of the data analysis process involved Steps 8–10 (see Figure 3.1) to address Research Question 3 “Do teachers report differently on content-based instructional strategies according to their self-efficacy perceptions, specialised training and the subject taught?” The data collection and data analysis process are discussed later in Chapter 3.

Figure 3.1

An Overview of the Quantitative and Qualitative Data Collection and Analysis



Target Population and Sample

Convenience sampling includes a sample from that part of the population that is accessible at a given time, is in close geographical proximity, and shows a willingness to engage in the study (Dörnyei, 2007). Convenience sampling was used for both phases of the study. In Phase 1 of the study, the aim was to get as many inservice secondary teachers as possible from various learning areas to respond to the online survey. In Phase 2 of the study, at the end of the online survey, the researcher's email address was available to those willing to complete the survey and participate in the interview. Although convenience sampling is subject to bias as it does not ensure that all eligible individuals in a population have an equal opportunity of being included in the sample, researchers aim to decrease selection bias and strengthen the usefulness of the study by monitoring and evaluating the representativeness of the study sample. Survey respondents in this study demonstrated a similar pattern to the NZ secondary school teacher population in terms of females outnumbering male teachers (see Chapter 4 for statistics concerning sample representation). There was a reasonable number of survey respondents from all learning areas.

Instruments

This section of the chapter describes the process involved in the development of the scale to measure TSE perceptions in using CB instructional strategies as well as the creation of the interview questions to find out what instructional strategies secondary inservice teachers are using to support ELLs.

Why a Newly Developed Scale?

In line with the popular use of self-reported data on self-efficacy, researchers initially became interested in the extent to which efficacy beliefs can be generalised across various tasks and situations.

In early self-efficacy research, most scales consisted of an omnibus-type instrument that attempted to measure a general sense of efficacy (Bandura, 1997). Bandura (1986, 1997) claimed that these general measures create problems of predictive relevance and become unclear on what is being

measured. In other words, general self-efficacy instruments provide global scores that transform self-efficacy into a generalised personality trait rather than task- and context-specific judgement (Pajares, 1996). One such frequently used general self-efficacy scale is the Teacher Self-Efficacy Scale used across a spectrum of research topics developed by Tschannen-Moran & Hoy (2001). The scale measures a broad range of capabilities that teachers consider important to good teaching: (1) efficacy for instructional strategies, which includes items that measure teachers' sense of efficacy in developing and implementing instructional strategies to meet the needs of students; (2) efficacy for classroom management, which measures teachers' sense of efficacy to maintain classroom protocols and order; and (3) efficacy for engagement, which measures teachers' sense of efficacy for engaging and motivating students to learn. While some researchers used the Teacher Self-Efficacy Scale in the original format in different contexts, others adopted it for the general purpose of measuring language TSE beliefs in a second-language context (e.g., Chacón, 2005; Dabiri, 2011). Wyatt's (2018) review on language TSE beliefs showed that of all the studies reviewed, over two-thirds employed either the short- or long-term form of task-specific items instead of domain-specific self-efficacy scales. The problem with such generalised measures is that teachers must make judgements about their self-efficacy beliefs without a clear task in mind, as explained by Pajares (1996):

> Omnibus tests that aim to assess general self-efficacy provide global scores that decontextualize the self-efficacy-behavior correspondence and transform self-efficacy beliefs into a generalized personality trait rather than the context-specific judgment. Bandura suggests they are…The problem with such assessments is that students must generate judgments about their academic capabilities without a clear activity or task in mind. As a result, they generate the judgments by in some fashion mentally aggregating to related perceptions that they hope will be related to imagined tasks. (p. 547)

With the continued interest in teacher efficacy, researchers began developing self-efficacy measures that took into consideration both domain and task specificity. Domain-specific evaluations, such as asking teachers to indicate their confidence in teaching ELLs, are more explanatory and

predictive than omnibus tests and superior to general teaching judgements but are inferior to task-specific judgements because the subdomains may vary markedly in the required skills (Pajares, 1996). Pajares (1996) argued that "specificity and precision are often purchased at the expense of external validity and practical relevance" (p. 561). An example of a generalised measure would be "How confident are you to teach Year 8 ELLs?" while an example of specific measure would be "How confident are you as a subject teacher to teach passive and active voice to Year 8 ELLs in an urban setting?" Although researchers agree that teacher efficacy is task-, domain-, and context-specific, the appropriate level of specificity is less clear. Researchers caution against overly narrow measures, as studies may lose generalisability to other settings as specificity increases, and thereby lose their predictive power (Tschannen-Moran & Hoy, 2001). With the ongoing debate about task-, domain-, and context-specificity, teacher-efficacy research has seen the growth of measures taking into account these aspects. Examples of such are the Culturally Responsive Teaching Self-Efficacy Scale (CRTSE) designed to elicit "information from pre-service teachers regarding their (beliefs about their) efficacy to execute specific teaching practices and tasks that are associated with teachers who have adopted a culturally sensitive pedagogy" (Siwatu, 2007, p. 1091), and the Culturally Responsive Teaching Outcome Expectancy Scale (CRTOE) designed to "assess teachers' beliefs that engaging in culturally responsive teaching practices will have positive classroom and student outcomes" (Siwatu, 2007, p. 1091). An example of a culturally responsive teaching practice item on the CRTSE is "use my students' cultural background to make learning meaningful," and an item on the CRTOE is "incorporating a variety of teaching methods will help my students to be successful" (Siwatu, 2007, pp. 1093–1094).

Even though there has been increased interest in self-efficacy beliefs in the development of task-, domain-, and context-specific teacher-efficacy instruments within the field of second-language learning over the last 15 years, there are no existing scales in the literature that measure teacher beliefs about using CB instructional strategies and teaching practices to support ELLs. While the CRTSE and CRTOE lean towards culturally responsive teaching practices, linguistically responsive teaching

practices and instructional strategies are absent from these scales which underpin content and language teaching. The development of the new TSE scale was motivated by the trend amongst researchers to move away from more general self-efficacy to more task-specific self-efficacy scales.

Therefore, the purpose of the newly developed scale was to measure TSE beliefs for using instructional strategies relevant to culturally and linguistically responsive teaching practices within the domain of a second-language context. Unlike the CRTOE scale which focuses on outcome expectancy (i.e., an agents-ends conceptualisation), the items on the newly developed scale reflect an agent-means conceptualisation that is, focusing on teachers' beliefs about their ability to take actions (Wheatley, 2005). An example of such an item is "distinguishes between core content vocabulary and common everyday vocabulary." The items reflect an agent-means conceptualisation of these beliefs.

Instrument Development

A discussion of the content-based instruction teacher self-efficacy scale (CBI-TSES) development process follows which includes item generation, content validity, response scale, minimising response bias, and field testing. Bandura's (2006) "Guide for Constructing Self-Efficacy Scales" was considered for the development of the instrument.

Item Generation. Items were identified through the review of a research report in the US, "Assessing Quality in the Teaching of Content to English Language Learners" (Turkan et al., 2012). By reviewing the literature and collaborating with professionals and researchers, Turkan et al. (2012) developed a comprehensive framework of teacher knowledge and skills required to teach content and language to ELLs in subject areas such as English, mathematics, social studies, and science. With the permission of the authors (see Appendix A), statements that were consistent with the principles of CBI were used to measure TSE perceptions for CB instructional strategies and teaching practices.

Items include aspects of making connections to students' background (e.g., use my students' cultural background to make learning meaningful); focusing explicitly on teaching academic vocabulary and language (e.g., to distinguish between core content vocabulary and common everyday vocabulary); providing opportunities for comprehensible input (e.g., implement various strategies to

differentiate instruction for ELLs), and classroom engagement (output; e.g., provide multiple opportunities to process for content in group contexts); and teaching metacognitive skills (e.g., teach metacognitive language-learning strategies). Bandura (2006) maintained that items should be phrased in terms of "can do rather than will do because efficacy items are concerned with perceived capability. Can is a judgment of capability; will is a statement of intention" (p. 308). In accordance with the idea that efficacy items should reflect the construct accurately, the newly developed scale used "how certain am I that I can" statements. For example, "how certain am I that I can provide multiple opportunities for ELLs to process content in group contexts?"; "how certain am I that I can include language objectives alongside content objectives in planning lesson?"; "how certain am I that I can make abstract content concepts accessible to ELLs?"; and "how certain am I that I can draw upon ELLs' cultural and educational background to support ELLs' comprehension?"

Content Validity. Other documents were also consulted as secondary sources to validate the items; these ranged from peer-reviewed empirical research to theoretical work on SLA (e.g., Alton-Lee, 2003; Deussen et al., 2008; Meltzer & Hamann, 2005; Samson & Collins, 2012; Téllez & Waxman, 2005). (See Appendix B for a list of principles that support CBI.) Although Alton-Lee's (2003) synthesis of quality teaching for diverse students in NZ highlights 10 evidence-based characteristics of quality teaching, there is an absence of linguistically responsive principles in the study. The assumption is NNS may learn in the same way as NS of English and does not recognise that ELLs may require additional scaffolding to acquire content and language (Si'ilata, 2014).

In addition to content validity, Bandura (2006) posited that, "self-efficacy scales should have face validity. They should measure what they purport to measure, that is, perceived capability to produce given attainments" (p. 318). The validation procedure was conducted using a panel of five ESOL teachers with specialist ESOL qualifications and teaching experience. They were asked to comment on the applicability and usefulness of each item measuring TSE for CBI on a scale ranging from 1 (does not or hardly measures CBI) to 5 (definitely measures CBI). During the evaluation review, the researcher posed the following question to assess the validity of the items: "What teaching

practices and instructional strategies should teachers of ELLs demonstrate to promote content and language teaching?" In response to this question, the ESOL teachers were prompted to conceptualise what teachers must do to demonstrate effective CBI for ELLs. Three ESOL teachers disagreed with some of the linguistically responsive teaching practice phrases, suggesting that the vocabulary may be unfamiliar to subject teachers. After discussion, all five ESOL teachers agreed to delete the following statements: "Help ELLs decode meaning from highly abstract and culturally embedded phrases and sentences by encouraging them to infer meaning from context" and "knows that the discourse of academic texts in content areas (mathematics, science, social studies) includes the use of passive voice in describing events or explaining cause and effect." The scale was returned to the ESOL teachers for final review and confirmation of the inclusion of items on the scale. The final scale had a total of 23 items as follows.

1. Draw upon ELLs' cultural and educational background to support ELLs' comprehension
2. Make abstract content concepts accessible to ELLs
3. Provide ELLs with oral and visual support
4. Include language objectives alongside content objectives in planning lessons
5. Teach ELLs new vocabulary in context with oral and visual support
6. Implement various strategies to differentiate instruction for ELLs
7. Supplement curriculum and textbook materials with other resources
8. Help ELLs to understand discipline-specific concepts using graphic organisers, templates, T-charts
9. Adapt texts to make content specific concepts accessible to ELLs
10. Explicitly explain genres to ELLs
11. Scaffold ELLs' ability to phrase/rephrase academic language in their own words
12. Provide multiple opportunities for ELLs to process content in group contexts
13. Design production activities to provide ELLs with the opportunities to express their ideas and perspectives

14. Build on ELLs' knowledge of cognates
15. Distinguish between core content vocabulary and common everyday vocabulary
16. Apply various methods to incorporate different interactional and task engagement styles
17. Encourage critical thinking
18. Identify areas of difficulty in academic vocabulary
19. Identify parts of speech in sentence structures
20. Teach metacognitive language-learning strategies
21. Develop ELLs' higher order thinking skills through questioning techniques
22. Develop ELLs' metalinguistic awareness of the English language (i.e., ability to distinguish between literal and implied meanings)
23. Pace oral communications and instructions appropriately for ELLs

Response Scale. Bandura (2006) believed that scales with too few anchor points may restrict responses to midpoints thus producing a central tendency bias. However, Mauer and Pierce's (1998) research contradicted Bandura's argument about using scales with too few anchor points. They concluded that a 5-point Likert-based scale seems to provide an acceptable alternative to measuring self-efficacy beliefs. Pajares et al. (2001) later discovered, in favour of Bandura's assertion, that an efficacy scale of 0–100 response format is a greater predictor of efficacy than one with a narrower response option like a 5-point-range scale. To further strengthen Bandura's claim, Dawes (2008) confirmed that more scoring points could result in smaller kurtosis and skew values (i.e., data could be a flat distribution given the wider distribution of the data) particularly as the number of answers increases (Pallant, 2007). Influenced by Siwatu (2007) and the empirically-based assertion that 0–100-point Likert-based scales were psychometrically stronger, the 100-point Likert-based scale ranging from 0 (cannot do at all) through to 50 (moderately can do) to 100 (highly certain can do) with anchors at 0,10–20,30,40,50,60,70,80,90,100 was used. Teachers were asked about their confidence to use CB instructional strategies and teaching practices to support ELLs' in their subject classes.

Minimising Response Bias. To minimise bias in responses, standard procedure for measuring teacher-efficacy beliefs includes a "number of safeguards to minimize any potential motivational effects of self-assessment" (Bandura, 2006, p. 314). Firstly, survey respondents were informed of anonymity through the Qualtrics online survey and the participant information sheet that stated, "The questionnaire is anonymous and no IP address or other identifying information will be gathered." Secondly, to encourage frank responses, survey respondents were informed about the importance of their contribution to research that stated "It is anticipated that, by analysing your responses, a better understanding of how teachers can be supported in using CB instructional strategies and teaching practices to develop ELLs language proficiency and maintain content learning."

Field Testing. Once the questionnaire was finalised, a pilot survey was performed to ensure that the survey was simple to read, and the timeframe for completion was reasonable. It was important that the pilot sample closely resembled the population with which the measure was to be used. These steps were necessary as the instrument was new.

Therefore, the pilot sample was recruited from a total of 10 secondary subject teachers from various learning areas (English, languages, social studies, and technology) since the study's focus was on secondary subject TSE for developing ELLs' content and language skills. Teachers were specifically invited to report on the readability and significance of survey items. Comments, feedback, and suggestions from teachers were essential for the instrument's improvement. The survey respondents were given 7–10 minutes to complete the survey, then the discussion ensued. Two teachers remarked on the complex language, suggesting streamlined words and/or meanings to accompany complicated words such as cognates. Four teachers remarked on the length and wordiness. Some phrases were streamlined, paraphrased or a definition was inserted for easier readability. The length of various statements was reduced (e.g., "design production activities to provide ELLs with the opportunities to express their ideas and perspectives" in place of "design production activities to provide ELLs with the opportunities to express their ideas and perspectives [e.g., choral speaking, teachers' restating students' spoken ideas to clarify their reasoning, getting students talking in small

groups]).” Once pilot testing was completed, including making changes to items, data collection through the online Qualtrics survey began. See Appendix C for the survey.

Structured Interviews

Interviewing is a method used to gather valuable data or information, which allows researchers to gain an understanding of the context developed and the reality as seen and experienced by the participants (Rashidi et al., 2014). An interview is a form of data collection that includes obtaining responses or desired responses to flexible questions (semi-structured interview) or predetermined questions (structured interview). A structured interview ensures that the same topic or content is covered with each interviewee and they are asked about it in a relatively similar manner. In other words, the interview is structured as the interviewee answers a set of questions in a predetermined sequence with a defined range of responses.

As Bryman (2001) explained, standardised interview entails:

> the administration of an interview schedule by an interviewer. The aim is for all interviewees to be given exactly the same context of questioning. This means that each respondent receives the same interview stimulus as any other. The goal of this style of interview is to ensure that interviewees’ replies can be aggregated … Questions are usually very specific and very often offer the interviewee a fixed range of answers. (p. 107)

Structured interviews were used to ensure coverage of topics in a comparable manner which enabled the comparison of data between the sample for a meaningful analysis between HSE, MSE and LSE teachers. The data from the interview in Phase 2 (i.e., secondary subject teachers’ use of CB instructional strategies) complements the data from Phase 1 (i.e., secondary subject teachers perceived self-efficacy for CBI) thereby enhancing the trustworthiness of the study. Further details of the data analysis will be discussed later in this chapter.

The questions for the interview were guided by the items from the CBI-TSES scale as well as CBI literature. The objective of the structured interview in the current study was to collect data on the

predetermined sequence of questions on instructional strategies used by secondary subject teachers to teach content and language to ELLs. The questions are:

(1) Think of two English-language learners in your class. Please share with me their cultural and language background.

(2) You are introducing a new unit of work in your class. There is subject-specific vocabulary that ELLs may not understand. Are there any specific instructional strategies that you use to reinforce subject-specific vocabulary? What does this look like in your class?

(3) The ELLs in your class are working on an Achievement Standard. The academic vocabulary includes words like classify, analyse, justify. How have you managed to scaffold and reinforce the key vocabulary to support ELLs' understanding?

(4) There are ELLs in your class who do not participate in class discussions. Have you managed to work out ways which can encourage ELLs to participate in your class? Describe please.

(5) Which instructional strategies do you use with ELLs to stimulate their thinking (critical thinking)? Please give me some examples. What instructional strategies do you provide for ELLs to reflect on their learning (metacognitive strategies—think about their thinking)? (see Appendix D).

It was also necessary to clarify through probing that the interviewee responses expressed their actual teaching practices in the classroom. For instance, follow-up questions included: "Can you give me an example/s?" and "what did this look like in your class?"

Phase 1 Quantitative Data

Data Collection

Following approval by the University of Auckland Human Participants Ethics Committee, the researcher gained access to the names of secondary schools across the North Island of NZ through

the Education Counts (2020) website.[10] Of the 50 school principals emailed, 10 responded positively to the request to distribute the Qualtrics online survey to their staff (see Appendix E for participant information sheet for principals). The consent forms were then emailed to the principals and boards of trustees to complete (see Appendix F). The researcher also emailed online-community facilitators of English, languages, arts (dance, drama, music, and visual arts) and maths learning areas (see Appendix G for participant information sheet for online facilitators). Online communities do not exist for health and physical education, science, social sciences, and technology. All facilitators agreed to distribute the survey on the respective online communities except for mathematics as the researcher did not receive a response to her email. The email included a participant information sheet with a brief account of the research project, its purpose, project procedures, assurance of anonymity and confidentiality, details of data storage/retention and destruction/future use and the contact details of the researcher (see Appendix H for participant information sheet for secondary teachers). Consent was given through the completion of the survey. After a few weeks, the researcher followed up with principals and online-community facilitators and re-sent the link. The online survey remained open for 10 weeks. A total of 154 respondents took the survey.

Data Analysis (Steps 1–7)

Data analysis was preceded by considering information about the missing data, linearity and homoscedasticity, normality, multivariate outliers, multicollinearity, and singularity. Initially, the data were examined to detect any missing data and identify any outliers. Although 154 respondents took the survey, 36 failed to complete the survey in its entirety and their data were excluded from the analysis. Data analysis was based on 118 respondents who completed the survey in its entirety. In Phase 1, data analysis involved conducting an exploratory factor analysis to identify the underlying relationships between measured variables followed by Cronbach's alpha as a measure of internal consistency. This includes information such as descriptive statistics, factor loadings, communalities, eigenvalues (if

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[10] https://www.educationcounts.govt.nz/data-services/directories/list-of-nz-schools

applicable), percentage of variance accounted for (if using orthogonal rotation), and correlation matrix. Procedural guidelines suggested by Pallant (2007) on running exploratory factor analyses were also followed when conducting these analyses. Means and standard deviations of the questionnaire items were created, along with Cronbach's alpha reliability estimates of item groupings. In Phase 1, analyses were completed in seven steps. Step 1 included the descriptive statistics of survey responses to the CBI Likert-based scale through measures of central tendency and variability. Step 2 involved inferential statistics using one-way analysis of variance (ANOVA) with a planned post hoc comparison to examine the differences between three levels of self-efficacy. To establish self-efficacy categories, standard percentile scores of 33, 66 and 100 were set to identify survey respondents in the bottom third of scores (0–52), the middle third (53–70) and the top third (71–100) to categorise them into low, medium, and high categories for the analysis. The resulting categories were employed to address Research Question 1, "What is the nature of differences in self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction?" Steps 3–4 involved the descriptive statistics of TSE perceptions between ESOL and non-ESOL teachers as well as teachers' perceptions in different learning areas. The purpose of the latter analyses was to identify whether ESOL teachers and non-ESOL teachers perceived their TSE differently and in what ways. Steps 5–6 involved the descriptive statistics of survey responses to reflect the nature of PLD, the content covered in PLD as well as the frequency with which they had undergone PLD to support ELLs. Inferential statistics was conducted using the Pearson's product-moment correlation to determine the strength and direction of a linear relationship between two continuous variables (hours of PLD attended and TSE scores) to answer Research Question 2, "Is there a relationship between the extent of professional learning and development and self-efficacy perceptions of secondary teachers for content-based instruction?" Step 7 involved the descriptive statistics and inferential statistics using an independent samples *t*-test to examine the differences between teachers with specialist training and teachers with no specialist training. The quantitative data from the survey used in the first phase of the research were analysed using the SPSS (version 25) statistical software program.

Phase 2 Quantitative and Qualitative Data

Data Collection

The interview volunteers were recruited at Phase 1 data collection process. Those teachers willing to participate were required to complete the survey again as their previous responses were anonymous. The aim was to use the survey data to group TSE scores into high, medium, and low to examine patterns in the interview responses. Sixteen teachers communicated their willingness to complete the survey and participate in the interview. All 16 teachers were considered for the interview since they were inservice secondary teachers from a range of learning areas. The completion of the structured interview was conducted over a 3-month period from September to November 2018. Interview participants were emailed the consent form, along with the participant information sheet. They were informed about the reason for the study, any possible risks, discomforts, or benefits from participating in the interview and questions were invited (see Appendix I for participant information sheet for interviews). Participants were informed that the interview was to be tape-recorded and transcribed by the researcher. All 16 participants signed the consent form (see Appendix J for consent form). Of the 16 audio-recorded interviews, 11 interviews were conducted face to face, two over Skype and three on FaceTime. The interview session had seven questions and lasted about 30–45 minutes. Interviewees were thanked at the conclusion of the interview, asked if they had any further questions or concerns. There were no concerns from the interviewees.

Data Analysis (Steps 8–10)

In Phase 2, the quantitative data (survey) were examined to ascertain the level of self-efficacy to teach content and language to ELLs, using total scores (see Step 8 following). The qualitative data (interview) explored what instructional strategies secondary subject teachers use to teach content and language. Analyses were completed in three steps (Steps 8–10) to address Research Question 3 "Do teachers report differently on content-based instructional strategies according to their self-efficacy perceptions, specialised training and the subject taught?" In Step 8, descriptive statistics were used to analyse the TSE scores of the 16 interview participants. Quantitative analyses were performed to

calculate the overall mean summed scores for TSE perceptions. To establish the three self-efficacy categories, the same standard percentile scores of 33, 66, and 100 were set (Phase 1 survey) to identify interview participants in the bottom third of scores (0–52), the middle third (53–70) and the top third (71–100) to categorise them into low, medium, and high categories. In Step 9, the interview data from the mixed methods were analysed to establish what instructional strategies secondary teachers use to support the development of ELLs content and language skills. The set of five dimensions of effective CBI were used as a framework to consider all the evidence collected: (1) making connections to students' background, language, and culture; (2) focusing explicitly on teaching academic vocabulary and language; (3) increasing comprehensible language input; (4) promoting classroom interaction (output) and (5) stimulating higher order thinking and teaching metacognitive skills.

The researcher cued participants to the content of the interview by getting them to complete the online survey first and then answering the interview questions. This predisposed them to discuss ideas relating to CB instructional strategies and teaching practices. The orientation of the interview questions was influenced by the items in the CBI-TSES. Since there is a theoretical justification in the literature for beginning an analytical process with predetermined themes, it seemed valid and reliable to use the key themes generated from the five salient dimensions (Corbin & Strauss, 2008). Consequently, the "key concepts in the interview questions would form the master codes" (Woods et al., 2002, p. 47).

The method of analysing interviews followed standard qualitative analysis. The data were read thoroughly and transcribed verbatim to ascertain a range of responses in relation to CB instructional strategies and teaching practices. First, the qualitative data analysis process involved the reading and re-reading of the transcripts as well as listening to the audio-recording of the interview to become thoroughly familiar with the body of data, observing any initial patterns. The researcher recorded initial impressions in the margin of the transcripts. Second, the process involved the generation of codes that emerged from interview participant responses and then the collation and allocation of relevant data to each code. The coding process began using the interview questions as initial codes. Although such

codes were guided by the interview questions, codes were also determined by looking at each statement response within each question (see Table 3.1 for codes and statement examples). This resulted in four overarching themes: knowledge of ELLs' experiences, educational, cultural, and linguistic backgrounds; instructional strategies to teach ELLs academic vocabulary; instructional strategies to promote oral participation, and instructional strategies to develop thinking and metacognitive skills. There were several subthemes: know the learner, collaboration, oral participation strategies and student reflection (see Table 3.2 for more examples of subthemes). The researcher used the annotations feature of NVivo to write analytical notes about key features. This resulted in identifying two additional codes entitled: build relationships and group configurations.

Before completing the analysis of the interview data, a reliability check was conducted. Intercoder reliability (commonly known as interrater agreement) was used to examine the reliability of the data coding process (Corbin & Strauss, 2008). Two raters were provided with a list of codes and statements from three randomly selected transcripts. The raters were instructed to read each statement, and independently rate whether they believed each of the codes were absent or present in the excerpts with a "yes" or "no." The unit of analysis was a statement concerned with a teaching practice or instructional strategy. An agreement of 80% indicated that both raters provided similar information about the results regarding teachers' instructional strategies and practices. Table 3.1 shows codes with relevant statements from the interrater example.

Table 3.1

Codes and Data

Codes	Statement examples
Writing challenges	"I have one student who is a Vietnamese student who has some difficulty with the written aspects of the English language."
Context	"If this phone costs $1000, will you buy it? We have a discussion around this. Then I bring them to the context of the law of demand."
Bilingual approach	"What I have done, is to have them in small groups to explain the task in their own language. Give them the opportunity to speak in small groups in their first language and then transfer into English."
Group work	"Group work allows ELLs to feel comfortable communicating and interacting with one another."
Questioning techniques	"I use focus questions and rhetorical questions at the start of topics or units also help to frame inquiry and stimulate thought and discussion which can help lead to deeper critical thought with some students."
Prior experiences	"I often use their prior experiences as topics for internal assessments. For example, topics like 'compare and contrast New Zealand education to Chinese education' gets good results. The students have lots to write about."
Building relationships	"They feel more comfortable approaching me because of the positive relationship between us."
Communicative tasks	"I taught a poem using visuals. I found a film on YouTube where there were lots of images from World War I. In pairs, the learners had to ask and answer questions to match the visual with the quotes from the poem 'Dulce et Decorum Est' by Wilfred Owen. This gave them the opportunity to engage in conversations."

Thirdly, the process involved creating a codebook using NVivo 12 where all the codes were collated under preexisting themes and subthemes identified for each of the different types of CB instructional strategies and teaching practices, as shown in Table 3.2. In the first column, preexisting themes were identified from the dimensions of effective CBI and in the second column, evolving subthemes from the preexisting themes were coded. This informed the initial analytical framework, taking cognisance of any new codes. Constant comparisons were made between existing and new data to establish the extent to which the teachers' reported instructional strategies and teaching practices were captured within the existing themes (Corbin & Strauss, 2008). Polarisation of responses defined by the reported teaching practices and strategies was a notable feature within each of the codes. This distinction became apparent because of the coding process, despite not being obvious during the initial data analysis, when considering the three self-efficacy categories.

Table 3.2

Coded Themes and Subthemes, Descriptions and Guiding Questions

Themes	Subthemes
Knowledge of ELLs' experiences, educational, cultural, and linguistic backgrounds	Know the learner Make connections to ELLs' prior knowledge Build relationships
Instructional strategies to teach ELLs academic vocabulary	Word banks and glossaries Support materials Contextualisation Communicative tasks Use of L1 to support L2
Instructional strategies to promote oral participation	Collaborative strategies Oral participation strategies Grouping configurations
Instructional strategies to develop thinking and metacognitive skills	Higher order thinking strategy Student reflection

Fourthly, the process included the examination of whether the themes worked in relation to the coded extracts and the entire data set. The final stage involved the write-up of the results into the findings chapter. Step 10 involved cross-over mixed analysis in which qualitative data were quantified using frequency and percentages to understand the interplay between TSE scores and reported CB instructional strategies (Onwuegbuzie & Combs, 2010). For the cross-over analysis, the reported instructional strategies and teaching practices of high-, medium- and low-self-efficacy teachers were quantified into themes using a set of two descriptors that considered the nature and extent of CB instructional strategies, namely: reported responses with "evidence" or reported responses with "no evidence." A category of evidence was made when teachers reported on specific examples of instructional strategies and detailed how the strategy looks when enacted in a classroom. This meant that the interview participant's response was explicit in illustrating what the strategy looked like in the classroom. A category of "no evidence" of instructional strategies was designated when the reported response was non-specific, generalised, and vague, without details of what the practice looks like in a classroom. This does not necessarily mean that the instructional strategies were absent, rather they

were not supported with an illustration, that is, no explanation was offered of what the practice looked like when enacted in a classroom. In doing so, the researcher was able to show how interviewee participants may have reported differently in terms of reported illustrations and examples. Two ESOL teachers were asked to verify the categorisation of responses for accuracy. The ESOL teachers were provided with three randomly selected interview transcripts and the criteria for examples of teaching practices and instructional strategies with evidence and no evidence as shown in Table 3.3.

Table 3.3

Criteria for Evidence and No Evidence

Evidence	No evidence
Reported instructional strategies and teaching practices with illustrations and examples	Inexplicit, less detailed with no illustrations or examples
Detailing what the reported instructional strategies and teaching practices look like when enacted in the classroom	Generalised, vague details of what the reported instructional strategies and teaching practices look like when enacted in the classroom

As an illustration, interview participants were asked, "You are introducing a new unit of work in your class. There is subject-specific vocabulary that ELLs may not understand, for example, terminology in your specific subject. Are there any specific instructional strategies that you use to reinforce subject-specific vocabulary?" An example of an excerpt with evidence looks like this:

> I did a task where I took a lot of vocabulary out of the unit standards and the words that they are faced with when answering exam questions. I put the students in pairs, and they did a mix-and-match exercise with the vocabulary and definitions. This example is also about understanding the vocabulary. I also put a word bank at the bottom of the essay questions to scaffold so that they got those words to refer to, if need be. (Participant 6—ESOL teacher)

An example of an excerpt with "no evidence" looks like this, "I would use the work in context. Use glossaries, paraphrase, explain back the words and repetition" (Participant 4—social studies teacher). Interrater reliability was achieved by inviting a second reviewer to verify the classification of five interview transcripts into evidence and no evidence. Once the categorisation was completed and verified with the researcher's work, 100% agreement was consistently achieved. This

method of quantification, when done judiciously, allows the researcher to draw attention to patterns, peculiarities, and subtleties in the data; however, it is not intended to convey generalisability beyond the study population (Sandelowski et al., 2009). To this end, no inferences can be drawn about the prevalence of phenomena observed beyond the sample.

Ethical Considerations

Research approval was obtained on 21 August 2017 for 3 years (reference 019812) by the University of Auckland Human Participants Ethics Committee. The survey was anonymous and no IP address or other identifying information was gathered. Submission of the survey counted as consent to participation. Interviewees were reminded of the voluntary nature of participation, and that their decision to participate or not would not affect their employment or relationship with their school. Interviewees had the right to withdraw their data at any time prior to the completion of data collection by 30 November 2018 without prejudice and without the need to disclose a reason.

The researcher gave an undertaking to the interview participants that their identities, as the source of information, would be kept confidential and if data were shared, published, or reported, this would be done in such a way that the source of data could not be identified. Once interviewees chose to engage in the study, a hard/online copy of a consent form delineating the research project and the expectations was given to the interview participants to complete. Within 2 weeks of receipt of the transcript, interview participants were able to review and edit the transcripts. Survey respondents and interview participants were informed of data storage and retention. All electronic files would be stored on a hard drive via a password-protected desktop machine. Hardcopies of the interview transcripts were identified by a code, not by name, and will be stored securely in a cabinet for a period of 6 years.

Researcher's Position

Since the qualitative part of the inquiry relied on my interpretations and analysis, it is important to acknowledge and describe my experiences, background, and perspectives. As Janesick

(2000) affirmed, "there is no value-free or bias-free design . . . the qualitative researcher identifies his or her own biases and articulates the ideology or conceptual frame for the study" (p. 385).

The study's design of TSE for CB instructional strategies emanated from my personal and professional background, passion, and interests. As I began the research, I was conscious that my historical, social, and cultural context; and concepts, views, and perceptions affected my understandings and interpretations. It was my intention to use my personal and professional experiences as a teacher of ESOL as a lens for data interpretation. While working with ELLs in mainstream classes, I developed a passion to provide specialised support for ELLs. My professional journey began in Taiwan where I taught preschoolers, elementary, secondary as well as university students, and even enthusiastic adults wanting to learn English. I embraced the Taiwanese culture by connecting with the people and becoming acquainted with the customs and traditions of the Taiwanese people. Nevertheless, that experience unsettled my convictions about the knowledge and skills I needed to teach second-language learners effectively. It also challenged me to develop new knowledge and skills. I subsequently immigrated to NZ and continued my teaching career as a mainstream teacher. There, an opportunity arose for me to pursue the TESSOL programme. Excited at the possibility of developing my skills by working with ELLs, I envisioned teaching through a creative and engaging lens for the first time. After transitioning to ESOL as head of department, I grew more aware of the challenges ELLs face when they move from a familiar educational and cultural environment to an English-speaking environment.

My academic background, professional career, and experiences teaching in South Africa, Taiwan and NZ have shaped my biases, beliefs, perceptions, and opinions about teaching English as a second language. All these experiences create the probability of subjective perceptions of the phenomena being researched and generate bias possibilities when making sense of the data (Locke et al., 2000). It was important to endeavour to think objectively and to understand interview participants' experiences without any judgement or bias.

Establishing Trustworthiness

Trustworthiness includes credibility, transferability, dependability, and confirmability. Credibility is the way researchers establish authenticity, legitimacy, and value in their study (Korstjens & Moser, 2018). To establish the authenticity and legitimacy of the data and determine whether they correspond to truth, member checking, triangulation, and tactics to help ensure honesty in informants' responses were used to validate the results in the current study. All data were provided by the interview participants themselves and analysed by the researcher. Firstly, member checking involved interview participants reviewing the transcripts and, if necessary, editing the content. Interview participants were also provided with the opportunity to check the accuracy/trustworthiness of inferences that the researcher drew from the data through a summary of the data emailed to interview participants (Merriam & Tisdell, 2016). Secondly, to ensure credibility, triangulation involved the process of providing multiple methods of data collection revealing several converging supports for a single point (Johnson & Christensen, 2019). In the current study, the data methods, that is, quantitative and qualitative data, were triangulated not data sources. Johnson and Christensen (2019) posited that educational research is about "providing solid evidence for your conclusions and greater when you employ a logical mixing strategy" (p. 226). Thirdly, tactics to help ensure honesty were to encourage genuine interest. This was done by giving interview participants the right to withdraw from participation without giving a reason or withdraw their data at any time before the completion of data collection by 30 November 2018. This was to ensure that the interview session involved only those who genuinely wanted to engage in the study. The researcher also encouraged interview participants to be honest about their responses from the outset and was careful not to give evaluative responses to their descriptions.

Dependability

To address the reliability issue, the study's processes and procedures should be thorough to allow a future researcher to replicate comparable processes in a different context. Thorough documentation allows the reader to evaluate the extent to which the research protocol was undertaken.

Chapter 3 gives a detailed account of data collection, data analysis, and data interpretation processes. This means that the study could be replicated with the same methods and similar participants and the results would be comparable (Schwandt et al., 2007). An audit trail was used to track all decisions made throughout the study. The researcher's data, notes, and analyses were stored to help secure the reliability of the study. Manual coding was used for the grouping and organisation of interview (and all other) data. Schwandt et al. (2007) stated that audit trails can help assist the reader in the dependability of the study.

Confirmability

Confirmability is concerned with the aspect of neutrality of the researcher (Korstjens & Moser, 2018). To obtain confirmability, researchers adopt measures to demonstrate that findings emerge from the data and not their own predispositions. To this end, reflexivity is an important aspect of confirmability (see Researcher's Position). The researcher's involvement in the qualitative phase contrasts directly with quantitative studies. In Phase 1 of the study, the researcher distributed the survey and collected the data using the standardised procedures. The data analysis used stringent statistical analysis methods and the outcomes were presented in accordance with the established values. In Phase 2 of the study, the researcher took a more participatory position but was always conscious to remain objective.

Chapter Summary

The purpose of the sequential, explanatory, mixed-method design was to complement the findings from one analytical strand (i.e., quantitative) with the results from the other analytical strand (i.e., qualitative) through data integration for a better understanding of TSE. The intent of the survey is to examine TSE perceptions for CBI while interview data were used to explore reported instructional strategies used by secondary subject teachers to work with ELLs. The survey respondents from Phase 1 quantitative data collection and the interview participants from Phase 2 qualitative data collection

were selected using convenience sampling. Survey respondents from Phase 1 were 118 responses and interview participants from Phase 2 were 16.

Phase 1 data analysis involved Steps 1–7 (i.e., descriptive and inferential statistics) to address Research Question 1 "What is the nature of differences in teacher self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction?" and Research Question 2, "Is there a relationship between the extent of professional learning and development and self-efficacy perceptions of secondary teachers for content-based instruction?" Phase 2 data analysis involved Steps 8–10 (i.e., descriptive and thematic analysis and data integration) to answer Research Question 3 "Do teachers report differently on content-based instructional strategies according to their self-efficacy perceptions, specialised training and the subject taught?" Ethical considerations, establishing credibility through member checking, triangulation, and tactics to help ensure honesty, as well as dependability and confirmability have been discussed.

Chapter Four: Phase 1 Results

Teacher Self-Efficacy Perceptions

This chapter presents the findings of Phase 1 survey data to establish secondary subject TSE to teach content and language to ELLs. First, demographics of survey respondents were analysed by gender, age, years of teaching experience, educational attainment and learning areas using descriptive statistics (see Appendix C for the survey). Next, an exploratory factor analysis was performed to determine the underlying relationships between the measured variables along with a Cronbach's alpha to examine the internal reliability of the items.

Phase 1 data were analysed in seven steps. Steps 1–4 addressed Research Question 1, "What is the nature of differences in self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction?" Step 1 involved the descriptive statistics of the survey responses to the Likert-based scale through frequency and variability for each of the 23 items. Step 2 included inferential statistics to perform an ANOVA with a planned post hoc comparison to determine the statistical difference of scores. Before the computation of the ANOVA, standard percentile scores were set to ascertain the three self-efficacy categories: high, medium, and low. Step 3 involved descriptive statistics to find out whether ESOL and non-ESOL teachers perceived their self-efficacy to use CB instructional strategies and teaching practices differently. Step 4 involved descriptive statistics to inquire into the differences of TSE by learning areas.

Steps 5–7 addressed Research Question 2, "Is there a relationship between the extent of professional learning and development and self-efficacy perceptions of secondary teachers for content-based teaching instruction?" Step 5 involved the descriptive statistics on the nature and extent of PLD and Step 6 involved performing a Pearson's product-moment correlation to determine the strength and direction of a linear relationship between two continuous variables (hours of PLD attended and TSE scores). Step 7 included the descriptive statistics as well as an independent samples *t*-test to examine

whether there was a statistically significant difference between teachers with specialist training and teachers with no specialist training.

Demographics

This section presents the characteristics of the survey respondents with respect to gender, age, years of teaching experience, educational attainment and respective learning areas taught using descriptive statistics. The survey respondents included 118 secondary teachers across *Te Ika-a-Māui* (the North Island of NZ). The survey respondents included teachers from various learning areas as well as ESOL teachers. ESOL teachers were self-nominated.

Gender

All survey respondents provided information on their gender. The male–female ratio was approximately 1 to 3 (25% to 75%). This reflects the current trend of a majority of female teachers in the secondary teacher population in NZ secondary schools. According to figures compiled by Education Counts (2019),[11] the total number of teachers working in secondary schools as of 2017 was 25,841. A total of 39% were male and 61% were female so the current sample underrepresents male teachers.

Age

The survey provided five choices: 21–30, 31–40, 41–50, 51–60 and 61+. Eight survey respondents chose not to provide information. Although the highest number of survey respondents were from the age range of 41–50 (32%), there was a reasonable representation of teachers from all other age ranges.

Teaching Experience

Survey respondents were asked to provide their years of teaching experience in a secondary school context with the fill-in-item: number of years of teaching experience. Only one survey

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[11] https://www.educationcounts.govt.nz/statistics/schooling/workforce/teacher-workforce

respondent failed to provide the information. Survey results showed that respondents were at various stages in their secondary school teaching careers ranging from being very experienced (30–40) to experienced (21–25) to beginners (0–5 years). The highest number of survey respondents (22%) were from the 16–20 years of teaching experience group and the lowest number from 41–50 (.9%) years of teaching experience.

Educational Attainment

All survey respondents held a degree or an overseas equivalent. Most survey respondents (53.4%) held a bachelor's degree as their highest degree attained, 26.3% a master's degree, and 5.1% a doctorate, while 15.3% had attained other degrees such as honours and postgraduate diplomas. As well as tertiary qualifications in education, 16% also held a specialised certification such as a GradDipTESSOL, Cambridge Certificate in Teaching English to Speakers of Other Languages, Teaching English as a Foreign Language and Master of Teaching English to Speakers of Other Languages.

Learning Areas

The survey provided eight choices of learning areas as per the NZC (MoE, 2007): English, arts, health and physical education, languages, mathematics and statistics, science, social sciences, and technology. For this study, it was important to have a representation of teachers from all learning areas since every teacher has a responsibility to ensure that ELLs receive the necessary support in all subject areas (MoE, 2007). The highest number of survey respondents were from the English learning area (25%). Thirty four percent of ESOL teachers responded to the survey. Five survey respondents indicated teaching in the English and social studies learning area and one survey respondent indicated teaching in the English and languages learning areas.

Exploratory Factor Analysis

An exploratory factor analysis was conducted on the 23 survey items for the purpose of reduction of data to a smaller set of summary variables and to explore the underlying theoretical

structure of the construct. Table 4.1 presents the mean scores and standard deviation of the items. The mean scores across items indicated that teachers rated their level of self-efficacy as being reasonably moderate. The mean scores on 10 items ranged from 60.0 to 67.97, indicating that, on these items, their self-efficacy was also at a reasonably moderate level. The highest mean result was in response to "provide ELLs with oral and visual support" ($M = 67.97$, $SD = 22.36$). It was also found that the mean scores on 12 items ranged from 50 to 60 indicating an average level of self-efficacy. One item was below the mean of 50 indicating that teachers were less confident to "build on ELLs' knowledge of cognates." The data also showed that, although there is a reasonable homogeneity amongst teachers regarding their self-efficacy for employing CBI, there was more variability in their capacity to "include language objectives alongside content objectives," "explicitly explain genres," and "identify parts of speech." The low standard deviations, relative to the mean, indicate consensus (i.e., not much variability around the mean) across the sample. The standard deviations of "apply various methods to incorporate different interactional and task engagement styles" ($M = 60.93$, $SD = 5.32$), "implement various strategies to differentiate instruction for ELLs" ($M = 62.97$, $SD = 4.85$), "make abstract content concepts accessible to ELLs" ($M = 56.27$, $SD = 4.70$) and "draw upon ELLs' cultural and linguistic background to support ELLs' comprehension" ($M = 55.08$, $SD = 6.91$) are low. The total score of the 23 items for the survey respondents ranged from 5 to 96.

Table 4.1

Mean, Standard Deviation and Factor Loadings of Items on the CBI-TSES

Items	*M*	*SD*	Factor loadings
Develop ELLs' metalinguistic awareness of the English language (i.e., ability to distinguish between literal and implied meanings)	52.54	24.74	883
Develop ELLs' higher order thinking skills through questioning techniques	59.49	24.70	879
Include language objectives alongside content objectives in planning lessons	55.68	28.90	875
Scaffold ELLs' ability to rephrase or paraphrase academic language in their own words	54.83	26.34	874
Apply various methods to incorporate different interactional and task engagement styles	60.93	5.32	855
Implement various strategies to differentiate instruction for ELLs	62.97	4.85	853
Make abstract content concepts accessible to ELLs	56.27	4.70	840
Provide multiple opportunities for ELLs to process content in group contexts	67.88	26.05	833
Teach metacognitive language-learning strategies to ELLs	54.15	25.57	832
Supplement curriculum and textbook materials with other resources	63.31	27.74	825
Teach ELLs new vocabulary in context	65.76	25.20	825
Adapt texts to make content specific concepts accessible to ELLs	55.25	27.60	816
Design production activities to provide ELLs with the opportunities to express their ideas and perspectives	59.24	27.02	816
Explicitly explain to ELLs genres (e.g., journal, fact, expository, narrative)	57.03	28.26	806
Distinguish between core content vocabulary and common everyday vocabulary	61.53	24.34	805
Encourage critical thinking	64.49	22.89	795
Provide ELLs with oral and visual support	67.97	22.36	789
Draw upon ELLs' cultural and linguistic background to support ELLs' comprehension	55.08	6.91	773
Identify parts of speech in sentence structures such as verbs in order to make academic texts accessible	60.59	29.71	773
Help ELLs to understand discipline-specific concepts through the use of graphic organisers (e.g., word clusters, semantic maps, T-charts)	55.68	26.91	755
Build on ELLs' knowledge of cognates (A cognate is a word that comes from the same origin as a word from a different language) between English and their home language	44.92	28.55	705
Identify areas of difficulty in academic vocabulary	60.66	25.68	.687
Pace oral communications and instructions appropriately for ELLs'	60.51	25.21	.694

Note. Valid *N* (listwise)

Several well-recognised criteria for the factorability of the correlation data were used to determine suitability for exploratory factor analysis. Firstly, the sample size of the current study consists of 118 survey respondents on a 23-item Likert-based scale. In line with Worthington and Whittaker's (2006) assertion, the study meets the criterion of at least 4:1 participants-to-item ratio.

Secondly, inspection of the correlation matrix showed that all variables had at least one correlation coefficient greater than 0.3. Thirdly, the overall Kaiser-Meyer-Olkin measure was .95 above the commonly recommended value of .6 (Pallant, 2007). Bartlett's Test of Sphericity was statistically significant ($p < .0005$) suggesting that the data were likely factorable. According to Beavers et al. (2013), a statistically significant test result for the Bartlett's test provides evidence that the correlation matrix is non-singular (i.e., a factor matrix can be extracted), and the Kaiser-Meyer-Olkin's value shows that the items share a very high degree of common variance. Typically, Kaiser-Meyer-Olkin values between .50 and 1 are acceptable, with higher values indicating greater common variance, and lower values indicating that additional items or factors should be removed before proceeding (Ferguson & Cox, 1993). Fourthly, the diagonals of the anti-image correlation matrix were also over .5. Finally, the shared variance (i.e., communalities) ranged between .57 and .89 indicating an acceptable fit between the data and the model, further confirming that each item shared some common variance with other items. Although item communalities are considered high when their values are greater than .80, Velicer and Fava (1998) suggested that it is common in social science research for these communalities to range from .40 to .80 and that items with communalities less than .40 should be closely examined. The results of the correlation factorial tests showed that the data were likely factorable. The factorial structure of the newly developed scale yielded one factor that accounted for 67% of the variance as per Table 4.2. This factor was called content-based instruction teacher self-efficacy because all items measuring CB instructional strategies were grouped together.

Table 4.2

Total Variance Explained by the Eigenvalues

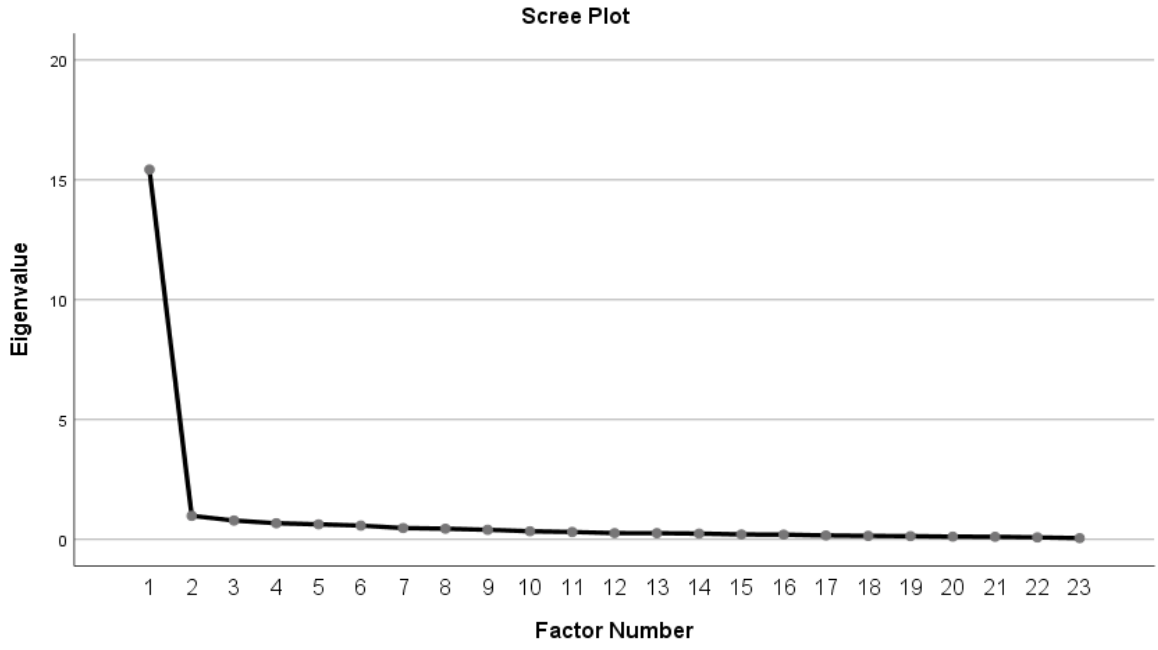
Component	Total	Initial eigenvalues % of variance	Cumulative %
1	15.43	67.1	67.07
2	.983	4.27	71.34
3	.786	3.42	74.76
4	.674	2.93	77.69
5	.628	2.73	80.42
6	.575	2.50	82.92
7	.471	2.05	84.97
8	.446	1.94	86.91
9	.400	1.74	88.65
10	.339	1.47	90.12
11	.309	1.34	91.46
12	.262	1.14	92.60
13	.258	1.12	93.73
14	.239	1.04	94.77
15	.206	.90	95.67
16	.198	.86	96.52
17	.163	.71	97.23
18	.147	.64	97.87
19	.134	.58	98.45
20	.114	.49	98.95
21	.106	.46	99.41
22	.083	.36	99.77
23	.053	.23	100.00

Note. Extraction Method: Principal Axis Factoring.

Further, a visual inspection of the scree plot as shown in Figure 4.1 indicated that the one component should be retained (Cattell, 1966).

Figure 4.1

Scree Plot



Cronbach's Alpha

In line with Bandura's (2006) claim, Cronbach's reliability (alpha) was calculated as a measure of internal consistency between the items. The coefficient showed a good internal consistency between the items on the CBI-TSES as shown in Table 4.3. In fact, the alpha coefficient showed that the factor structure could be used reliably for further analyses.

Table 4.3

Descriptive Statistics and Cronbach's (Alpha) Reliability Coefficients by Factor

Factor	*M*(*SD*)	a	Range potential	Actual	Skew	Kurtosis
Teacher efficacy	58.99(21.30)	.977	0–100	5–96	-.648	-.293

Phase 1 Quantitative Data Analysis

Phase 1 of the quantitative data analysis involved Steps 1–4 to address Research Question 1, "What is the nature of differences in self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction? and Steps 5–7 addressed Research Question 2, "Is there a

relationship between the extent of professional learning and development and self-efficacy perceptions of secondary teachers for content-based instruction?"

For data analysis, it was decided to group the 23 items on the CBI-TSES under the five salient dimensions identified in Chapter 2 (making connections to students' background, culture and language; focusing explicitly on academic vocabulary and language; increasing comprehensible language input; promoting classroom interaction (output) and stimulating higher order thinking and teaching metacognitive skills), using theoretical and empirical literature and the researcher's professional judgement. The rationale for using a framework was to identify survey respondents' areas of relative strength and weaknesses within the dimensions that underpin CBI principles. As a result, self-efficacy beliefs according to the five dimensions provide snapshots of TSE through different aspects of teaching within the domain of CBI.

It became evident from the grouping of items under the five dimensions, that it was possible to place the items in more than one dimension. For instance, it was possible that the strategy of "identifying parts of speech in sentences" could be regarded as important in Dimension 2 (i.e., focusing explicitly on academic vocabulary and language) or Dimension 3 (i.e., increasing comprehensible language input). This implied making precedence categorisation decisions with respect to whether to place the item under Dimension 2 or Dimension 3 based on what appeared to be the major pedagogical concept or purpose underpinning each instructional strategy. Subsequently, the decision was to place the statement "identifying parts of speech in sentences" under Dimension 2 as the focus is on explicitly teaching academic vocabulary and language. Cronbach's reliability coefficient (alpha) is calculated as a measure of internal consistency between items nested within each of the five dimensions as shown in Table 4.4. The coefficient showed a good internal consistency of the items within each dimension.

Table 4.4

Descriptive Statistics and Cronbach's (Alpha) Reliability Coefficients

Dimension	Items	Cronbach's alpha	*M*	*SD*
1	3	.84	57.88	22.07
2	7	.93	57.38	48.37
3	6	.92	59.12	27.15
4	4	.89	62.14	15.17
5	3	.91	59.38	26.73

Phase 1 Steps 1–4

Phase 1, Steps 1-4 addressed Research Question 1, "What is the nature of differences in self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction?"

Step 1: Teacher Self-Efficacy Perceptions for Content-Based Instruction

The purpose of the analysis in Step 1 was to present descriptive statistics of the CB Likert-scale responses primarily through frequency for each of the 23 items according to the five salient dimensions. Using the 0–100-point Likert-based scale (0—cannot do at all, through to 50—moderately can do, to 100—highly certain can do), teachers were asked to rate their confidence in using CB instructional strategies to support ELLs in their classes.

Dimension 1. The average mean score for the dimension is 57.88. Survey respondents are somewhat confident to make connections to students' background culture, and language to make tasks meaningful and accessible to ELLs. Survey respondents reported being reasonably efficacious in supplementing curriculum and textbook materials with other resources as shown in Table 4.5; the item has an above-average mean across all items in Dimension 1.

Table 4.5

Making Connections to Students' Background, Culture and Language

Teaching practice	*M*	*SD*
Draw upon cultural and educational background to support ELLs' comprehension	55.08	26.91
Adapt texts to make content specific topics accessible to ELLs	55.25	27.60
Supplement curriculum and textbook materials with other resources	63.31	27.74

Dimension 2. The average mean score for the seven CB strategies in Dimension 2 is 57.38. As shown in Table 4.6, survey respondents feel more efficacious to teach new vocabulary, identify areas of difficulty in academic vocabulary, and identify different parts of a sentence. They feel less efficacious to use cognates, to identify language objectives and develop ELLs' metalinguistic awareness of the English language.

Table 4.6

Focusing Explicitly on Academic Vocabulary and Language

Teaching practice	*M*	*SD*
Include language objectives alongside content objectives in planning lessons	55.68	28.90
Teach ELLs new vocabulary in context	65.76	25.20
Build on ELLs' knowledge of cognates	44.92	28.55
Distinguish between core content vocabulary and common everyday vocabulary	61.53	24.34
Identify areas of difficulty in academic vocabulary	60.66	25.68
Identify parts of speech in sentence structures	60.59	29.71
Develop ELLs' metalinguistic awareness of the English language	52.54	24.74

Dimension 3. The average mean score for the six content-based strategies in Dimension 3 is 59.12. As shown in Table 4.7, survey respondents feel more efficacious to provide sensory support and feel reasonably efficacious to use differentiated strategies for ELLs, while they feel less efficacious to support ELLs in developing skills to rephrase or summarise.

Table 4.7

Increasing Comprehensible Language Input

Teaching practice	*M*	*SD*
Make abstract content concepts accessible to ELLs	56.27	24.70
Provide ELLs with oral and visual support	67.97	22.36
Implement various strategies to differentiate instruction for ELLs	62.97	24.85
Help ELLs to understand discipline-specific concepts using graphic organisers, templates, T-charts	55.68	26.91
Explicitly explain genres to ELLs	57.03	28.26
Scaffold ELLs' ability to phrase/rephrase academic language in their own words	54.83	26.26

Dimension 4. The average mean score for the four CB strategies in Dimension 4 is 62.14. Survey respondents are most efficacious to provide opportunities for ELLs in group contexts as shown in Table 4.8; the item providing multiple opportunities for ELLs to process content in group contexts has an above-average mean in Dimension 4. On average, survey respondents rate themselves lowest for designing production activities to provide ELLs with the opportunities to express their ideas and perspectives.

Table 4.8

Promoting Classroom Interaction (Output)

Teaching practice	*M*	*SD*
Provide multiple opportunities for ELLs to process content in group contexts	67.88	26.05
Design production activities to provide ELLs with the opportunities to express their ideas and perspectives	59.24	27.02
Apply various methods to incorporate different interactional and task engagement styles	60.93	25.32
Pace oral communication and instructions appropriately	60.51	25.21

Dimension 5. The average mean score for the three CB strategies in Dimension 5 is 59.38. Survey respondents reported a higher sense of self-efficacy to teach metacognitive strategies and encourage critical thinking rather than to develop higher order thinking skills, as shown in Table 4.9.

Table 4.9

Stimulating Higher Order Thinking and Teaching Metacognitive Skills

Teaching practice	*M*	*SD*
Encourages critical thinking	64.49	22.89
Teaches metacognitive language-learning strategies	65.76	25.20
Develop ELLs' higher order thinking skills through questioning techniques	59.49	24.70

Summary of Dimensions. The overall mean for all dimensions exceeded the midway point (50) on the CBI-TSES. Dimension 4 (promoting classroom interaction—output) received the highest mean score and Dimension 2 (explicitly focusing on academic vocabulary and language) received the lowest mean score. Dimension 5 (stimulating higher order thinking skills and teaching metacognitive skills) was second, Dimension 3 (increasing comprehensible language input) was third, and Dimension 1(making connections to students' background, culture, and language) came fourth. The difference between the highest and lowest mean of these three dimensions was minimal (2.49). Overall, survey respondents rated themselves highest in terms of confidence for providing opportunities for classroom interaction and lowest for focusing explicitly on teaching academic vocabulary and language.

Step 2: Differences in Self-Efficacy Categories

The purpose of the quantitative data analysis in Step 2 was to determine any statistically significant differences between the means of the three independent TSE categories (low, medium, and high) and where the group differences lie. Prior to conducting a one-way ANOVA with planned post hoc comparisons, the three categories of TSE were established. To establish self-efficacy categories, standard percentile scores of 33, 66 and 100 were set to identify survey respondents in the bottom third of scores (0–52), the middle third (53–70) and the top third (71–100) to categorise them into low, medium, and high categories for the analysis. The data (see Table 4.10) indicated that although there is a similar variation of TSE scores in the medium and high categories, there is more variability of TSE scores in the low category. This means that the TSE scores for the low category survey respondents are distributed over a large range of values.

Table 4.10

Total Mean Scores for the Three Categories

Category	*n* (%)	*M*	*SD*
High	38 (32.2%)	80.72	5.90
Medium	42 (35.6%)	62.44	6.02
Low	38 (32.2%)	33.44	13.76

To examine whether there was a statistically significant difference between the three categories and where the differences lie, a one-way ANOVA with planned post hoc comparisons was performed. The one-way ANOVA with post hoc test yielded a statistically significant effect, F (2,115) = 253.08 $p < .001$ in mean TSE scores for the categories. The effect size calculated using eta squared was 0.81 indicating a high effect size as shown in Table 4.11.

Table 4.11

One-Way ANOVA

	Sum of squares	*df*	*M* square	*F*	Sig.
Between groups	43,243.74	2	21,621.87	253.08	.000
Within groups	9,824.86	115	85.43		
Total	53,068.60	117			

Post hoc comparisons (Tukey) indicated that the mean for the high category (M = 80.72, SD = 5.90) was significantly different to the mean for the medium category (M = 66.44, SD = 6.02) and the mean for the medium category was significantly different from the mean for the low category (M = 33.4, SD = 13.76) as shown in Table 4.12. This means that the respondents from the three categories differ significantly in terms of their self-efficacy scores.

Table 4.12

Post Hoc Comparison (Tukey)

Dependent variable: Teacher self-efficacy scores						
(I) Scores	(J) Scores	Mean difference (I-J)	*SE*	Sig.	95% CI	
					Lower	Upper
1 low	2 moderate	-28.997*	2.069	.000	-33.91	-24.08
	3 high	-47.277*	2.120	.000	-52.31	-42.24
2 moderate	1 low	28.997*	2.069	.000	24.08	33.91
	3 high	-18.280*	2.069	.000	-23.19	-13.37
3 high	1 low	47.277*	2.120	.000	42.24	52.31
	2 moderate	18.280*	2.069	.000	13.37	23.19

Note. * The mean difference is significant at the 0.05 level.

Step 3: Teacher Self-Efficacy Perceptions Between ESOL and Non-ESOL Teachers

I also wanted to investigate whether ESOL and non-ESOL teachers perceive their self-efficacy to use CB instructional strategies differently particularly around culturally and linguistically responsive teaching practices. Descriptive statistics were used to identify whether ESOL teachers and non-ESOL teachers perceived their TSE differently and in what ways. The means for ESOL and non-ESOL teachers varied for each of the five dimensions as shown in Table 4.13. ESOL teachers reported higher TSE across all five dimensions. However, both ESOL and non-ESOL teachers reported the highest self-efficacy for Dimension 4 (promoting classroom interaction) in their respective groups (ESOL: $M = 75.56$, $SD = 15.60$, non-ESOL: $M = 55.26$, $SD = 22.53$). This, in effect, means that ESOL and non-ESOL teachers reported feeling most efficacious in using CB instructional strategies to encourage interaction and engagement of ELLs. Non-ESOL teachers reported the lowest for Dimension 1 (making connections to students' background, culture and language) and Dimension 2 (focusing explicitly on academic and vocabulary). This means that non-ESOL teachers reported feeling less efficacious for implementing the cultural and linguistic responsive aspects to support ELLs' comprehension and development of language skills.

Table 4.13

Means and Standard Deviations for the Five Dimensions for ESOL and Non-ESOL Teachers

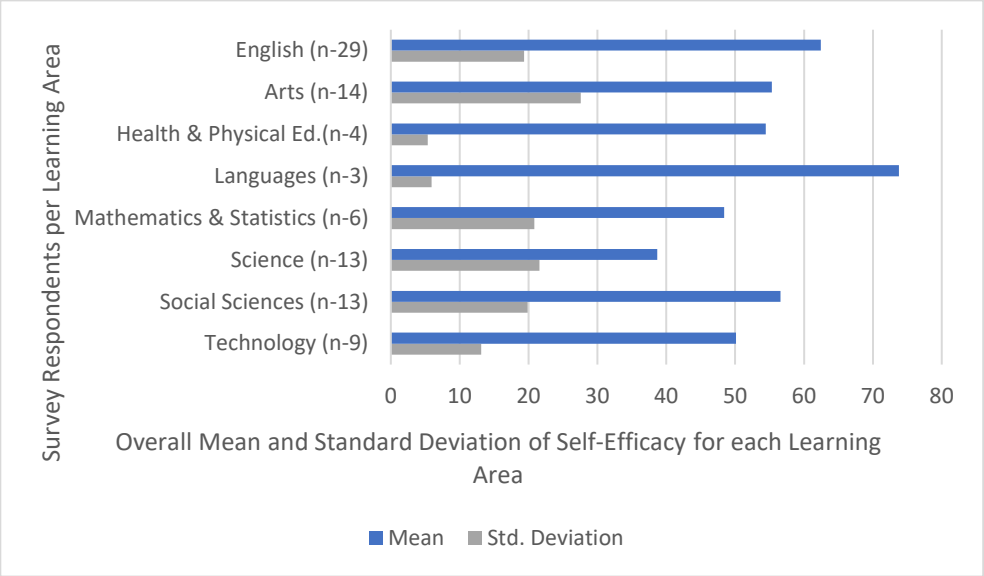
Teachers		Dimensions				
		1	2	3	4	5
ESOL (n = 40)	*M*	71.75	70.64	72.53	75.56	70.17
	SD	21.47	14.89	14.0	15.60	18.52
Non-ESOL (n = 78)	*M*	46.54	50.59	52.31	55.26	53.85
	SD	25.47	22.53	22.04	22.53	22.26

Step 4: Teacher Self-Efficacy Perceptions in the Different Learning Areas

Additional descriptive statistics were performed to inquire into the differences of TSE by learning areas. Five teachers indicated teaching in the English and social sciences learning areas, and one teacher indicated teaching in the English and languages learning areas and these respondents were excluded from the computation. Teachers that reported specialist training to teach ELLs (19 ESOL teachers, three from languages, four from science, and one from the technology learning areas) were also excluded from the computation of descriptive statistics as specialist training could be a confounding variable. The overall mean for each learning area showed that survey respondents from the languages learning area reported the highest self-efficacy (M = 73.77, SD = 5.9), followed by survey respondents from the English learning area (M = 62.44, SD = 19.35) as shown in Figure 4.2. Survey respondents from the science learning area reported the lowest self-efficacy scores (M = 38.70, SD = 21.59). Survey respondents from the other learning areas reported relatively similar overall mean self-efficacy scores to one another. Teachers from the English and languages learning areas feel reasonably efficacious to implement CB instructional strategies to teach ELLs while teachers from the science learning area felt the least efficacious.

Figure 4.2

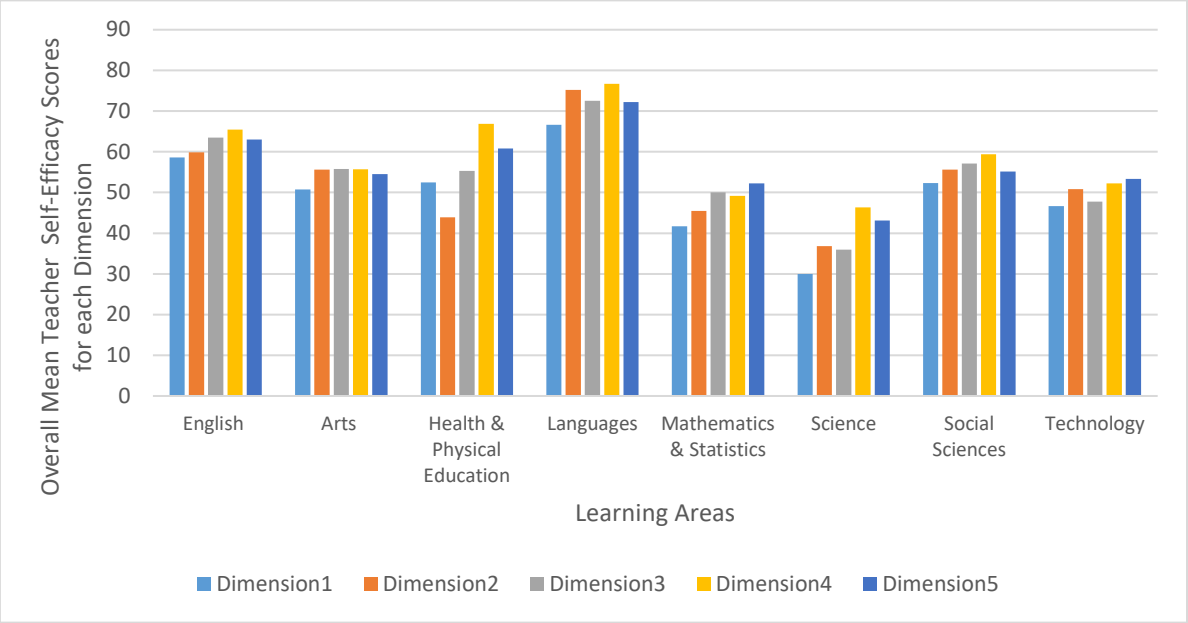
Means and Standard Deviations of Self-Efficacy for Each Learning Area



Survey respondents from the languages learning area reported HSE mean scores across all five dimensions (Dimension 1—$M = 66.67$, $SD = 15.28$; Dimension 2—$M = 75.24$, $SD = 6.60$; Dimension 3—$M = 72.50$, $SD = 8.7$; Dimension 4—$M = 76.67$, $SD = 5.77$; Dimension 5—$M = 72.22$, $SD = 1.9$) as shown in Figure 4.3. Survey respondents from the science learning area reported LSE mean scores across all five dimensions (Dimension 1—$M = 30.00$, $SD = 21.60$; Dimension 2—$M = 36.81$, $SD = 22.43$; Dimension 3—$M = 35.96$, $SD = 20.86$; Dimension 4—$M = 46.35$, $SD = 25.00$; Dimension 5—$M = 43.08$, $SD = 26.33$). Although small numbers, teachers from the English and language learning areas feel reasonably efficacious while teachers from the science learning area feel less efficacious to use CB instructional strategies and teaching practices. Other learning areas reported relatively similar TSE levels across the five dimensions.

Figure 4.3

Overall Mean Teacher Self-Efficacy Scores for Each Dimension in Each Learning Area



Phase 1 Steps 5–7

Phase 1, Steps 5–7 addressed Research Question 2, "Is there a relationship between the extent of professional learning and development and self-efficacy perceptions of secondary teachers for content-based instruction?"

Step 5: Nature and Extent of Professional Learning and Development

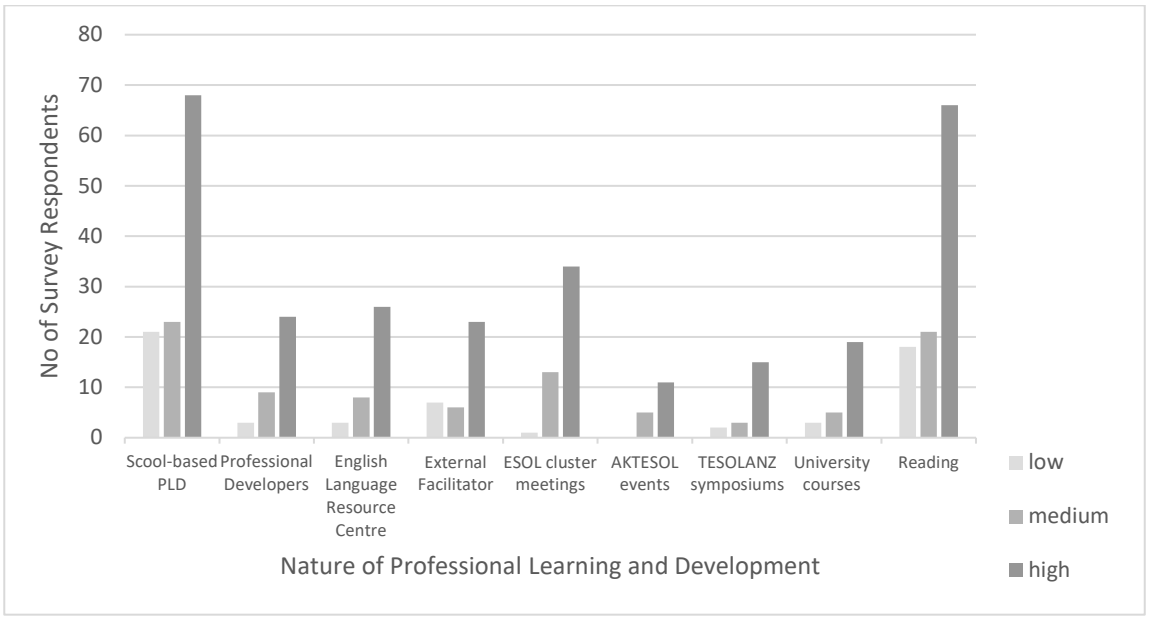
The purpose of the analysis in Step 5 is to present descriptive statistics of survey responses to the nature and content of PLD primarily through frequency counts. Survey respondents reported on closed items from the survey. For example, choices were given for the nature of PLD such as school-based courses, meetings, seminars, workshops and university courses, and reading and the content of PLD such as getting to know ELLs, ELLP (MoE, 2008), instructional strategies and differentiated instruction. Choices were also given for the use of Ministry of Education resources such as ESOL Online website, Progress Assessment Guidelines, and Effective Literacy Practice. The hours of specialised PLD to support ELLs were listed categorically from 0–100+ hours with intervals of 10 hours (see Appendix C for the survey).

Nature of Professional Learning and Development. An analysis of the nature of PLD data showed that survey respondents reported engaging in most of the choices provided from school-based to courses, meetings, seminars, workshops, university courses and reading as shown in Figure 4.4.

An analysis of data showed that the most common forms of PLD survey respondents engaged in ranged from all three levels of self-efficacy categories (high, medium, and low) were school-based PLD and readings. Survey respondents from the HSE category engaged in other forms of PLD while those from the LSE category engaged in very little or no other PLD. More survey respondents who attended university courses were from the HSE category compared to the LSE category.

Figure 4.4

PLD Reported by Survey Respondents According Self-Efficacy Categories

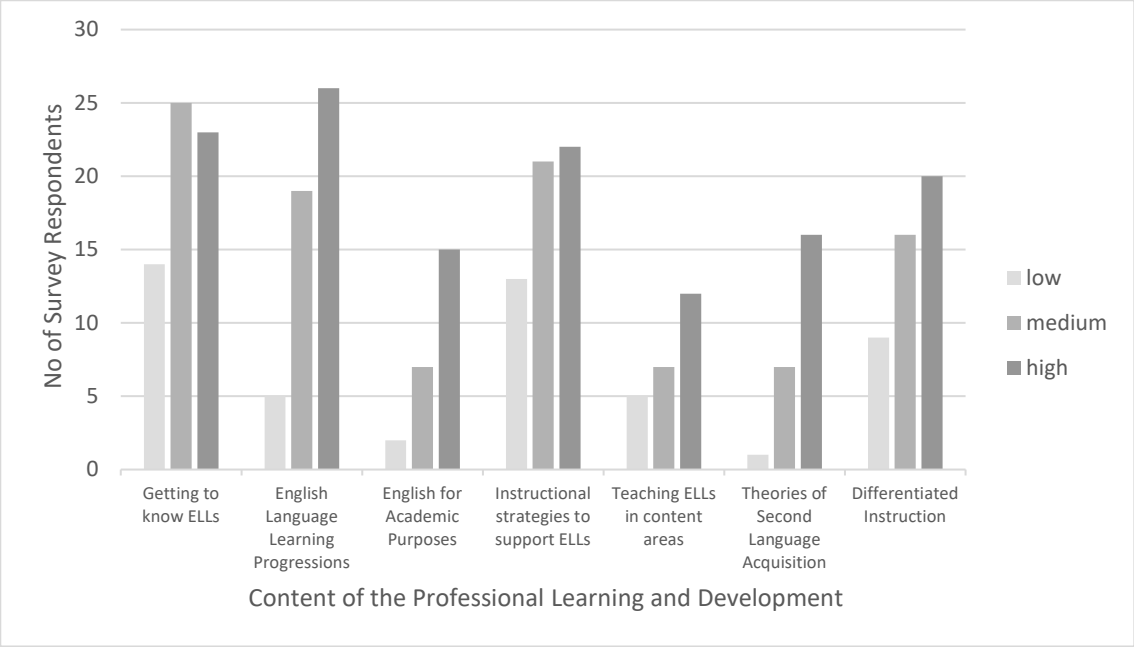


Content of Professional Learning and Development. The content of PLD varied covering "getting to know ELLs," "instructional strategies," "English language learning progression," "differentiated learning," "English for academic purposes," "teaching ELLs in content-area classes" and "second-language acquisition theory", as shown in Figure 4.5. The most attended school-based PLD were strategies to "know your learners," "instructional strategies to support ELLs" and "differentiated instruction" which are generally compulsory topics presented at school PLD. The least attended was on "English for academic purposes," "teaching ELLs in content classes" and "Theories

of Second Language Acquisition." A higher number of teachers from the HSE category engaged in a range of topics while a lower number of teachers from the LSE category engaged in a range of topics aimed at supporting ELLs.

Figure 4.5

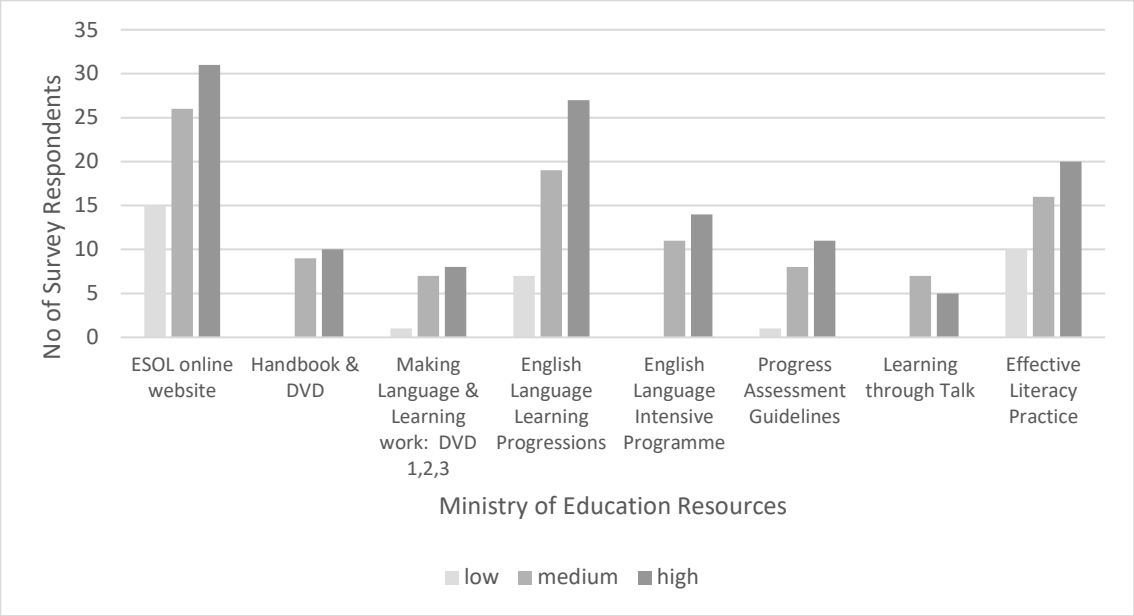
Reported Content of PLD by Self-Efficacy Categories



Online Resources. There are numerous Ministry of Education resources available aimed at supporting teachers of ELLs, as shown in Figure 4.6. The most nominated online resource used by the survey respondents from all three self-efficacy level categories was the ESOL Online website which incorporates other resources such as the ELLP document, English Language Intensive Program, DVDs, and Progress Assessment Guidelines. Although secondary teachers reported using the ESOL Online website, a relatively small number of respondents (12.7%) from the LSE category used the website. Similar numbers of survey respondents from the medium- and HSE categories reported using the resources. Survey respondents from the medium- and HSE categories utilised a variety of resources while survey respondents from the LSE category used few of the readily available resources.

Figure 4.6

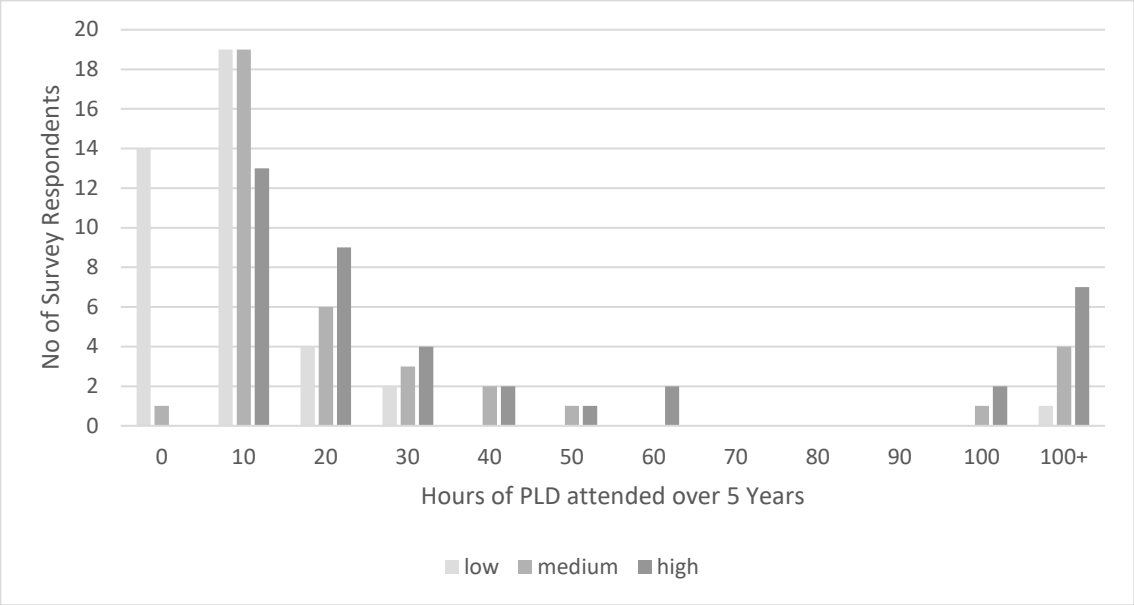
Reported Ministry of Education Resources by Self-Efficacy Categories.



Extent of Professional Learning and Development. The most reported hours of attendance at specialized PLD were between 0 and 10 hours over 5 years. However, a considerable number of survey respondents from the LSE category engaged in zero hours of specialised PLD as shown in Figure 4.7. An equivalent number of survey respondents from the high- and MSE categories attended 50 hours of PLD. There was a small, more expert group, comprising seven survey respondents from the HSE category, four in the medium- and one in the LSE category who reported engaging in more than 100 hours of PLD. Looking at the distribution, no-one reported 70, 80 or 90 hours, so clearly,100 and more than 100 hours are the respondents with, potentially, the most expertise (in the 100 hours category are one medium and two HSE teachers).

Figure 4.7

Extent of Professional Learning and Development



Step 6: Relationship Between Extent of Professional Learning and Development, and Self-Efficacy

The purpose of the analysis in Step 6 was to examine whether there was a relationship between hours of PLD and self-efficacy. Pearson's product-moment correlation was deemed suitable because the aim was to determine the strength and direction of a linear relationship between two continuous variables (hours of PLD attended and TSE scores). There was a statistically significant, moderate positive correlation between reported hours of PLD and TSE, $r\,(.4) = n = 117$, $p < .001$ (see Table 4.14). The results suggested that the more hours of PLD attended, the higher TSE to implement content-based instructional strategies to teach ELLs.

Table 4.14

Correlations Coefficients for Reported Hours of PLD and Total Teacher-Efficacy Scores

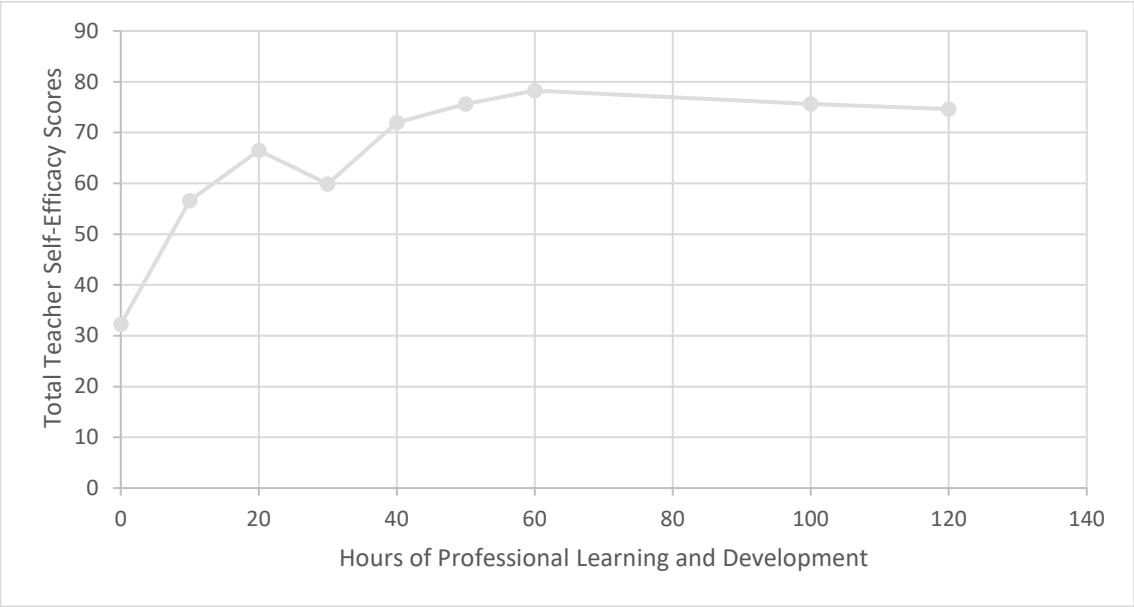
		Professional learning and development	Total teacher self-efficacy scores
Reported hours of PLD	Pearson correlation	1	.400**
	Sig. (2-tailed)		.000
	N	118	117

Note. ** Correlation is significant at the 0.01 level (2-tailed).

On closer analysis, the data in Figure 4.8 showed that TSE steadily increases with PLD up to 60 hours after which the relationship tends to stabilise.

Figure 4.8

Reported Hours of PLD Attended and Total Content-Based TSE Scores.



Step 7: Differences in TSE Perceptions Between Teachers With Specialist Training and No Specialist Training

The purpose of the analysis in Step 7 was to examine whether differences in self-efficacy scores existed between teachers with specialist training and teachers with no specialist training, using descriptive statistics and an independent samples *t*-test. Teachers were asked to report whether they had specialist training to teach ELLs such as the GradDipTESSOL or similar. Nineteen ESOL teachers, three from languages, four from science, and one from the technology learning areas reported having specialist training to teach ELLs. The average mean TSE score for teachers with specialist training was 77.43 and for teachers with non-specialist training was 55.00 as shown in Table 4.15.

Table 4.15

Means and Standard of Teachers With Specialist Training and Teachers With No Specialist Training

		n	*M*	*SD*	*SEM*
Total teacher self-efficacy scores	Teachers with specialist training	27	72.43	14.80	2.85
	Teachers with no specialist training	91	55.00	21.36	2.24

An independent samples *t*-test showed a significant difference in TSE scores between teachers with specialist training ($M = 72.43$, $SD = 14.80$) and teachers with no specialist training ($M = 55$, $SD = 21.36$); t (61.3), $p = <.001$ as shown in Table 4.16. The magnitude of the differences in the means (mean difference = 17.43, 95% *CI*: 19.67 to 26.14) was large (eta squared = .017), according to Cohen's (1988) guidelines.

Table 4.16

Independent Samples T-Test

		Levene's test for equality of variances		*t*-test for equality of means					95% CI of the difference	
		F	Sig.	*t*	*df*	Sig. (2-tailed)	*M* difference	*SE* difference	Lower	Upper
Teacher-efficacy scores	Equal variances assumed	9.041	.003	3.961	116	.000	17.426	4.399	8.713	26.670
	Equal variances not assumed			4.809	61.276	.000	17.426	3.623	10.181	24.670

Chapter Summary

The 118-secondary subject-teacher respondents demonstrated a similar pattern to the NZ secondary school teacher population as a whole in terms of gender. The demographics showed that the female teachers outnumbered their male colleagues. Most survey respondents were within the range of 16–20 years of teaching experience, while more than half had a bachelor's degree as their highest degree attained with a reasonable representation of teachers from all learning areas. The results of the exploratory factor analysis suggested that the factorial structure of the newly developed scale yielded one factor called the CBI-TSE. In terms of the nature of differences in self-efficacy perceptions among

secondary teachers to implement CB instructional strategies, survey respondents from all three categories felt most efficacious to implement strategies concerning classroom interaction and less efficacious to implement strategies to explicitly teach academic vocabulary and language. Findings also showed that there was a significant difference between ESOL and non-ESOL TSE scores. While teachers from the English and languages learning areas felt efficacious to use CB strategies to support ELLs, science reported varied levels of self-efficacy across the five dimensions.

In terms of the relationship between the extent of PLD and TSE, the findings suggested that the more hours of PLD attended, the higher TSE to implement CB strategies. Most respondents within the HSE category engaged in more hours and a range of specialised PLD while a considerable number of survey respondents from the LSE category engaged in zero hours of specialised PLD. Survey respondents from the medium- and HSE categories used several online Ministry of Education resources while survey respondents from the LSE category used minimal or no resources. The data suggested that engagement in more hours of PLD, as well as a wider range of PLD, yielded higher TSE to instruct ELLs. Findings also showed that there was a significant difference in TSE scores between teachers with specialist training and teachers with no specialist training.

Chapter Five: Phase 2 Results

Teacher Self-Efficacy Perceptions and Reported Content-Based Instructional Strategies

This chapter presents the findings of Phase 2 quantitative and qualitative data analysis to establish how TSE perceptions, specialised training, and the subject taught influenced reported CB instructional strategies. A sample of 16 secondary teachers responded to the same CBI-TSES and were then interviewed. The aim of the survey data was to categorise teachers into high, medium, and low self-efficacy in order to examine patterns from the interview responses. Interview participants were asked about what CB instructional strategies they use in their classes to support content and language teaching. Their interview responses provided insights by amplifying, extending, and complementing the survey data. First, a summary of demographics of interview participants is considered followed by the analysis procedure for the quantitative data and qualitative data.

Phase 2 data were analysed in three steps. Steps 8–10 addressed Research Question 3, "Do teachers report differently on content-based instructional strategies according to their self-efficacy perceptions, specialised training and the subject taught?" Step 8 involved the descriptive statistics of the 23 items on the CBI-TSES categorised according to the five CBI dimensions as well as the descriptive statistics for the nature and extent of PLD. Step 9 involved the thematic analysis of the nature and extent of reported CB instructional strategies. Step 10 involved the mixed-analysis process (cross-over analysis of qualitative data to quantitative data) using descriptive statistics to identify the frequency of themes. Finally, data integration involved an analysis of the survey data together with interview data to find out whether teachers among the three self-efficacy categories reported differently on CB instructional strategies according to their TSE perceptions, specialised training and subject taught.

Demographics

The demographics section presents the characteristics of the 16 interview participants with respect to gender, learning area, degree attained, specialist qualification in teaching ELLs, and years of teaching experience. As shown in Table 5.1, the 16 interview participants consisted of an equal number of males and females at various stages in their teaching careers with a reasonable representation of interview participants from different learning areas—a social science teacher with 5 years of teaching experience to a veteran teacher with 40 years' experience as an ESOL specialist teacher. Fifty percent of the interview participants had between 20 and 25 years of teaching experience. Interview participants possessed comparable qualifications such as a bachelor's degree or master's degree. Three interview participants had completed the GradDipTESSOL, while two interview participants are presently enrolled in the programme.

Table 5.1

Demographics of Interview Participants

Participant	Gender	Learning area	Degree attained	Specialist qualification in teaching ELLs	ESOL teacher	Years of teaching experience
1	Female	Language	Bachelor's degree	No	Yes	12
2	Female	Science	Bachelor's degree	Yes	No	28
3	Male	Science	Bachelor's degree	No	No	16
4	Female	ESOL teacher	Bachelor's degree	Yes	Yes	40
5	Female	Food technology	B Cap Sc	No	No	25
6	Female	ESOL teacher	Bachelor's Honours	In progress	Yes	11
7	Male	ESOL teacher	Bachelor's degree	In progress	Yes	25
8	Male	Digital technology	Bachelor's degree	No	No	23
9	Male	Social sciences	Master's degree	No	No	24
10	Female	Social sciences	Bachelor's degree	No	No	20
11	Female	Maths & statistics	Master's degree	No	No	20
12	Male	Social sciences	BA (Hons)	No	No	5
13	Male	Digital technology	Bachelor's degree	No	No	25
14	Male	Food technology	Bachelor's degree	No	No	25
15	Female	English	Bachelor's degree	No	No	18
16	Male	English/ESOL teacher	Bachelor's degree	Yes	No	14

Phase 2: Steps 8–10

Phase 2, Steps 8–10 to addressed Research Question 3, "Do teachers report differently on content-based instructional strategies according to their self-efficacy perceptions, specialised training, and the subject taught?"

Step 8: Teacher Self-Efficacy Perceptions for Content-Based Instruction

For the qualitative data analyses, the sample of 16 secondary teachers volunteering for the interview completed the online survey first before the interviews. The aim of the survey data was to categorise TSE responses into three self-efficacy categories to examine patterns among in the interview responses.

Step 8 describes the survey analysis of the survey data that includes means and standard deviations calculated for 23 items organised around the five CBI dimensions: (1) making connections to students' background, culture and language; (2) focusing explicitly on academic vocabulary and language; (3) increasing comprehensible language input; (4) promoting classroom interaction (output); and (5) stimulating higher order thinking, and teaching metacognitive skills. The previously described 0–100-point Likert-based scale (0—cannot do at all, to 100—highly can do) was used to calculate the overall mean of summed scores for each of the five dimensions. The results showed that all dimensions exceeded the midway point (50) of perceived TSE for all interview participants, as shown in Table 5.2. Like the findings of the quantitative data in Chapter 4, teachers reported being most efficacious using CB instructional strategies about promoting classroom interaction while they were least efficacious to use strategies to make connections to ELLs' background, culture, and language.

Table 5.2

Mean Summed Scores for Content-Based Instruction Dimensions

Dimension	*n*	*M*	*SD*
Making connections to students' background, culture, and language	16	51.88	27.13
Focusing explicitly on academic vocabulary and language	16	57.14	21.07
Increasing comprehensible input	16	58.26	17.52
Promoting classroom interaction (output)	16	61.88	18.72
Stimulating higher order thinking and teaching metacognitive skills	16	58.13	22.05

Prior to the analysis of reported data on PLD, the overall mean of summed scores of the 23 items on the previously described 0–100-point Likert-based scale (0—cannot do at all to 100—highly can do) were computed for each of the 16 interview participants. The three self-efficacy categories were established to identify interview participants in the bottom third of scores (0–52), the middle third (53–70) and the top third (71–100) to categorise them into low, medium, and high categories for the analysis. The descriptive statistics showed that 25% of interview participants were categorised as high, 44% as medium and 31% as low self-efficacy as shown in Table 5.3. The data showed a large variability in the low group.

Table 5.3

Total Mean Scores for the Three Categories

Category	*n*	*M*	*SD*
High	4 (25%)	76.75	1.71
Medium	7 (44%)	62.14	5.4
Low	5 (31%)	38.20	17.91

Nature and Extent of Professional Learning and Development. Interview participants reported on the nature and extent of PLD undertaken over 5 years. The nature of PLD attended varied from school-based PLD to specialised university courses as shown in Table 5.4. The most common attended PLD reported by nine interview participants from all three categories, was school-based in the form of "know the learner" and "instructional strategies to support ELLs."

Overall, interview participants from the low- and MSE categories attended between 0–10 hours of PLD while five participants from the medium- and HSE categories attended 100+ hours of PLD over 5 years. Four interview participants, one from the high- (Participant 6—ESOL) and three from the medium- (Participant 2—science, Participant 7—ESOL, Participant 16—English/ESOL) self-efficacy categories attended the GradDipTESSOL programme at the University of Auckland, NZ. Generally, ESOL teachers attended more than 100 hours of PLD.

Table 5.4

Nature and Extent of Professional Learning and Development

Participant	Subject taught	Overall self-efficacy categories	PLD attended (hours)	Nature of PLD
1	Language	High	None in NZ	In-school training in Spain
2	Science	Medium	100+	University course, cluster meetings, reading
3	Science	Low	10	School-based PLD
4	ESOL	High	100+	Courses, workshops, AKTESOL events, TESOLANZ symposiums
5	Food Technology	Low	None	-
6	ESOL	High	100+	University course, reading
7	ESOL	Medium	100+	University course, reading
8	Digital Technology	Low	3	School-based PLD
9	Social Science	High	10	School-based PLD, reading
10	Social Science	Medium	10	School-based PLD
11	Maths & Statistics	Medium	10	School-based PLD
12	Social Science	Low	1	School-based PLD
13	Digital Technology	Low	10	School-based PLD
14	Food Technology	Medium	2	School-based PLD
15	English	Medium	2	School-based PLD
16	English/ESOL	Medium	100+	University course, reading

Interview participants from the three self-efficacy categories expressed different beliefs about PLD. A teacher from the HSE category articulated her motivation for enrolling in the GradDipTESSOL programme, "The reason why I took the programme was because I wanted to feel more confident about what I was doing in the classroom with ELLs. My knowledge of the assessments was fine, but I wanted to know how to support these students" (Participant 6—ESOL).

Although Participant 1, a language teacher (HSE), did not engage in PLD in NZ, she had attended numerous forms of PLD in Spain during her time as a teacher there for 9 years. This teacher

also led PLD workshops for teachers on supporting ELLs. She was an enthusiastic advocate of inquiry-based learning. One of her key ideas was that all teachers are language teachers in their learning areas. The teacher expressed interest in the different cultures of teaching and learning. She was also interested in strategies for differentiation, linguistics, and SLA theories. She mentioned that differentiation is especially challenging. "When you have a group of ELLs together at the same level, you don't have to differentiate; however, when the levels are so different, it is a challenge." Two teachers from the HSE category specifically mentioned the value of PLD for their professional growth. "I never turn down PLD and I believe that you always get something out of it" and it "empowers and makes me a better teacher." They also showed interest and enthusiasm to engage in a wide range of PLD aimed at supporting ELLs.

Three participants (one from the medium and two from the LSE categories) indicated that they would not be interested in engaging in specialised PLD to support ELLs. Participant 3, a science teacher with LSE, however, reported being reluctant to participate in external PLD aimed at supporting ELLs since he believed that the PLD on offer did not meet his needs. The teacher succinctly summarised his ambivalence, "PLD workshops are not meeting our needs. We want PLD by teachers, for teachers, with teachers inside the classroom. We do not have any confidence in external PLD facilitators. Most of the PLD suppliers have been out of the classroom for too long."

The qualitative data supports the quantitative data where the latter shows that the more hours of PLD attended, the higher TSE to implement CB instructional strategies and teaching practices. The qualitative data indicates that some teachers from the high and MSE categories attended more than 100+ hours of PLD, while some teachers from the medium and all from the LSE categories attended 10 hours of PLD over 5 years. HSE teachers are more willing to engage in specialized PLD to support ELLs while LSE teachers are resistant.

Step 9: Nature and Extent of Reported Instructional Strategies

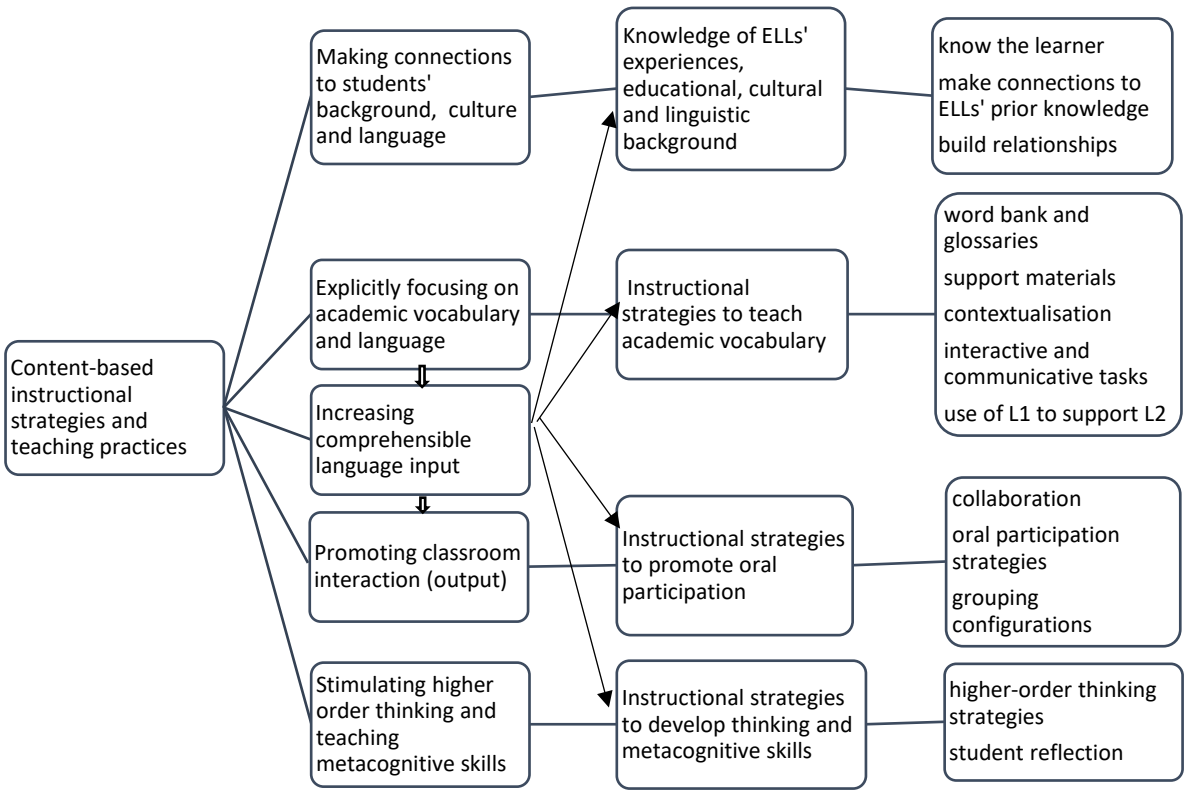
For the qualitative data analyses, Step 9 was conducted to explore the nature and extent of reported instructional strategies and teaching practices between teachers with high, medium, and low

self-efficacy in different learning areas. Their reported responses provided additional information about teachers' knowledge of their ELLs' background, culture, and language and how they make connections to these in their teaching as well as the instructional strategies they implement to support ELLs' content and language development.

Interview data were evaluated using the CBI framework described in Chapter 2. Figure 5.1 shows a graphic representation of the four a priori themes generated from the dimensions on CBI through theoretical and empirical literature. Subthemes were extracted from reported responses to each interview question. Interrater reliability was achieved by inviting a second reviewer to verify the themes with examples of quotations; 80% interrater reliability was consistently achieved by the raters as detailed in Chapter 3.

Figure 5.1

Subthemes Identified From Analysis of Reported Content-Based Instruction Teaching Practices and Strategies.



The following section presents each of the subthemes, along with teacher quotations that illustrate and represent each subtheme according to the self-efficacy categories.

Knowledge of ELLs' Experiences, Educational, Cultural and Linguistic Background

The nature and extent of the responses from the interview participants regarding their knowledge of ELLs' experiences, educational, cultural, and linguistic background varied between teachers with high, medium, and LSE. Some interview participants showed considerable knowledge about the cultural background of their ELLs and an understanding of their language proficiency.

Know the Learner

Participant 1 (HSE – language teacher) reported on the value of knowing her students and took the time to converse with them to get to know more about them.

> One is Korean. He is relatively new to language learning. He has only been recently in New Zealand, so he is here for a very short time. He lives with his parents. He is very driven, focused and is improving exponentially. He is very academic. There is another student, a Chinese student who lives with a homestay. She has some health issues. She is not committed to learning English even though I think she does want to do well. She does not like living in New Zealand.

While Participant 1 articulated the work ethic of ELLs, she did not articulate the language and literacy needs of her ELLs. In contrast, the degree to which Participant 6 (HSE – ESOL teacher) understood and addressed her ELLs and their learning needs was evident in her detailed account of her ELLs' listening, speaking, reading, and writing skills.

> Most of the students are Chinese. If I think about two in my class, I have a student who is very intelligent, very able, but she struggles to speak in English. She can write her ideas but to speak is problematic because of her dialect. Her accent is very strong, and she finds it difficult to articulate her ideas in writing. Another student, a Thai student, he has been over here for

> about 18 months. He is incredibly lazy. There is probably more to it than that. He is very easily distracted.

She added that engaging ELLs is a challenge, particularly those ELLs that do not want to be in NZ but are pressured by their parents to attend schools in an English-speaking environment. Some MSE interview participants also showed considerable knowledge about the cultural background as well as an understanding of their ELLs' language proficiency. Participant 2 (MSE – science teacher) reported on her ELLs' needs and how she provided the necessary literacy support.

> The Chinese student was quite advanced in her reading and rote learning, but she could not comprehend the question and hence could not write an answer where she had to give her opinion. She was doing an assessment and had a few gaps with comprehending but once she knew what was expected of her, she was able to work on her assessment. The Korean girl was struggling with the basic sentence structure. She was going from L1 and L2 between her mother tongue and English which they often do. She was struggling quite a bit, so I had to start with basic simple language structures with her. Her speaking was also poor. She was not very confident and had a long way to go.

Although the student showed advanced reading skills, she could not understand and respond to questions. She found writing a challenge and the teacher supported the student's writing needs by beginning with basic sentence structure.

Participant 7 (MSE – ESOL teacher) also gave a detailed account of his ELLs' English proficiency levels and the support they needed to progress. He understood and addressed the learning needs of ELLs, as evident in his response to the use of the ELLP, a key document for evaluating, planning, and teaching ELLs. He chose content, vocabulary and tasks that suited the learning needs of the ELLs in the class. For example, if an ELL were at foundation stage for writing (language structure—texts contain single or short sentences, usually in the subject-verb-object order), he would consider the descriptors of Stage 1 (language structure—texts contain simple and compound sentences with a variety of sentence beginnings) and provide suitable resources and tasks to support the ELL to

meet these next steps. Besides understanding ELLs' language proficiency levels, this teacher also believed that an understanding of ELLs' cultural background was important so that he could support these students with appropriate instructional strategies and resources. It was apparent from the interview response that Participant 7 had some background knowledge in the culture and language of Vietnam and understood the barriers for Vietnamese students to learn English. "The knowledge that 80% of the Vietnamese spoken language consists of two syllables" facilitated his thinking about ways in which to support the Vietnamese students in the class. Background knowledge of his students coupled with ongoing use of the ELLP descriptors for reading, writing, speaking, and listening allowed Participant 7 to provide explicit support for the ELLs. The teacher also mentioned during the interview that he applied the new-found knowledge from the content of the GradDipTESSOL programme to classroom practices.

> I have one student who is a Vietnamese student who has some difficulty with the written aspects of the English language. He has confidence in his reading. Despite these challenges, he is very keen and responsive to learning. He does have some difficulty in his home language. And another one, I have a Korean boy who struggles with confidence but who puts in a lot of effort. He is in the reception class and needs a lot of support with his written work and he needs to build his confidence in speaking. This is developing, but slowly.

Like Participant 7, Participant16 (MSE – English/ESOL teacher), who attained the university GradDipTESSOL, was able to give a detailed account of his students' language needs and provide insight into the challenges two of his Chinese students faced when learning English.

> There are areas of vulnerability with both Chinese students. I suspect the unfamiliar tasks are challenging. They both struggle in that area. Both students are brilliant, both have high scores in the Progressive Achievement Test, and essays are well-structured. It is just that vulnerability of vocabulary. Even with the most sophisticated students, it is clear now how difficult learning language is, such as the "road runs this way" is not necessarily metaphoric because of the word "run," which confuses them.

Participant 16 knew his students well enough to recognise their language needs. He even showed an awareness of their existing linguistic strengths as well as their linguistic challenges with vocabulary.

Participant 2 (MSE – science teacher), also a GradDipTESSOL graduate, gave a detailed account of her students' reading and writing proficiency. "The Korean student had difficulty with writing. She was struggling quite a bit and I had to start with the basic simple sentence structure. Her reading was satisfactory, but she found it challenging to write an opinion."

In comparison to Participant 2, Participant 9 (although HSE – social studies teacher), when asked to think of two ELLs in his class and share with me their cultural and language background, reported, "they do share with me their cultural beliefs like how they were learning in their own country" but he did not report on examples or knowledge about their linguistic background. Likewise, Participant 4 (HSE – ESOL teacher) did not expressly report on the ELLs in her class.

> There is a Thai student that I taught for the last 5 years. I have also taught in Thailand, so I know a bit about the Thai culture. The other is Chinese, and he has been in my class for the past 2 years. He is from North China and making reasonable progress.

Some high- and MSE interview participants showed considerable knowledge about the ELLs in their classes and understood the importance of getting to know ELLs. However, responses from participants' in the LSE category suggested a more generalised understanding of ELLs. Either their responses were generalised, or they were merely admitting that they did not know anything about their ELLs' culture or language proficiency. Participant 3 (LSE – science teacher) stated, "I only know where they come from, but I do not know anything about their culture and language." He went on to comment emphatically that ELLs should be the responsibility of ESOL teachers, "they are better off in an ESOL class." Like a few other interview participants, Participant 3 commented that time constraints and large class sizes discouraged him from doing what he should be doing. The teacher recognised that something should be done and that his current teaching practices and behaviour were not ideal.

Similarly, Participant 5 (LSE – food technology teacher) acknowledged that there were gaps in her knowledge which she attributed to a lack of communication between the ESOL department and the wider staff. However, like Participant 3, she recognised the need to improve her teaching classroom practices. "It will be awesome if we could get some information about the student and their proficiency levels before they come into the class. We are not told this at school, so we fumble our way along in the classroom." Contrary to recognising the value of knowing about ELLs' cultural and linguistic backgrounds, two participants mentioned that the need to inquire into the cultural background of their students was not so obvious to them. Participant 13 (LSE – digital technology) reported "I have no awareness of the ELLs' linguistic and cultural background. They are delivering what I am asking. I do not think about their cultural background." Participant 14 (LSE – food technology teacher) reported fewer details about the ELLs in his class and expressed the challenges he experienced when teaching ELLs. "I have two Thai students. These two boys' abilities are limited. It is sometimes very difficult to first-hand relate to them. I must always ask another student speaking the same language as them to explain to me." He acknowledges that he does not know much about his ELLs' culture or their English-language proficiency.

Making Connections to ELLs' Prior Knowledge

Although Participant 1(HSE – language teacher) was conscious of the importance of establishing connections with students' background, culture, and language, she did not report on how she capitalised on the prior knowledge of ELLs to make content meaningful and accessible. However, the participant articulated that there were gaps in her knowledge concerning the cultural aspect but expressed her interest and willingness to engage in specialised PLD. "I would be interested in having professional learning and development about the cultural aspect of Asian students."

Participant 16 (MSE – English/ESOL teacher) reported on how he built on ELLs' "cultural funds of knowledge" and used them as springboards for classroom tasks. "I often use their prior experiences as topics for internal assessments. For example, topics like 'Compare and contrast New Zealand education to Chinese education' get good results. The students have lots to write about."

Through his experience of teaching ELLs, this teacher believed that bridging the gap between prior knowledge and new knowledge is valuable for engagement, participation and understanding.

Building Relationships

Participant 1(HSE – language teacher) recognised the benefits of establishing positive relationships with her students. "We can now joke; they interact a lot more willingly. They feel more comfortable approaching me because of the positive relationship between us." Like Participant 1, Participant 9 (HSE – social science teacher) valued building relationships with ELLs in his classes. His classroom teaching practice included conversing with ELLs about their cultural beliefs and their learning styles. "Apart from talking about business and economics, they do share with me their cultural beliefs." This teacher said that it was important to him and his learners that he took time to converse with them about day-to-day happenings rather than academic work alone.

The overall summary for the theme "knowledge of ELLs' experiences, educational, cultural and linguistic background" for the self-efficacy categories showed that some teachers from the high- and from the MSE categories, particularly ESOL teachers with specialist training in teaching ELLs, reported on their ELLs' cultural and linguistic background and provided illustrations and examples of how they make connections to ELLs' prior knowledge. In contrast, some participants from the medium and all from the LSE category gave generalised examples in describing their ELLs. In other words, they were unable to give specific details about at least two of their ELLs' cultural and linguistic background or how they were making connections to their prior knowledge, as time constraints, lack of communication between the ESOL department and subject teachers, and lack of awareness of the value of knowing ELLs' cultural and linguistic background prevented them from knowing their ELLs. However, some teachers from this category recognised and acknowledged that their teaching practices were not ideal and were keen to learn how to support ELLs.

Instructional Strategies to Teach Academic Vocabulary

Word Banks and Glossaries

Participant 6 (HSE – ESOL teacher) included word banks at the end of essay questions so learners could refer to them if they did not understand the words in the essay questions. In preparing students for the exam, she revised the vocabulary from the word banks. For example, she would ask students for synonyms or to write their own definition of the words to show understanding. Two teachers strongly advocated for repetition, as a form of reinforcement. Participant 6 (HSE – ESOL teacher) also reinforced the vocabulary through various forms of repetition to ensure ELLs understood the vocabulary "as the ability to recall and retell is key." Similarly, Participant 1(HSE – language teacher) reinforced vocabulary and concepts daily and this repetition, "gives them the confidence to write" whereas Participant 4 (HSE – ESOL teacher) reinforced vocabulary on a weekly basis by preparing supplementary exercises. Also, Participant 11(MSE – maths and statistics teacher) stated, "I explain the words to them," or "I reinforce the words" or "I do a weekly vocabulary check." The participant reported that she gives ELLs a list of vocabulary words for the week and asks the students to find meanings and write sentences by showing the meaning of the vocabulary word within a sentence. While HSE participants explicitly taught vocabulary, Participant 12 (LSE – social science) gave learners glossaries at the start of the year to ensure learners had a list of domain-specific vocabulary words to work with throughout the year.

Support Materials

There are various support materials that participants reportedly employed such as writing frames/templates (a resource that teachers use to demonstrate to students how to structure their writing, and to prompt them to have other features), visuals, and graphics. Writing strategies/templates have the most impact according to Participant 1 (HSE – language teacher).

> Often work is assessed through writing and even though sometimes there are claims in the academic world that they will not be judged based on their English but based on the content knowledge, that is often not the case so just having writing frames/strategies to make them feel

more confident so they know the structure and if repeated several times, it will give them some advantage when they are writing.

Some participants from the MSE category reported using exemplars, graphic organisers, visuals such as mind maps to show the synonyms of vocabulary words, writing templates, and the drawing of concepts encapsulated in the academic words. As an illustration, Participant 11(MSE – maths and statistics teacher) observed that ELLs in the class found it challenging to remember a domain-specific mathematical term, *tangent.* Their definition of tangent was "when a line touches a circle." According to the teacher, "as an understanding it is correct but as a reason, it is not." She got her ELLs to draw a tangent to help reinforce the word. Then, they were able to use the correct word in context. During an English lesson on film techniques, Participant 16 (HSE – English/ESOL teacher) asked learners to take photos using different camera shots (e.g., extreme long shot, medium, high-angle shot, and wide shot) and to draw and label these film techniques. These activities provided opportunities for ELLs to visualise the concepts/terms. Before continuing with more challenging tasks, Participant 2 (MSE – science teacher) ensured ELLs understood the criteria for achievement standards by utilising many support materials. "I use maps, underground metro system, how you connect them in different colours for them to understand the achieved, merit and excellence criteria. I also create mind maps to get them to link the information." Six teachers believed that support materials like visuals and writing templates have the most impact on ELLs' learning.

One of the common resources that teachers with LSE reported relying on for learners to understand both domain-specific and general academic vocabulary was digital translators or interpreters. "Lots of time I just get the learners to use their translators" (Participant 5 – LSE – food technology teacher). Other technological resources reported included screencast (digital video recording of teacher's computer screen which usually includes audio narration) and OneNote (digital notebook).

To introduce domain-specific vocabulary like *flow charts*, Participant 8 (LSE – digital technology) reported explaining flow charts using diagrams and giving ELLs website links for further

understanding. He reported first beginning with simple tasks and gradually increasing the difficulty of tasks. He allowed them to use translators if they did not get the English word.

Contextualisation

Participant 9 (HSE – social science teacher) articulated the importance of using real-life examples to enable ELLs' understanding of abstract work. He gave the following example, "if this phone costs $1000, will you buy it? We have a discussion around this. Then I bring them to the context of the law of demand." Another teacher reported, "meaning or relevance is important." Participant 2 (MSE – science teacher) articulated that if the content has meaning, and relevance, then it has an impact on ELLs' understanding. She took ELLs to the supermarket to look at ingredients and labels. This also gave them the confidence to go to the supermarket on their own. These experiences provided opportunities and confidence for ELLs to interact and communicate with others, the teacher noted. It was evident from her self-reported examples that a sense of authenticity was incorporated into her practice.

Communicative Tasks

Participant 6 (HSE – ESOL teacher) reportedly maintained an explicit focus on teaching vocabulary using communicative tasks as she believed such tasks develop important listening, speaking, reading, and writing skills. This teacher proposed the use of barrier exercises (students work in pairs to complete an information-gap activity). "I think using communicative tasks is valuable because if they can communicate with each other and the teacher, that goes a long way for engaging ELLs in the class." She continued with an example of a communicative task using productive and engaging resources to enable ELLs in her class to access information in a variety of ways.

> I taught a poem using visuals. I found a film on YouTube where there were lots of images from World War I. The learners had to pair the visuals with quotes from the poem "Dulce et Decorum Est" by Wilfred Owen. It was a barrier activity where, in pairs, one student had to describe the visual and the other student had to match the quote to the visual by asking and

> answering questions. Communicative tasks and visuals work well. The evidence is in the essays. I found that the students' understanding of the context and their ability to explain the horror of war was much better because they understood the academic vocabulary relating to war.

She reported good results from ELLs, two gaining merits in the NCEA. As a result of visual images presented in video clips, learners were able to understand and retrieve information more readily. She also reported using another communicative task with her class. She took challenging vocabulary words related to assessment criteria. In pairs, students had to ask and answer questions to match the vocabulary to the meaning. She reported enthusiastically about her willingness to experiment with new ideas in order to develop her pedagogical practice. She noted that she consistently trialled new activities across multiple classes and on several occasions. Participant 6 (HSE – ESOL teacher) maintained an explicit focus on communicative tasks as she believed such tasks developed important listening, speaking, reading, and writing skills.

Use of L1 to Support L2

Participant 2 (MSE – science teacher) articulated that initially she did not allow ELLs to speak in their L1 in class. However, after a few lessons, she realised that it was important to allow ELLs to use their L1 for support to understand English. "This allows them to learn and understand academic vocabulary. By using L1 to support L2, their writing improved." Participant 7 (MSE – ESOL teacher) also valued ELLs' L1 by encouraging learners to converse in both their L1 and English. "I get the learners who speak the same first language to explain the task to each other using their first language and then in English." "The use of L1 to support L2 allowed them to speak in small groups in their first language and then transfer into English."

While some participants reported instructional strategies to teach academic vocabulary, other teachers offered little detail with respect to teaching practices and instructional strategies to support ELLs. Those teachers that offered little detail did not explicitly provide examples of how they used these strategies in the classroom.

Participant 3 (LSE – science teacher) admittedly reported that he did not explicitly use resources or strategies to support ELLs in his class.

> I just smile at them, know that they are on the roll and leave them basically. I do not supply any resources nor do I use any strategies. Our classes are 29–30 everyday, they just struggle. They are better off in an ESOL class.

Participant 12 (LSE – social science teacher) found it challenging to prepare for ELLs especially with large classes of 30 students. He tended to place the students who needed credits on a higher scale than ELLs. Similarly, Participant 13 (LSE – digital technology teacher) strongly articulated and believed his initial concern was L1 speakers. "At the moment, I do not see the need to support ELLs. A huge amount of my time goes into preparing for first language speakers."

Summarising, overall, for the theme "instructional strategies to teach vocabulary" shows that the most frequently implemented practice for teaching domain-specific vocabulary was the use of word banks or glossaries by six teachers from the three self-efficacy categories. Five teachers with varied self-efficacy and from different learning areas reported on contextualised instruction using real-life experiences that provided students with authentic contexts, extra language support and an opportunity to engage in meaningful interactions.

Six teachers, again with varied self-efficacy and from different learning areas, reported that they allowed their ELLs to use L1 to support L2 by interacting and communicating with their peers in the class speaking the same L1. However, one ESOL teacher (MSE) in particular, reported explicitly on examples of how students incorporated L1 to support L2 during his lessons. Another ESOL teacher from the HSE category reported with specific examples and illustrations of how she used communicative tasks to support ELLs. Some high- and MSE teachers use a range of strategies to develop ELLs' vocabulary and language skills.

Instructional Strategies to Promote Oral Participation

Collaboration

Participant 1(HSE – language teacher) believed that group work "allows ELLs to feel comfortable communicating and interacting with one another." One learner reportedly remarked to the teacher that she preferred to take part in small groups because that is where she shares her knowledge. As the teacher observed, "They do not feel anxious. They are more willing to participate in whole-class discussions after communicating ideas in the group." Like Participant 1, Participant 6 (HSE – ESOL teacher) also valued group work and consistently implemented communicative tasks using group work.

Participant 7 (MSE – ESOL teacher) reported that smaller group discussions gave ELLs the opportunity to clarify their understandings in their L1 and then to communicate the information in English while Participant 15 (MSE – English teacher) reported on the value of group work for ELLs, "they can listen and interact at their own pace and not feel judged" in a group. In contrast, Participant 11(MSE – maths and statistics teacher) found it challenging to support ELLs. "I struggle with them. I cannot understand them. I asked the international department to send a learning assistant to help support them."

Participant 3(LSE – science teacher) limited opportunities for oral participation, "I do not provide opportunities for interaction because they do not speak my language and I do not speak their language. I do not know what they are saying, and they do not know what I am saying. It is a complete breakdown of communication." Participant 8 (LSE – digital technology teacher) found it much easier working with students one to one due to the nature of his subject. He preferred explaining to students and then seeing the work done on their computers. "I got this rule in class, C3 before you see me. They get help from three other learners first and then if they still cannot understand the work, then they must come to me."

Grouping Configurations

Interview participants generally reported using both homogeneous and heterogeneous groupings to benefit the ELLs in their class. Such groupings included organising students in different ways based on English-language proficiency, same L1, partnering first and second-language speakers in a group, and content-skills related or simply random groupings. Participant 9 (HSE – social science teacher) used homogenous groupings in terms of grouping L1 speakers with the same dialect. He grouped learners according to their L1 in one small group "so that they can translate the concept in their first language and have a better understanding of the concept." Participant 1(HSE – language teacher), on the other hand, randomly grouped learners but allocated numbers to learners in the group and then called a number for a response. In this way, the learner did not feel singled out and was "perhaps more willing to participate in a class discussion after the group discussion."

Participant 5 (LSE – food technology teacher) strategically grouped L1 learners with second-language learners for support:

> If I have five ELLs suddenly come into my class, I like to split them up because if they stay with their buddies, they only speak in their first language. I usually buddy them up with one of the more friendly students to help them. If they are really struggling, I buddy them with two other students (a first language learner and a second-language learner).

Oral Participation Strategies

Participant 6 (HSE – ESOL teacher) used communicative tasks such as say-it (the teacher prepares a table/grid, usually 3 x 3, or 3 x 4 and writes one topic-related prompt into each section of the table. Each prompt is usually asked from a different point-of-view) or speaking frames (a form of sentence frame that offers sentence starters and templates for ELLs who may have inadequate knowledge of standard sentence structure to be able to create sentences independently) which allows for high engagement.

Both Participant 2 (MSE – science teacher) and Participant 7 (MSE – ESOL teacher) implemented oral participation strategies in their classes to promote interaction and engagement.

Participant 7 remarked on the usefulness of recording "as it provides evidence for assessments, planning and teaching of subsequent work." Some teachers asked probing questions as a means of encouraging oral participation. As illustrated by Participant 7, "Tell me more about what happened on Sunday or what else did you do for the weekend?"

Due to the nature of food technology, which involves theory as well as practical classes, Participant 5 (LSE – food technology teacher) encouraged her students to be active by reading recipes aloud and asking questions about the instructions.

> They are a little bit more relaxed because they are cooking and chopping things up and they will come and say, "is this right?" They are encouraged to come and interact in the practical environment. I feel like I really help them in the practical classes. They get good results in the practical classes and they feel proud.

Participant 12 (LSE – social science teacher) used prompting. "To be honest, what I would use for first language English speakers in my class, I use for ELLs. I do not scaffold work any differently for ELLs."

The overall summary for the theme "instructional strategies to promote oral participation" for the self-efficacy categories showed that ESOL teachers from the high- and some from the MSE categories used collaboration to promote interaction and engagement with explicit examples of how they group ELLs. Teachers from the LSE category limited opportunities for interaction or preference was given to working on a one-to-one with ELLs.

Instructional Strategies to Develop Thinking and Metacognitive Skills

Higher Order Thinking Strategies

Participant 1(HSE – language teacher) reported that higher order thinking is very challenging for ELLs. "Asking them to analyse a paragraph when they do not have the vocabulary is overwhelming. For words like *analyse,* I provide examples that show reasoning for how and why, justify, to give reasons, and ask them to group the examples under those headings." Participant 6 (HSE

– ESOL teacher), mentioned using three-level thinking guides. The three-level guide is a reading strategy which supports students to read the text closely by providing statements that are divided into three levels: literal statements, inferential statements, and statements at a "beyond-the-text" level. She also reported using questions like "what have you learned?" or "what do you think about something?"

Participant 7, (MSE – ESOL teacher) used Bloom's taxonomy as a guide to his thinking about how to develop learners' higher order thinking skills. Bloom's taxonomy provides a framework for teachers to focus on higher order skills and questions that focus on a critical thinking level. He got students to use a "drop box and write questions down that can be discussed as a group. I have done this before to help some of those who want to question and sometimes are shy but have good ideas." The teacher had found that choosing texts that are likely to promote high engagement sometimes helps where students want to find out more about a topic or aspect of a specific topic. The teacher observed that this process "has led to some interesting conversations. Focus questions and rhetorical questions at the start of topics or units also help to frame inquiry and stimulate thought and discussion which can help lead to deeper critical thought with some students."

Student Reflection

Student reflection allows ELLs to gain a better understanding of their emotions, strengths, weaknesses and driving factors. In terms of student voice and reflection, Participant 6 (HSE – ESOL teacher) used several different strategies. One such example could be in the form of a written self-review, informal feedback, or focused conversations by asking students to reflect on the following questions after a lesson or unit of work. "Have I attained this goal or skill?" "Have I used a range of vocabulary in my social studies paragraph?" "Can I use these words elsewhere?" Other forms of self-reflection include strategies such as self-monitoring checklists and self-assessment rubrics. Participant 6 believed that the biggest challenge with some ELLs who have not had opportunities to understand the need to practise critical thinking skills and are perhaps from more passive receptive learning contexts in other countries, is that they hesitate to give their viewpoints.

Overall, in summary, for the theme "instructional strategies to develop thinking and metacognitive skills" examples were reported by some high- and MSE teachers. Low self-efficacy teachers were unable to report on how they taught higher order thinking or metacognitive skills.

Mixed Analysis

This section of the chapter presents the results of data integration using cross-over analysis of Phase 2 (i.e., quantitative analysis of qualitative data) to examine the nature and extent of the reported themes for classroom instructional strategies relating to teachers in different categories of self-efficacy. The aim was to explore the interplay between TSE perceptions and their reported CB instructional strategies between teachers in different learning areas with specialised PLD.

Step 10: Cross-Over Analysis of Qualitative Data to Quantitative Data

The analysis procedure in Step 10 involved the cross-over analysis of words from the interview data to numbers. Quantification involves transforming qualitative data numerically in the form of scores, scales, or clusters "to fully describe and/or interpret a target phenomenon" (Sandelowski, 2001, p. 231). I quantified the qualitative data to show how participants may have reported differently in terms of illustrations and examples. In quantifying the qualitative data, I was able to intensify the nature and extent of differences in reported instruction. Quantitative analysis of the qualitative data involved using descriptive statistics (i.e., frequency and percentages) to analyse the frequency of themes.

Table 5.5 provides data on the frequency and percentage of times that the reported themes for the nature and extent of CB instructional strategies occur by teachers categorised with HSE, as well as subject taught and whether they possessed specialist training. Looking at the row totals and percentages, it is observed that Participant 1, a language teacher, and Participant 6, an ESOL teacher with specialist training to teach ELLs, contributed responses with evidence to the four themes (i.e., 100%), while Participant 9, a social studies teacher contributed responses with evidence to two themes (i.e., 50%). Examining the column totals reveals the frequency was 50% for Theme 1 and Theme 4.

The frequency was 75% for Theme 2 and Theme 3. Half of the interview participants from the HSE group reported responses with evidence to the four themes. Interestingly, although Participant 4, an ESOL teacher with specialist training in teaching ELLs, showed HSE ratings in the survey, she offered little detail with respect to CB instructional strategies to support ELLs.

Table 5.5

Cross-Over Analysis—Teachers With Overall High Self-Efficacy

Participant	Subject taught	Specialist training	T1	T2	T3	T4	Total
1	Language	No	1	1	1	1	100%
4	ESOL	Yes	0	0	0	0	0%
6	ESOL	In progress	1	1	1	1	100%
9	Social sciences	No	0	1	1	0	50%
Total			50%	75%	75%	50%	

Key: Theme 1 = Knowledge of ELLs' experiences, educational, cultural and linguistic background, Theme 2 = Instructional strategies to teach ELLs academic vocabulary, Theme 3 = Instructional strategies to promote oral participation and Theme 4 = Instructional strategies to develop thinking and metacognitive skills.

Looking at the row totals and percentages in Table 5.6, for teachers in the MSE category, Participant 7, an ESOL teacher, contributed responses with evidence for the four themes (i.e., 100%), while Participant 2, a science teacher, and Participant 16, an English/ESOL teacher contributed responses with evidence for three themes (i.e., 75%). Participants 2 and 16 have specialist training in teaching ELLs, while Participant 7 is currently enrolled in the GradDipTESSOL programme. Examining the column totals reveals the frequency was the highest for Theme 1 and lowest for Theme 4.

A total of 43% of the MSE group of interview participants from the ESOL and science subjects reported responses with evidence for three or more themes. This, in effect, means that 57% of teachers contributed responses with evidence related to Theme 1, knowledge of ELLs' experiences, educational, cultural, and linguistic background, and Theme 2, instructional strategies to teach ELLs academic vocabulary. A total of 43% contributed responses with evidence related to Theme 3, instructional strategies to promote oral participation. Only 14% contributed responses with evidence to Theme 4, instructional strategies to develop thinking and metacognitive skills.

Table 5.6

Cross-Over Analysis—Teachers With Overall Medium Self-Efficacy

Participant	Subject taught	Specialist training	T1	T2	T3	T4	Total
2	Science	Yes	1	1	1	0	75%
7	ESOL	In progress	1	1	1	1	100%
10	Social science	No	1	0	0	0	25%
11	Mathematics	No	0	1	0	0	25%
14	Technology	No	0	0	0	0	0%
15	English	No	0	0	0	0	0%
16	English/ESOL	Yes	1	1	1	0	75%
Total			57%	57%	43%	14%	

Key: Theme 1 = Knowledge of ELLs' experiences, educational, cultural and linguistic background, Theme 2 = Instructional strategies to teach ELLs academic vocabulary, Theme 3 = Instructional strategies to promote oral participation and Theme 4 = Instructional strategies to develop thinking and metacognitive skills.

Looking at the row totals and percentages, in Table 5.7, for the LSE category, none of the teachers contributed responses with evidence for the four themes. Low-self-efficacy teachers reported few to no details about their instructional strategies to support ELLs. No participants from the LSE category had received specialist training in teaching ELLs.

Table 5.7

Cross-Over Analysis—Teachers with Overall Low Self-Efficacy

Participant	Subject taught	Specialist training	T1	T2	T3	T4
3	Science	No	0	0	0	0
5	Technology	No	0	0	0	0
8	Technology	No	0	0	0	0
12	Social science	No	0	0	0	0
13	Technology	No	0	0	0	0

Key: Theme 1 = Knowledge of ELLs' experiences, educational, cultural, and linguistic background, Theme 2 = Instructional strategies to teach ELLs academic vocabulary, Theme 3 = Instructional strategies to promote oral participation and Theme 4 = Instructional strategies to develop thinking and metacognitive skills.

Overall Patterns

The pattern of findings from the data integration showed that some teachers from the HSE and MSE categories reported examples and illustrations with evidence on CB instructional strategies. Fifty percent of the HSE participants (ESOL and language teachers) reported responses with evidence to the four themes. However, one notable exception of HSE and low evidence of knowledge was Participant 4. Teachers from the MSE category reported both with evidence and no evidence on CB instructional strategies. Overall, 43% of interview participants from ESOL and science offered details such as providing descriptions, examples, and illustrations of their CB instructional strategies while 57% offered little or no detail concerning their instructional strategies. Some MSE participants (social studies, mathematics, technology, and English) and all LSE participants (science and technology learning areas), showed no evidence of implementing instructional strategies for ELLs. In other words, LSE participants offered few details and explanations of their instructional strategies. Generally, teachers with specialist training were categorised with HSE or MSE while none of the LSE teachers engaged in specialised PLD. The quantitative analysis of the qualitative data showed that TSE, specialised training, and the subject taught generally influenced reported CB instructional strategies.

Chapter Summary

In response to Research Question 3, "Do teachers report differently on content-based instructional strategies according to their self-efficacy perceptions, specialised training, and the subject

taught?" the interview data showed that high- and LSE participants reported differently on CB instructional strategies relative to the MSE category. Some HSE and MSE teachers reported on a variety of CB instructional strategies to support ELLs in their classes. Also, some teachers with HSE and MSE generally knew the learner and made connections to their ELLs' cultural and linguistic background. They frequently reported using strategies in the form of exemplars; graphic organisers such as writing templates; mind maps and visuals; using real-life examples to make the abstract concrete; support materials using glossaries/word and online resources; communicative tasks using barrier activities; say-it and mix-and-match to engage ELLs in speaking, listening, reading and writing skills; and the use of L1 to support L2. They also employed collaboration strategies such as pair work, group work and the buddy system to promote the development of their ELLs' listening and speaking skills. While MSE teachers reported on CB instructional strategies, from no dimensions to four dimensions, LSE teacher responses were vague and lacked specific evidence to support the named teaching practices or instructional strategies. The patterns that emerged show that teachers with different self-efficacy perceptions, specialised training, and the subject taught generally use instructional strategies in different ways.

Chapter Six: Discussion, Implications and Conclusion

This sequential, explanatory, mixed-methods study explored how TSE perceptions, specialised training, and the subject taught influenced reported CB instructional strategies and teaching practices. The study also sought to explore whether there is a relationship between the extent of PLD, and TSE. While findings indicated that some high and MSE teachers embraced CB instructional strategies, most of which were gained through years of specialised PLD, some medium and LSE teachers reported fewer instructional strategies and engaged in limited PLD opportunities. Data integration showed that TSE perceptions, specialised training, and the subject teachers taught, emerged as influencing reported CB instructional strategies.

This chapter discusses the newly developed CBI-TSES, self-efficacy perceptions of secondary teachers in relation to global self-efficacy and task-specific self-efficacy scores, and the relationship between the extent of PLD and self-efficacy. This is followed by a discussion on the interplay between TSE perceptions and reported CB instructional strategies. The chapter also explores the implications of this study, as well how the study contributes to teacher-efficacy research. Finally, the study's limitations are considered, with proposed recommendations.

Content-Based Instruction Teacher Self-Efficacy Scale

The newly developed 23-item CBI-TSES yielded a one-factor structure. The one-factor structure represents items of effective CB instructional strategies and teaching practices that comprise making connections to students' background, culture, and language; focusing explicitly on teaching academic vocabulary and language; comprehensible input/extended output; and stimulating higher order thinking and teaching metacognitive skills in the domain of English in a second-language context (Echevarría et al., 2013). The one-factor structure suggests that the survey respondents, on average, have a general sense of self-efficacy for teaching ELLs in their respective subjects, that is, the more generalised perceptions of teaching ELLs arose. In other words, survey respondents included ELLs in their general sense of how good they were at teaching all students. These findings demonstrate that

different domains of self-efficacy contribute to a general set of beliefs that the individual brings into new environments. A general belief in success-related experiences is what a person initially brings into a new situation that determines one's self-efficacy expectations. For example, in the current study, teachers may have experienced success with teaching tasks for all students (both NS and NNS of English) and may bring those success-related expectancies into the domain of teaching ELLs (see Sherer et al., 1982).

Alternatively, survey respondents with experiences in teaching students in mainstream classes, regardless of levels of self-efficacy, may believe that teaching ELLs is a matter of applying "just good teaching" practices (De Jong & Harper, 2005, p. 102). As an illustration, if a teacher is required to teach academic writing in mainstream classes, the outcome of this experience, positive or negative, goes back into the domain-specific area of teaching related to writing but also forms the general pool of important success or failure experiences in teaching that constitute general self-efficacy (Shelton, 1990). In the current study, some survey respondents potentially (given their responses) do not appreciate the need for CB instructional strategies specifically designed to support ELLs. While De Jong and Harper (2005) recognised the importance of "just good teaching" practices, the researchers believed that too much dependence on this approach for NNS of English may overlook their needs within the domains of culture and language. Nevertheless, Shelton (1990) believed that "general self-efficacy is proposed as a trait (i.e., confidence), which affects a person's state (i.e., performance), recognising and measuring the strength of general self-efficacy will assist an individual's movement toward greater success" (p. 992).

While the items in the instrument were highly intercorrelated, and this should be taken into account in drawing inferences, there is still value in the results. The one-factor structure measures of global self-efficacy are valuable to make comparisons between high-, medium-, and LSE teachers' reported CB instructional strategies (Wyatt, 2016). Although such measures arguably reduce behavioural predictability, they are nevertheless important in understanding teachers' more generalised confidence (Wyatt, 2014).

Global Self-Efficacy and Task-Specific Self-Efficacy Scores

Analysing numerical self-efficacy values is not necessarily simple and clear, and it is questionable how best to ascertain meaning from self-efficacy scores. While some studies have presented scores in terms of global self-efficacy, others have presented them as task-specific self-efficacy scores.

Global self-efficacy scores generally involve categorising individuals as "high implementers" or "low implementers" using cut-off scores (Cantrell & Callaway, 2008) or calculating TSE scores based on factors or subfactors. This allows a consideration of relative confidence in different practices; for example, teachers may feel most confident in their instructional strategies, followed by classroom management and student engagement (Chacón, 2005); it also allows consideration of the mean self-efficacy ratings for different teachers; for example, a range of 51–58 from a possible score of 60 is seen as a relatively high score on the perceived self-efficacy dimension (Glackin & Hohenstein, 2018, p. 279). Global self-efficacy scores are useful in answering critical questions about TSE. For example, "What is the relationship between the extent of PLD and SE?" (correlation analysis) or "What is the nature of differences in self-efficacy perceptions among New Zealand secondary teachers to implement content-based instruction?" (ANOVA) or "What is the difference in teacher self-efficacy between teachers with specialist training and those with no specialist training?" (independent samples *t*-test), as in the current study.

For the current study, global self-efficacy scores were determined according to three self-efficacy categories (i.e., high, medium, and low) for the purpose of comparing CB instructional strategies and teaching practices. The items were tallied for each survey respondent and presented as overall scores representing global self-efficacy beliefs, showing that there was a significant difference in TSE in the use of CBI instructional strategies among the three self-efficacy categories.

The qualitative data supported the quantitative data by showing a difference in TSE between the three self-efficacy categories and the reported CB instructional strategies and teaching practices. Drawing from the first theoretical perspective in relation to global self-efficacy scores—where higher

scores are better as they generate positive behaviour—some teachers with HSE and some MSE teachers appeared to report, at the interview, positive, desirable behaviours, and CB instructional strategies by integrating CBI principles into their teaching practices such as making connections to ELLs' prior knowledge, employing a variety of strategies to teach academic vocabulary, providing opportunities for oral participation and using a range of questioning techniques to develop metacognitive skills. Some medium and LSE teachers could be seen as having a tendency towards negative or undesirable behaviour and the use of generic instructional strategies. Possible explanations for LSE teachers could be attributed to the lack of knowledge about SLA, lack of clarity about their role as subject teachers or maybe lack of time to plan and differentiate tasks for ELLs.

The findings of some HSE and MSE teachers resonate with other research in that teacher's beliefs are associated with positive behaviour, such as increased commitment, dedication, motivation, use of effective instructional strategies and attitudes to address barriers to successful learning outcomes (Ashton & Webb, 1986; Cantrell & Callaway, 2008; Gibson & Dembo, 1984; Hines, 2008). Those teachers with LSE and some MSE teachers could be interpreted as displaying negative behaviour such as: they perceive that they have little influence to make a real difference, time constraints reportedly limit their use of instructional strategies and they seem the least receptive to change (Cantrell & Callaway, 2008).

Items for each of the five dimensions were tallied and presented as global self-efficacy scores. These results provided snapshots of self-efficacy across different aspects of teaching within the domain of CBI. The results showed that teachers' areas of relative strength were in promoting classroom interaction using oral language strategies whereas areas of relative weakness were teachers' lack of efficacy to focus on explicitly teaching academic vocabulary and language. Subject teachers may be familiar with planning tasks/activities in group contexts as this teaching strategy may be part of their pedagogical content knowledge (Shulman, 1987) whereas linguistically responsive teaching practices and instructional strategies may not be. Similar findings about the lack of knowledge and skills to use culturally and linguistically responsive teaching practices and instructional strategies were visible in the

NZ study that showed teachers felt underprepared in terms of their knowledge of SLA, and appropriate resources and strategies to meet ELLs' needs (Edward & Easto, 2013). In line with international research studies, teachers are also generally underprepared to support ELLs' content and language development (H. Berg et al., 2012; Gándara & Santibañez, 2016; Reeves 2006; Téllez & Manthey, 2015). Reeves's study (2006) showed that 90% of the sampled population of secondary school subject teachers had received no preparation from their teacher training programme to work with ELLs.

Masked within the global self-efficacy scores is the notion of differences in relative confidence to implement CB instructional strategies represented in the individual items known as task-specific self-efficacy. For example, survey respondents reported the highest self-efficacy to provide ELLs with oral and visual support whereas building on ELLs' knowledge of cognates was the lowest. While teachers were more likely to believe that they could use general teaching practices such as providing oral and visual support, they were less likely to believe that they could use linguistically responsive strategies such as building on ELLs' knowledge of cognates. As mentioned, teaching ELLs may be considered a matter of using general teaching practices without adaptation in order to facilitate meaningful input. Additionally, subject teachers may have little experience with instructional strategies that promote bilingualism such as using L1 to support L2, building schema and knowledge of cognates (De Jong & Harper, 2005).

Considering items within each of the five dimensions provides insight into how confident teachers feel with respect to specific items related to the dimensions. For example, for Dimension 2 (focusing explicitly on academic vocabulary and language), survey respondents appeared to feel more efficacious to teach new vocabulary than to teach the linguistic features of the content within the subject. Generally, subject teachers place emphasis on teaching the vocabulary of their subject, and therefore may possess a repertoire of instructional strategies to teach vocabulary but this may not be the case with teaching the linguistic features of their subject. For Dimension 5 (stimulating higher order thinking and teaching metacognitive skills), survey respondents reported a higher sense of perceived self-efficacy to teach metacognitive skills as opposed to developing higher order thinking skills.

Although research suggests that creating opportunities for using higher order thinking skills is consistent with CB language teaching, fewer teachers are encouraging ELLs' to think beyond literal questions.

Drawing from the second theoretical perspective in relation to task-specific self-efficacy scores, Wyatt (2016) pointed out that LSE may be considered valuable as it implies that there is scope for improvement through acknowledging and critically reflecting on these lower scores, thereby increasing self-efficacy in specific aspects of teaching. As an illustration, if a teacher's perceived self-efficacy is low for the item, "How certain are you that you can build on ELLs' knowledge of cognates?" this suggests that the teacher lacks confidence for this specific task. However, the teacher can increase his/her self-efficacy through mastery experiences by including the frequent use of cognates in teaching ELLs. Consequently, a focus on task-specific items allow insights into the specific areas in which teachers may need to improve.

Placing the two perspectives in the context of the findings in the current study, the first perspective, where high global self-efficacy scores are seen as positive and low as negative, it may be more difficult to increase low global self-efficacy scores whereas high global self-efficacy scores may be seen as motivation for teachers in the classroom (Wyatt, 2016). Contrary to the first perspective, Wyatt (2016) believed "stable GSE [global self-efficacy] beliefs may protect teachers undertaking new tasks, for which their TSE beliefs may be low, but only perhaps if the new task is sufficiently similar to previous ones" (p. 133). It is through the process of critical self-reflection and self-doubt that practical knowledge (i.e., directly related to action, readily accessible to cope with life's situations) and TSE beliefs develop so that teachers may become more effective (Wyatt, 2016). Wheatley (2005) explained that for self-doubt to be valuable, TSE needs to be low in a specific aspect of teaching.

Both perspectives, namely that high global self-efficacy scores can act as a motivator to enhance one's behaviour and the implementation of effective instructional strategies and teaching practices, while low task-specific self-efficacy scores may trigger a certain level of self-doubt and so

result in self-reflection, are accepted in the current study. Accordingly, both global self-efficacy and task-specific self-efficacy scores are valuable for pedagogical practice to remain effective.

Relationship Between Extent of Professional Learning and Development and Self-Efficacy

Following the discussion in Chapter 2 in line with the well-established, positive relationship between PLD and TSE, the current study confirms other research findings that PLD influences TSE perceptions. The findings in the current study show that PLD had a moderate positive effect on TSE. The more hours of PLD attended, the higher TSE to implement CB instructional strategies and teaching practices (Hansen et al., 2017; Tschannen-Moran & Hoy, 2001; Tschannen-Moran & McMaster, 2009; Yoo, 2016). Looking at the interview data, 6.2% of participants categorised as high to MSE attended more than 100 hours of specialised PLD over 5 years. An exception was Participant 9, categorised as a HSE teacher with 25 years of teaching experience who reported attending just 10 hours of school-based PLD in the last 5 years. Some research studies support the idea that teaching experience positively correlates with self-efficacy while others suggest negative correlations. In this regard, it may be a case of teaching experience positively correlating with self-efficacy. However, I concur with Wyatt (2018) who advised against using years of teaching experience as a justification for HSE when the essence of teaching experience is unknown.

Further analyses showed that there was a significant difference in TSE between teachers with specialist training and teachers with no specialist training. Teachers who engaged in specialised training courses in formal graduate coursework at university, like the GradDipTESSOL programme, reported HSE than those who did not take the opportunity. Only 7% were subject teachers from the language, science, and technology learning areas, while 11% were ESOL teachers. The interview data analyses showed that generally teachers who taught ESOL attended more than 100 hours of PLD (two teachers with HSE and two from the MSE category), while teachers who taught digital and food technology engaged in less than 5 hours of PLD (teachers with LSE). It is not surprising that more ESOL teachers participated in specialised PLD for ELLs. Teachers from other learning areas may not

take responsibility for teaching the vocabulary and language of their subject although explicitly required to according to the NZC.

The positive effect of PLD on TSE is not surprising in that strong PLD programmes like the GradDipTESSOL are known to positively correlate with TSE. These findings align with two small-scale empirical studies in NZ. The studies showed that the GradDipTESSOL programme had an influence on teacher perceptions; and improved teaching practices and instructional strategies to integrate content, and language, and to use effective collaborative strategies to plan task-based lessons (Feryok & Barkhuizen, 2008; Gray, 2009).

While teachers with HSE articulated reasons for engaging in PLD such as "I took the GradDipTESSOL programme because I wanted to feel more confident about what I was doing in the classroom with ELLs" and "I never turn down PLD and I believe that you always get something out of it," LSE teachers articulated that they are reluctant to engage in PLD for several reasons such as "PLD workshops are not meeting our needs, we do not have any confidence in external PLD facilitators," "time constraints," "work overload," and "priority given to first language speakers." The findings in the current study resonate with Edward's (2014) study where teachers also felt that PLD did not meet their real needs in the classroom. The participants valued PLD that was applicable to their classroom context. Encouraging, though, was the finding that LSE teachers recognised the gaps in their knowledge, teaching practices and lack in using CB instructional strategies. They acknowledged that something should be done.

The doubts about teaching practice are identified in Southerland et al.'s (2011) theory of "pedagogical discontentment" which means that teachers are critical of their practice and open to reform. For example, teachers in the current study may have, through reflection, recognised a mismatch between their pedagogical goals and pedagogical practices and been willing to engage in PLD to improve their pedagogical practices.

Interplay Between Teacher Self-Efficacy Perceptions and Reported Content-Based Instructional Strategies

TSE beliefs have been found to influence teachers' behaviours and the pedagogical decisions they make in the planning of lessons and the way content is delivered in the classroom (Bandura, 1997). This study explored the interplay between these two aspects—TSE perceptions and teachers' use of CB instructional strategies. As mentioned, while a score may seem high or low, it is not always clear to researchers how to make claims about TSE levels based entirely on the scores (Wyatt, 2018). Wyatt (2018) pointed out that it may be challenging to truly assess TSE without the ability to compare different groups or consider how TSE levels may influence beliefs, attitudes, behaviour, and teaching practices. As such, the three self-efficacy categories delineated in the current study were utilised to find out how levels of TSE scores may influence beliefs, attitudes, behaviour, teaching practices and use of instructional strategies. Specifically, these categories facilitated a consideration of the interplay of TSE perceptions and reported CB instructional strategies to integrate the teaching of content and language to support ELLs.

High-Self-Efficacy Teachers

Patterns emerged from the data-integration process that showed some teachers with HSE reported a variety of CB instructional strategies to teach content and language to ELLs. They frequently reported specific examples of classroom practices and described what these instructional strategies looked like in the classroom. Where HSE was identified, Participant 1, a language teacher and Participant 6, an ESOL teacher, for example, reported illustrative examples of instructional strategies with a willingness to trial and adapt strategies. While some teachers with HSE generally reported on CB instructional strategies, there were exceptions. Although two participants perceived self-efficacies were categorised as high, they offered few illustrative examples of their instructional strategies to support ELLs. This mismatch between TSE perceptions and reported CB instructional strategies may be understood in one of three ways. In the first instance, one participant, an ESOL teacher with 40 years teaching experience, and the other, a social studies teacher with 25 years of

experience, may have presented a façade that reflected social desirability bias and preserved their sense of self: that they are effective teachers of ELLs and can perform teaching tasks in a professional manner. That is, like other professionals, teachers are also cautious of delivering flawed or below average standards that could compromise their profession (Glackin & Hohenstein, 2018). In the second instance, both participants could have known what was desirable to do but had insufficient pedagogical content knowledge to achieve it, or it could be that the teachers had pedagogical content knowledge but for other reasons, such as motivation, did not take action. In the third instance, although they used strategies to scaffold work for ELLs, they were unaware of how to label them.

Medium-Self-Efficacy Teachers

MSE teachers reported on CB instructional strategies, in equal amounts. Three participants were able to provide specific examples of CB instructional strategies for three themes (ESOL, science and English/ESOL teachers) while four participants (Social science, mathematics, technology, and English teachers) reported with less detail and fewer illustrative examples. Participant 7, an ESOL teacher enrolled in the GradDipTESSOL programme, reported illustrative examples in detail across all four themes although his perceived self-efficacy was categorised as medium. According to Bandura (1997), inservice TSE beliefs appear to be relatively stable and more difficult to increase even when teachers engage in effective PLD. Bandura (1997) cautioned that generating positive change requires significant shifts in existing beliefs through "compelling feedback that forcefully disputes the pre-existing disbelief in one's capabilities" (p. 82). While this may be one of the reasons, another may be that the teacher needs to gain more practical experience to feel a higher sense of self-efficacy. Bandura (1997) proposed that, when new knowledge, skills and experiences challenge their preexisting beliefs, they "hold their efficacy beliefs in a provisional status, testing their newly acquired knowledge and skills before raising their judgments of what they are able to do" (p. 83). Initially, use of the knowledge and skills, teaching practices and strategies may have a negative influence on self-efficacy; however, as Participant 7 applied his knowledge and sees evidence of improved student outcomes, his TSE may increase. For this to happen, Guskey (1981, 1988) proposed that teachers require reassurance,

feedback, and help to get them through the initial lowering of confidence or, as Bandura (1997) proposed, teachers require mastery and vicarious experiences that allow them to become more confident.

Low-Self-Efficacy Teachers

LSE teachers, particularly those from the science and technology learning areas, reported no evidence of what the CB instructional strategies looked like in the classroom. They generally reported that external circumstances, that is, environmental influences outside of their control, hindered them from providing effective CBI support for ELLs. Participant 3, a science teacher, attributed his low knowledge and skills to external circumstances such as PLD not meeting his needs, the ESOL teachers' responsibility to teach ELLs and time constraints. Such views are consistent with exhibiting an external locus of control (Rotter, 1966). Individuals who believe circumstances are outside their control are more likely to have lower self-efficacy while individuals who believe circumstances are within their control generally exhibit higher self-efficacy (Bandura, 1977b). Sources of self-efficacy like mastery experiences will improve self-efficacy if the individual attributes his/her successes to his/her knowledge and skills (i.e., internal locus of control) and not to chance or some sort of luck (i.e., external locus of control; Bandura, 1977b).

Overall, the differences reported between teachers with HSE and LSE support the claim that the higher the teacher's self-efficacy, the better teacher's performance. This means that teachers with HSE generally engage in desirable behaviour and use effective instructional strategies and teaching practices, while LSE teachers can negatively influence the decisions and choices, they make to teach ELLs. Compared to Phase 1 survey data, where the analysis suggested that survey respondents were unable to differentiate between the different instructional strategies for teaching ELLs, Phase 2, interview data, appeared to show that teachers recognised the differences between the dimensions as reported in their instructional strategies and teaching practices. Those who gave vague responses clearly may not have thought about the practice as a specialist teaching practice for ELLs and did not know what to do to accomplish it if they did recognise the differences.

Dimension 1: Making Connections to Students' Background, Culture, and Language

There are examples where some high- and some MSE teachers acknowledged and recognised the value of knowing their learners' cultural and linguistic background and making connections to ELLs' prior knowledge/experiences to varying degrees. They endorsed the ESOL principle "Know your learners—their language background, their language proficiency, their experiential background"[12] as well as integrating one of the seven teachers' actions described in the NZC, that is, to make connections to ELLs' prior knowledge (MoE, 2007). Drawing on ELLs' prior experiences to develop new schemata is considered good practice by Participants 7 and 16. They focused on prior topic-related life experiences and/or subject-content learning to support ELLs to build connections between prior knowledge and new knowledge. For example, Participant 16 described how he engaged ELLs' in discussion and writing about topics that compare NZ education to Chinese education. This validated alternative points of view and had the additional benefit of allowing ELLs' a voice to speak about their culture and experiences. Another participant, a HSE teacher, described how he used students' prior knowledge as a context-embedded starting point to understand the concept of "law of demand." It is CB instructional strategies and teaching practices such as making connections to students' cultural and linguistic capital that provide the impetus for meaningful interaction and engagement. Si'ilata's (2014) study showed how teachers drew on the students' cultural funds of knowledge in the writing lesson by asking students to relive their experiences of attending a gala at the weekend.

Using CB instructional strategies and teaching practices was less visible with low- and some MSE teachers. These teachers reported in less detail on their ELLs' cultural and linguistic background, mentioning that time constraints and lack of effective PLD prevented them from getting to know their learners. Also, some interview participants were potentially unaware that knowing ELLs' language

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[12] https://esolonline.tki.org.nz/ESOL-Online/Learning-about-my-students-needs/Knowledge-of-English-language-learning/ESOL-principles/Principle-1-Know-your-learners

proficiency might be valuable to inform their teaching practices, suggesting that they had no knowledge about SLA theories or may not have known how to obtain cultural and linguistic information about their ELLs or how to utilise such. This lack of information compromises teachers' ability to identify and target the areas of language development, where needed, in terms of listening, speaking, reading, and writing instruction. While some participants from the LSE category had some background knowledge about their ELLs (like where they came from and their family background), they did not use the knowledge to inform their teaching. This may suggest that, while these teachers understood their ELLs' background, they did not have the know-how to apply this knowledge to inform their teaching practices, perhaps due to a lack of specialised PLD. Although teachers may know and possess the educational, cultural, and linguistic background of their ELLs, they may be unaware of how to make connections between prior knowledge and new knowledge in their planning of appropriate tasks to meet the needs of ELLs. Making connections and understanding the value of building new schemata was made more visible by ESOL teachers rather than subject teachers in the different learning areas.

Dimension 2: Focusing Explicitly on Academic Vocabulary and Language

While some high- and some MSE teachers understood the importance of focusing explicitly on teaching academic vocabulary and language, and were aware of the linguistic demands placed on ELLs, LSE teachers, especially those teachers from the technology learning area, may have overlooked their ELLs' academic vocabulary and language challenges. This may suggest that they believed that their subject does not necessitate focusing explicitly on academic vocabulary and language (contrary to CBI principles that highlight teaching academic vocabulary as one of the key aspects of CBI teaching) or they may not have grasped that language proficiency such as BICS and CALP develops at different stages of language acquisition (Cummins, 1991). Consequently, these teachers were unable to support ELLs' development of CALP. This may indicate that because teachers believe they are specialist teachers in their subjects, they may not make the connection between teaching content and language or consider this an issue outside their responsibility of teaching the

content of the subject (Gleeson, 2010). Consistent with recurring findings in other studies (e.g., Edwards, 2014), Participant 3, a science teacher with LSE, mentioned that the teaching of academic vocabulary and language should be the responsibility of the ESOL teacher. This comment is not surprising given the historical ideas about how language is acquired and given the compartmentalisation of departments in secondary schools in NZ (Gleeson, 2010). Participant 3 positioned himself as having no expertise in teaching academic vocabulary and language, rather, he saw his responsibility as teaching science content. In his juxtaposition of expertise in one area and non-expertise in the other, Participant 3 expressed the view that he considered himself unprepared to address the needs of ELLs in his class (see Berg et al., 2012; Edwards & Easto, 2014; Gándara & Santibañez, 2016; Reeves, 2006; Téllez & Manthey, 2015). Unlike cognitively undemanding communication like social conversations in the playground, cognitively demanding communication requires ELLs to use academic vocabulary and language in their reading and writing assessments (Cummins, 1981). Research shows that academic vocabulary and language places greater demands on ELLs' cognition because of the complexities of language functions, grammatical constructions, and vocabulary (Schleppegrell, 2004). The findings of J. Hammond's (2006) study suggest that all teachers of ELLs should possess the linguistic knowledge to support ELLs' SLA.

Dimension 3 Increasing Comprehensible Language Input

Some high and MSE ESOL teachers understood the importance of providing comprehensible language input for ELLs in their classes. They created highly interactive tasks for their students which met many of the conditions for developing comprehensible language input. These included communicative tasks such as say-it, and barrier activities that required ELLs' to share information, actively seek it from each other or engage with the task on hand encompassing Krashen's (1985) claim that a learner should receive comprehensible input appropriate for his/her current stage of linguistic competence. Other examples of instructional strategies to provide comprehensible input included visuals, contextualisation, support materials and word banks/glossaries, and allowing L1 to support L2.

While research shows that there is value in allowing ELLs to use their L1 to support L2, few teachers provided opportunities for this to happen. Generally, the teachers who completed or were currently enrolled in the GradDipTESSOL programme understood the value and importance of allowing ELLs to use their L1 to support L2. While some researchers view ELLs' L1 as an asset or "language-as-a-resource," others see it as deficient, believing that using home language is detrimental to learning (Planas & Setati-Phakeng, 2014). Historically, efforts were concentrated on promoting the acquisition of English; it is only recently that the use of L1 has been viewed as "language-as-a-resource" (Goldenberg, 2008). Despite Ministry of Education (2008) documents that endorse the use of L1 to support L2, teachers may have limited awareness of bilingual issues and strategies to encourage the use of the L1 in the classroom.

The use of ELLs' L1 is beneficial, as proposed by Cummins's (1979) "interdependence theory." Cummins argued that certain L1 knowledge can be positively transferred during the process of SLA to L2. Participants who do not allow the use of L1 to support L2 may lack the conceptual knowledge of principles of SLA or they may possess the pedagogical content knowledge but may lack the self-efficacy to use the instructional strategies (Bandura, 1997). They may often use familiar instructional strategies effective for NS of English, and be confident using them, so they find it challenging to use differential instructional strategies for ELLs (De Jong & Harper, 2005). However, language theorists and researchers contend that comprehensible input is essential for meaning construction for students learning English as a second language (Echevarría et al., 2013).

Dimension 4: Promoting Classroom Interaction (Output)

Effective teachers of CBI understand the SLA theories of comprehensible input/output and create opportunities for ELLs to receive comprehensible input and to allow for extended output. Classroom interaction can be promoted in three ways: teacher with student, student with student, and student with text. The SIOP programme advocates adjusting teacher input to make it comprehensible, to expand ideas and to share the talk more equitably with students (Echevarria, et al., 2013). Some teachers with high and some with MSE reported facilitating engagement by using collaborative

learning strategies such as think/pair/share, pair work, and group work using different grouping configurations (Echevarría et al., 2013; S. Sharma, 2016). Consistent with findings in other studies, think/pair/share is a common instructional strategy used in NZ schools where ELLs can share their ideas in English (S. Sharma, 2016). Long (1981) claimed that interaction facilitates acquisition because of the conversational and linguistic changes that occur in such discourse by providing learners with appropriate input and subsequently affording opportunities for output (Swain, 2005). The value of interaction for language learning was confirmed by Pica et al.'s (1987) study, which suggested both input and output are effective in acquiring the target language. However, interaction was valued to different degrees by the teachers and seemed to relate to the nature of the subject areas. Teachers with LSE reported less emphasis on engaging students in groups, providing occasional opportunities for students to interact and engage in group discussions. For example, Participant 8 (technology teacher) found it easier to work with ELLs' on a one-on-one because of the nature of his subject. As the teachers explains and clarifies, the student is able to show his understanding by doing the task on the computer. Another participant (science teacher) from the LSE reported that he does not afford students the opportunity to interact because he does not understand what they are saying, nor do they understand what he is saying. Interaction is recommended because research often shows that teachers tend to dominate classroom talk – this does not allow ELLs' the opportunity to speak and they become passive recipients of knowledge. ELLs' should be empowered to speak as this would encourage them to engage in critical and reflective thinking as well as build their confidence.

Dimension 5: Stimulating Higher Order Thinking and Teaching Metacognitive Skills

Research shows that providing higher order thinking opportunities is consistent with CB language teaching (Reyes & Vallone, 2007). Students learn language and attain higher order thinking as they study content, especially in high school settings (Zwiers, 2006). HSE teachers are more likely to support ELLs' autonomy and responsibility for their learning while teachers with LSE were less likely to support ELLs' independence. Participant 6 (HSE) and Participant 7 (MSE), both ESOL teachers reported in detail that they encourage higher order thinking using Bloom's taxonomy with

their ELLs. Because teachers from the LSE category did not provide pedagogical and linguistic scaffolding for their ELLs, it was challenging for them to report on higher order thinking or metacognitive strategies. Sometimes teachers find it a struggle to implement higher order thinking strategies with ELLs because they may have the misconception that ELLs' cannot perform at higher levels of cognition unless they possess a higher English proficiency level. However, making higher order thinking accessible to ELLs has more to do with the scaffolding and the type of task used than the proficiency level of ELLs. Metacognition is also an important process in learning content and language because self-awareness plays a critical role in improving language learning. Two participants (ESOL teachers) from the HSE and MSE categories support the seventh ESOL principle: include opportunities for monitoring and self-evaluation. These participants provide opportunities for ELLs' to become self-aware of the progress they make while learning a second language. Metacognitive skills help ELLs' in planning, controlling, and evaluating as they focus their attention on learning a new language. A lack of metacognitive strategies impedes the progress of content and language learning since it teaches the why, not just the how. It helps students to be active readers and critical thinkers. Furthermore, it increases confidence and empowers students to transfer the concepts they learn in the classroom to other subjects and to real life.

Looking at the overall findings, ESOL teachers from the HSE and MSE categories have been identified as the most likely experts to use CB instructional strategies and teaching practices. Despite the common misconception that teaching ELLs' is a matter of "just good teaching", (de Jong & Harper, 2005), there is a core of cultural and linguistic expertise that differentiates an effective ESOL teacher from other effective teachers.

Contribution to the Study

This section of the chapter sets out to discuss the contribution to the study in terms of theory, CBI-TSES, methodology and the existing empirical literature and practice, followed by recommendations and future research.

Theory

Bandura (1986) believed that self-reflection is the most important human ability because people change their thinking and behaviour according to their evaluation of themselves and through evaluation by others. According to Pajares (2002), such perceptions or beliefs affect behaviour in several ways. They affect the choices and the course of an action an individual follows. In other words, individuals participate in activities where they feel capable and confident, while avoiding those tasks or activities where they do not. It follows that HSE may increase effort, persistence, and resilience, and create a desire to overcome barriers, while lower self-efficacy beliefs may foster stress, depression, and anxiety leading to negative behaviour with less receptivity to change (see Ashton & Webb, 1986; Cantrell & Callaway, 2008; Chacón, 2005; Gibson & Dembo, 1984). As a result of such influences, self-efficacy beliefs are strong predictors of success (Bandura, 1986). This study generally supports the theoretical foundations of SCT that propose that higher self-efficacy is associated with positive behaviour while lower self-efficacy with less desirable behaviour.

Content-Based Instruction Teacher Self-Efficacy Scale

There were, at the time of the study, no existing instruments to measure TSE for CB instructional strategies and teaching practices. The CBI-TSES, which was informed by current theoretical and empirical work, has been shown to have the necessary psychometric properties to provide the basis for further development and analysis. Considering the increased efforts made to prepare teachers of CBI, the development of this new instrument can provide teachers with a useful tool to evaluate their self-efficacy to use CB instructional strategies and teaching practices. It can also provide course administrators with a tool to evaluate whether their courses/programmes encompass the necessary CB knowledge, skills, and strategies to teach content and language in a second-language context.

Methodology

For the field to progress, researchers have called for an increase in the use of mixed-methods and qualitative designs, claiming that such approaches provide a broader, more in-depth understanding

of TSE (Klassen et al, 2011). As Wyatt (2014) stated "Mixed methods and qualitative research designs seem to have the potential to produce insightful findings that can make the study of teachers' self-efficacy beliefs of greater use to teacher educators" (p. 1). The current study explored TSE through the lens of a mixed-methods design to examine the interplay between TSE perceptions and reported CB instructional strategies. Teachers' voices give nuanced understandings of why they reported certain levels of TSE and what reported strategies secondary teachers use to support ELLs' content and language development.

Existing Empirical Literature

Alongside the call for mixed methods and qualitative studies, teacher-efficacy researchers have called for research in a wider range of cultural and international settings. As stated by Klassen et al.'s (2011) review article, most teacher-efficacy research has been conducted with U.S. participants. Consequently, further research on teacher efficacy is needed in different cultural settings and contexts as variations in teaching environments can lead to the implementation of different teaching strategies as well as different teacher roles and responsibilities (Klassen et al., 2011). For instance, teachers in the US may have quite different daily working environments than those teachers in NZ, due to differences in teacher training, PLD, and expectations of student behaviour and achievement (Yeom & Ginsburg, 2007). The findings in the current study also contributes to the empirical literature on teacher efficacy, particularly about TSE perceptions to use CB teaching practices and instructional strategies. Certainly, the findings of this study offer insights into how secondary teachers report integrating content and language teaching in their respective subjects.

Practice

Value of Global Self-Efficacy and Task-Specific Self-Efficacy Scores

For effective PLD, an increased understanding of TSE as it relates to the five salient CBI dimensions is informative. For example, an analysis of the quantitative data showed that survey respondents were highly efficacious in some areas of practice, such as providing opportunities to

promote classroom interaction and engagement using oral language strategies, but less efficacious in explicitly focusing on teaching academic vocabulary and language. Without due attention to the global self-efficacy scores, it becomes impractical to identify possible interventions for coursework content to support teachers to acquire knowledge and skills about CB instructional strategies and teaching practices to support ELLs. In addition to the value of global self-efficacy scores, identifying global self-efficacy scores on the dimension level could allow for differential support for teachers with varying self-efficacy levels. The findings from the data-integration process suggest that teachers from the three self-efficacy categories require differential support in various aspects of CBI. For example, teachers from the HSE category require strategies on how to bridge the gap between prior knowledge and new knowledge as well as strategies to promote the use of critical and reflective thinking skills. Teachers from the MSE category ranged in their confidence and particularly in their ability to report on teaching instructional strategies and teaching practices. In this case, they perhaps could be further categorised as having medium-high and medium-low self-efficacy. The medium-high teachers require strategies to stimulate higher order thinking and develop metacognitive thinking skills (similar to HSE teachers) while the medium-low- and LSE teachers require knowledge and skills on CB instructional strategies and teaching practices, specifically on extended input/meaningful output, collaborative learning and teaching metacognitive skills.

The item-specific means in the current study are useful for teachers to know where they are with specific CB instructional strategies and in what CB instructional strategies and teaching practices, they may need support. These scores are also valuable to PLD co-ordinators who may be interested in what to plan as part of the specialised PLD to support teachers of ELLs, and ITE course administrators who may be interested in streamlining efforts to prepare teachers to teach content and language.

Recommendations

Given the findings of the study, there are important considerations for policy-makers regarding the provision of teacher education programmes, including teacher PLD courses. More specifically, the

implications from the study for curriculum and syllabus design include the need to prepare subject teachers with a complete understanding of the challenges their students face in learning English as a second-language through CB curricula. These challenges in fact go beyond just teaching academic vocabulary. While inclusive and culturally responsive pedagogies are pertinent, teachers of ELLs through CBI, need to be supported to gain an understanding of language as a semiotic system and its related metalanguage, for better delivery of the curriculum.

ITE Programmes

Teacher lack of preparedness to teach ELLs in different subject areas stems from ITE programmes that lack course content on CBI. As mentioned in Chapter 2, Edwards and Easto (2014) reported that participants in the study commented that the ITE programme did not prepare them to meet the needs of ELLs. Failure to offer an English as a second-language course as an integral part of ITE programmes stems, at least to some extent, from the misconception that teaching ELLs is a question of pedagogical changes that can easily be integrated into the subject teachers' existing repertoire of instructional strategies (De Jong & Harper, 2005). It is no surprise, therefore, that ITE programmes do not prepare teachers to use CB instructional strategies and teaching practices to support ELLs. To become effective teachers of CBI, opportunities must be created to develop additional knowledge and skills associated within the domain of culture and language to facilitate teaching of ELLs. Consequently, the inclusion of more core papers comprising theory (i.e., SLA) and practice (i.e., CB instructional strategies and teaching practices) on how to teach content and language is recommended (see Edwards & Easto, 2014; Samson & Collins, 2012).

Inservice Professional Learning and Development

Programmes like the GradDipTESSOL have been shown to enhance TSE and change teacher cognitions and practices (Feryok & Barkhuizen, 2008; Gray, 2009). Despite incentives by the Ministry of Education, fewer subject teachers are seeking PLD to enhance their knowledge and skills as well as their self-efficacy to effectively teach content and language to ELLs. Clearly, the current incentives are

not enough to attract teachers to enrol in such programmes because they are saddled with heavy teaching workloads and school administration for which compensation has not kept up with what is demanded of them. Many teachers in the current study reported being overwhelmed and showed mixed feelings about undertaking PLD. Financial incentives may motivate teachers to enrol in further specialised PLD or studies to upskill and expand their capabilities. This may be a one-off bonus or incentive or an increment to one's existing salary. Upskilling is likely to lead to HSE which, in turn, may to lead to the implementation of new known-to-be effective practices, and thus to more effective teachers of CBI.

Mandatory Professional Learning and Development

One of the requirements of the teacher-inquiry process, enshrined in the NZC document in NZ (MoE, 2007), is for teachers to engage in PLD to upskill and keep up to date with current innovations in the teaching. However, engagement in PLD is not mandatory. With the increasing numbers of ELLs in subject classes, and the consensus that subject teachers are unprepared to meet the needs of ELLs, such PLD should become mandatory with a minimum of two courses per year, one may be school based and the other delivered by external providers to enhance one's self-efficacy to teach content and language.

Increase Sources of Self-Efficacy Beliefs

The findings of considerable variation in overall self-efficacy for teaching ELLs mean that teachers may require different PLD content to support them. They also require time to develop an openness to change, and importantly, the time and supported opportunity to deliver and integrate instructional strategies and teaching practices in their classes. They need the chance to build positive beliefs, such as those emanating from mastery and vicarious experiences, verbal persuasion, and emotional/physiological states, to enhance self-efficacy (Bandura, 1997). Innovative PLD-like courses that offer opportunities to gain mastery and vicarious experiences, and experience verbal persuasion,

and which support positive emotional states are more effective than traditional ones (Tschannen-Moran & Hoy, 2001; Tschannen-Moran & Woolfolk Hoy, 2007; Yoo, 2016). For example, the teacher-inquiry process in NZ where teachers use evidence from research and their own past practice, and that of colleagues, to plan teaching and learning opportunities aimed at achieving the outcomes prioritised in the inquiry is particularly relevant. This process allows teachers the opportunity to engage in role-play and microteaching experiences followed by conversations, feedback, and mentoring. Such structural and didactic changes support the implementation of the teacher-inquiry process by encompassing the major sources shaping efficacy beliefs: (1) a series of consecutive PLD courses on one topic to include opportunities for the experts to model practice, (2) opportunity to trial tasks/activities in the classroom with observations by colleagues, and (3) follow through with affirming and constructive feedback during mentoring sessions and appraisal meetings. In implementing change, giving teachers opportunities to engage in role-playing and experiences with specific feedback can have a powerful impact on TSE for teaching skills, as these exercises directly address the need for mastery experiences (role-play), vicarious experiences (modelling by the experts), and verbal persuasion (positive feedback from colleagues; Tschannen-Moran et al., 1998). However, when teachers try to implement new practices, their efficacy beliefs may be lowered initially but then rebound to a higher level when the new strategies are found to be effective and teachers are confident using them (Tschannen-Moran et al., 1998). Encouragement and assistance become especially necessary when transition happens and temporary efficacy declines. Teachers should also be advised that initial attempts to introduce new strategies can momentarily lower their efficacy. Teachers need assistance and training to avoid the initial downturn (Bandura, 1997). Teachers also need to see evidence of positive student outcomes before higher self-efficacy takes root. All these opportunities for collaboration and participation should increase the vicarious experience, verbal persuasion, and performance feedback to support efficacy beliefs. Positive results of vicarious experiences and verbal persuasions are likely to be evident because fellow teachers can be compelling models and usually

provide credible sources of feedback. The final source of teacher effectiveness is the individual's emotional/physiological state.

As such, all individuals are thought to judge their own capabilities through these states. For example, a positive mood is thought to enhance teacher efficacy, whereas a despondent mood acts to diminish it. However, Bandura (1997) suggested, "these different forms of efficacy influences rarely operate separately and independently" (p. 87) and are most effective when all four sources of efficacy-shaping beliefs work together.

Role of the ESOL Department

Findings from the current study suggest that teachers are unaware of how to find out about the English proficiency levels of ELLs. However, a knowledge of ELLs' English proficiency levels, including speaking, reading, and writing, is valuable in informing teachers' planning and delivery of content to meet the needs of ELLs (MoE, 2008). Having such data about ELLs' proficiency in different areas of language may also help teachers to understand that language proficiency often develops inconsistently across the four skills, with receptive skills frequently developing in advance of productive skills. Also, teachers may not fully understand the cognitive load that ELLs must endure, particularly in engaging in multiple mental translations to process information between their L1 and L2. Historically, subject teachers taught the content of their subject and ESOL teachers taught grammar/language, working independently of each other. With a pressing need to focus on teaching content and language, it is encouraged that subject teachers collaborate with ESOL teachers to improve student outcomes for ELLs since they have been identified throughout this study as the most likely experts in the field of CBI. ESOL teachers may be able to provide the necessary advice on how to teach proleptically to scaffold students, using strategies such as graphic organisers, writing, and speaking frames (Walqui & van Lier, 2010).

Role of Senior Leadership Team

Leadership teams play an important role in empowering teachers by putting several systems and structures in place to support ELLs. They are the facilitators for educational change, and it is their responsibility to provide teachers with the necessary tools to increase student achievement. "The knowledge that leaders have about the learners, curriculum, pedagogy, and assessment is seen as highly important to teachers' views of successful leadership practices and also relates to leadership credibility" (McGee et al., 2014, p. 11).

This is particularly so in NZ where schools are autonomous as compared to the US. In NZ, the senior leadership team works independently of ministry officials, tailoring programmes to the school needs and context, whereas, in the US, district officials often dictate what happens. School leaders need to ensure that they have the knowledge and skills (such as about SLA) to support teachers. Principals have the challenging responsibility of responsibility of overseeing their team and staff with respect to how to support this population. According to Tschannen-Moran and McMaster (2009), "One of the most interesting and important reasons for scholars and school leaders to pay attention to teachers' self-efficacy is the role it plays in teachers' implementation of new teaching strategies presented through professional development" (p. 231).

Content-Based Instruction Teacher Self-Efficacy Scale

Further studies are needed to examine the factor structure and researchers may look to extending the 23 items; some items may need to be reworded or rephrased with consideration to task- and context-specificity (Tschannen-Moran et al., 1998). Also, the instrument should be administered across a variety of contexts which would allow for agreed terms and items to be developed and tested. Replication of the CBI-TSES with a larger population in different cultural and international settings may yield different results and provide further understanding of teacher efficacy in different contexts and settings.

Limitations

While this study provides valuable insights into the complexities of TSE beliefs and pedagogical practices, several limitations are evident, encouraging caution in the interpretation of the findings, while offering possible avenues for future research.

The study may not be generalisable to larger groups due to the domain-specific nature of teacher efficacy. However, the findings in the current study contribute to the much-needed research on teacher efficacy. The data may be informative to teachers, PLD providers, and researchers, since an understanding of TSE and its associated behaviours and teaching practices is an important step to improving teacher confidence, quality of teaching, and student outcomes.

The sampled population of subject teachers is small. There needs to be more representation of teachers in each learning area to enhance further our understanding of how teachers in different subjects use CB instructional strategies and teaching practices to support ELLs' content and language learning.

TSE research is self-report so is dependent on what teachers believe and know. Also, although qualitative in nature, the interview data were self-report. The cross-over analysis highlighted the problematic issues in terms of looking at self-report of TSE and self-report of CB instructional strategies and teaching practices. The analysis suggested that although some patterns emerged, it was not necessarily a clear, strong pattern whereby those with HSE would be more likely to report practices known to be effective with ELLs. As a result, further studies are necessary to find out how TSE beliefs are embodied in observed classroom pedagogical practice. Also, the relationship between teachers with MSE and their actual practices in the classroom is worth further investigation.

Teachers in the study tended to have a general sense of efficacy about various instructional strategies and teaching practices AND about teaching different students, in this case ELLs. This general sense may be in relation to their overall actions as a teacher about using specific sorts of strategies and pedagogies. Hence, this general idea of themselves as a teacher predominates, for some, over their sense of their efficacy for individual moves within teaching (being better at some aspects of

pedagogy than others). Likewise, they may view their efficacy as a teacher thinking of all students not specifically ELLs (especially if they believe they do not need to teach specifically to them). Future research should look at a survey that differentiates self-efficacy for teaching in general versus teaching ELLs, teacher beliefs about general teaching verses specific CB instructional strategies and teaching practices to try to unravel this thinking.

Due to the research design, teachers' metalinguistic knowledge was not taken into consideration when gathering qualitative data. What was measured through the survey was a small fraction of what language knowledge encompasses; the attempt to measure a complex construct such as metalinguistic knowledge represents a very challenging task. The amount of metalinguistic instruction can vary greatly from classroom to classroom, with CBI, arguably, relying on it to a lesser extent then the more grammatically orientated language classrooms.

Final Thoughts

I began my 4-year academic journey with a research inquiry into exploring how secondary TSE perceptions shape their use of CB instructional strategies to support content and language teaching. This process challenged my personal self-efficacy beliefs as the various sources of efficacy beliefs came into play. I had to set limited goals as the process of research and writing a dissertation was an overwhelming task. However, the mastery experiences of achieving the incremental goals at every step played a significant role in enhancing my self-efficacy. Attending doctoral workshops and seeing my study colleagues put in sustained effort to achieve, motivated me to continue working despite the challenges, obstacles and unforeseen circumstances that would disrupt the flow of thoughts, and the reading and writing process. The vicarious experiences allowed me to continue my academic journey. The verbal persuasion from colleagues, doctoral course co-ordinators and supervisors helped me to overcome doubt through encouragement and positive feedback. However, the psychological arousals far outweighed any of the other efficacy beliefs. The highs made me feel like "I can do" this, while the lows made me feel like "this is too hard." My moods dictated how I felt and whether I was

capable of being successful or not. The impact of such efficacy beliefs played a significant role in whether I continued or gave up this journey. What I do understand now is the immense influence self-efficacy plays in a person's life, the decisions they make, how they behave, how they feel and how they react to situations and circumstances. Self-efficacy is a powerful motivator and indicator of one's performance; this study generally shows that TSE perceptions, specialised training, and the subject teachers taught, emerged as influencing reported CB instructional strategies.

It is the responsibility of all stakeholders: ITE course co-ordinators, PLD facilitators, and senior leadership teams, to look at ways to enhance teachers' self-efficacy as well as to use the expertise of ESOL teachers in order to attract positive and desirable behaviour in teaching content and language to ELLs. It is imperative that further initiatives are put in place to attract and encourage teachers to engage in specialised PLD to support ELLs. Higher self-efficacy leads to positive teaching behaviour, which in turn leads to improved student outcomes.

Appendices

Appendix A: Permission

Request to use the knowledge, skills and Attribute Statements (Research Report, 2012)Assessing Quality in the Teaching of Content to English Language Learners

Report message · Block user

Mageshni Narain Apr 27, 2018

Good day,
My name is Mageshni Narain. I am a Doctoral student at the University of Auckland, New Zealand. My dissertation topic is: Examining self-efficacy of secondary teachers in the teaching of Content to ELLs.
I am interested in using the statements (general pedagogy, general linguistic and the content subject evidence statements. However, I will be adapting the statements to use in a Likert scale format. I humbly request your permission to use the research statements? (with citations).
Please advise,
Kind Regards,
Mageshni

Sultan Turkan to you May 1, 2018

Yes, Mageshini, you have my permission. Please send me a copy of your publication when completed. Let me know how I can be of further help.
Best wishes,
Sultan

Appendix B: Secondary Sources supporting Content-Based Instruction Principles

Title of study	Type of evidence	Effective teaching practices for ELLs
Quality Teaching for Diverse Students in Schooling: Best Evidence Synthesis Iteration (Alton-Lee, 2003)	Best Evidence Synthesis: The BES has produced ten characteristics of quality teaching derived from a synthesis of research findings that optimize student learning and achievement outcomes.	(1) focuses on student success and promotes high expectations for diverse students, (2) pedagogical practices that encourage classrooms to serve as loving, supportive and cohesive student environments, (3) relations that are formed between school and other cultural contexts where students are socialised to promote learning, (4) responsive to student learning processes, (5) provides efficient and appropriate ways to learn, (6) provides multiple task contexts to support learning cycles, (7) alignment of resources such as technology, task design, teaching and school practice programs, (8) explicit scaffolding, opportunities for student engagement, and appropriate feedback that facilitates student learning, (9) pedagogy promoting development of metacognitive skills and stimulating higher order thinking, and (10) teachers and students participating in goal-oriented assessments.
What Teachers know about instruction for ELLs? (Deussen et al., 2008)	Expert opinion based on research A Research Report commissioned by the Washington state legislature Based on the review of the literature, 14 key principles were identified that teachers working with ELLs should know.	Developmental stages of ELLs vary as they acquire English proficiency, all stages need comprehensible input; disparity between conversational and academic language; ELLs need instruction that will ensure success; ELLs background and culture differs from native speakers; assessments measure academic content knowledge and academic language.
Meeting the Literacy Development Needs of Adolescent ELLs Through Content-Area Learning (Meltzer & Hamann, 2005)	A review by researchers - consolidated the literature into the Adolescent Literacy Support Framework.	Make connections to students' lives, have students interact with each other, emphasize thinking, teach understanding of text structures, explicitly attend to vocabulary development, and scaffold, and emphasize speaking and listening.
Preparing all Teachers to the Needs of ELLs (Samson & Collins, 2012)	Expert opinion based on research.	Support oral language development; value cultural diversity; explicitly teach academic English; school-wide efforts and coordination of curriculum across content-area teachers.
Effective teaching practices for ELLs (Tellez & Waxman, 2005)	A meta-synthesis of qualitative research.	Communitarian teaching practices; protracted language events; multiple representations designed for understanding target language; building on prior knowledge; metacognitive strategies.

Appendix C: Survey

Consent
Secondary teachers,
This online questionnaire is designed to gather information from secondary teachers from different learning areas about their confidence to work with English Language Learners (ELLs).
I invite you to complete this questionnaire. It is anticipated that through the analysis of your responses, a better understanding can be achieved about how teachers can be further assisted and supported in teaching content and language effectively to ELLs. For this survey, ELLs are defined as learners for whom English is not their first language.
The questionnaire is anonymous and no IP address or other identifying information will be gathered. Submission of the questionnaire counts as consent to participation, and because the information is anonymous data cannot be withdrawn once the questionnaire has been submitted.

The questionnaire consists of the online survey, the researcher's e-mail address at the end of the survey (for teachers willing to participate in a follow-up interview, to explore further the issues around supporting ELLs) and to request for a summary of findings. The survey should take approximately 5-7 minutes to complete. Your participation in the interview will entitle you to go into a draw to win a $200 grocery voucher.

For any concerns regarding ethical issues, you may contact the Chair, the University of Auckland
Human Participants Ethics Committee, at the University of Auckland Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711.
Email: ro-ethics@auckland.ac.nz

If you have any questions to ask or concerns you wish to discuss please e-mail Professor Judy Parr (jm.parr@auckland.ac.nz) or
Dr. Christine Biebricher (c.biebricher@auckland.ac.nz) or
Mageshni Narain (mnar022@aucklanduni.ac.nz).

Approved by the University of Auckland Human Participants Ethics Committee on the **20 June 2018 for three years**. Reference number **021346**

Part One Demographics

Question 1 Gender

□ Male

□ Female

□ Gender Diverse

Question 2 Age

□ 21-30
□ 31-40
□ 41-50
□ 51-60
□ 61+

Question 3 Is English your first language?

□ yes
□ no

Question 4 Highest Degree Attained

□ Bachelor's degree
□ Master's degree
□ PHD/Ed.D

□ Other _____

Question 5 How many years have you been teaching?

□ Years _____

Question 6 Are you an ESOL specialist teacher?

□ yes

□ no

Question 7 What are your qualifications? (For example, Graduate Diploma of TESSOL)

Question 8 Which of the following learning area (s) are you currently teaching?

□ English

□ Arts

□ Health and Physical Education

□ Languages

□ Mathematics and Statistics

□ Science

□ Social Sciences

□ Technology

Question 9 Approximately, how many English Language Learners do you currently teach?

▼ 0-10 ... more than 100

Question 10 Which year levels are you currently teaching?

□ 9

□ 10

□ 11

□ 12

□ 13

Question 11 Approximately, how many English Language Learners have you taught in the last three years?

▼ 0-50 ... more than 400

Part Two Nature and Extent of Professional Learning and Development

Question 12 About how many hours in total of professional learning and development have you received over the last 5 years on how to teach and support ELLs?

▼ Click to write Choice 1 ... more than 100

Question 13 What was the nature of the professional learning and development?

□ School based professional development e.g. ESOL department

□ Courses offered by professional developers e.g. Kohia workshops

□ English Language Resource Centre e.g. English Language Learning Progressions workshop

□ School based professional development e.g. External Facilitator - vocabulary workshop

□ ESOL cluster meetings e.g. workshops

□ AKTESOL events

□ TESOLANZ Symposiums

□ University courses e.g. TESSOL Diploma

□ Own reading

□ Other _____

Question 14 Please indicate the content of the professional development attended in the last 5 years.

□ Getting to know your English Language Learners

□ English Language Learning Progressions

□ English for Academic Purposes

□ Instructional Strategies for English Language Learners
□ Teaching English Language Learners in content areas

□ Theories of Second Language Acquisition

□ Differentiated Instruction

□ Other _____

Question 15 Which of the following resources, published by the Ministry of Education have you used?

□ ESOL Online website

□ Working with English Language Learners: Handbook and DVD

□ Making Language and Learning work DVD 1,2,3

□ English Language Learning Progressions

□ English Language Intensive Programme (Years 1 – 13)

□ Progress Assessment Guidelines

□ Learning through Talk

□Effective Literacy Practice

Part Three Teacher Confidence

Please rate how confident you are that you can implement the following teaching practices and instructional strategies in your class. Use the 0-100 scale below (0-cannot do at all to 50 - moderately can do to 100 highly certain can do). How certain I can……

Develop ELLs metalinguistic awareness of English language (i.e., ability to distinguish between literal and implied meanings)	0	10	20	30	40	50	60	70	80	90	100
Pace oral communications and instructions appropriately for ELLs	0	10	20	30	40	50	60	70	80	90	100
Make abstract content concepts accessible to ELLs	0	10	20	30	40	50	60	70	80	90	100
Draw upon ELLs' cultural and educational background to facilitate learners' comprehension	0	10	20	30	40	50	60	70	80	90	100
Teach metacognitive language-learning strategies (e.g., steps in problem solving) to ELLs	0	10	20	30	40	50	60	70	80	90	100
Provide multiple opportunities for ELLs to process content in group contexts	0	10	20	30	40	50	60	70	80	90	100
Provide ELLs with oral and visual support	0	10	20	30	40	50	60	70	80	90	100

Implement various strategies to differentiate instruction for ELLs' success	0	10	20	30	40	50	60	70	80	90	100
Include language objectives alongside content objectives in planning lessons	0	10	20	30	40	50	60	70	80	90	100
Supplement curriculum and textbook materials with other resources	0	10	20	30	40	50	60	70	80	90	100
Develop ELLs' higher-order thinking skills through questioning	0	10	20	30	40	50	60	70	80	90	100
Encourage critical thinking	0	10	20	30	40	50	60	70	80	90	100
Help ELLs to understand discipline-specific concepts within a content area through the use of graphic organisers (e.g., word clusters, semantic maps, T-charts)	0	10	20	30	40	50	60	70	80	90	100
Adapt texts (e.g., paraphrasing unfamiliar expressions)	0	10	20	30	40	50	60	70	80	90	100
Explicitly explain to ELLs genres (e.g., journal, fact, expository, narrative)	0	10	20	30	40	50	60	70	80	90	100
Apply various methods to incorporate different task engagement styles	0	10	20	30	40	50	60	70	80	90	100
Distinguish between core content vocabulary and common everyday vocabulary	0	10	20	30	40	50	60	70	80	90	100
Design production activities to provide ELLs with the opportunities to express their ideas and perspectives	0	10	20	30	40	50	60	70	80	90	100
Scaffold ELLs' ability to rephrase or paraphrase academic language in their own words	0	10	20	30	40	50	60	70	80	90	100
Identify parts of speech in sentence structures such as prepositional phrases in order to make academic texts accessible	0	10	20	30	40	50	60	70	80	90	100
Teach ELLs new vocabulary in context	0	10	20	30	40	50	60	70	80	90	100
Build on ELLs' knowledge of cognates	0	10	20	30	40	50	60	70	80	90	100
Identify areas of difficulty in academic vocabulary	0	10	20	30	40	50	60	70	80	90	100

If you are willing to participate in a follow-up interview, to explore further the issues around supporting ELLs, please e-mail your name to the e-mail address below with the subject line: interview
Your participation in the interview will entitle you to go into a draw to win a $200 grocery voucher.
mnar022@aucklanduni.ac.nz
If you would like to receive a summary of findings, please e-mail your name to the email address below with the subject line: summary of findings
mnar022@aucklanduni.ac.nz
Thank you for your participation!

Approved by the University of Auckland Human Participants Ethics Committee on **20 June 2018 for three years.** Reference Number **021346**

Appendix D: Interview

This interview is designed to gather information from you about content-based teaching practices/instructional strategies that you use to support English Language Learners content and language development. It is anticipated that through the analysis of your responses, a better understanding can be achieved about how you can be further assisted and supported in teaching content and language to ELLs. ELLs are defined as learners for whom English is not their first language. Your responses will be kept strictly confidential.

Content-Based Instructional Strategies and Teaching Practice Questions

1. Think of two English Language Learners in your class. Please share with me their cultural and language background.

2. The ELLs in your class are working on an Achievement Standard. The academic vocabulary includes words like classify, analyse, justify. How have you managed to scaffold and reinforce the key vocabulary to support ELLs understanding?

3. You are introducing a new unit of work in your class. There is subject-specific vocabulary that ELLs may not understand. Are there any specific instructional strategies that you use to reinforce subject-specific vocabulary?

4. There are ELLs in your class who do not participate in class discussions. Have you managed to work out ways in which can encourage ELLs to participate in your class? Can you give me specific examples?

5. What teaching practices/instructional strategies opportunities do you provide for ELLs to reflect on their learning (metacognitive strategies – think about their thinking)? Please provide some examples.

6. Are there any other comments about teaching content and academic language to ELLs?

Approved by the University of Auckland Human Participants Ethics Committee on **20 June 2018 for three years.** Reference Number **021346**

Appendix E: Participant Information Sheet (Principal and Board of Trustees)

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

EDUCATION AND SOCIAL WORK

SCHOOL OF CURRICULUM AND PEDAGOGY
Te Kura o te Marautanga me te Ako

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New Zealand

Project Title: Examining teacher self-efficacy perceptions for teaching of content and language to English Language Learners

Student Researcher: Mageshni Narain
Name of Supervisors: Professor Judy Parr
Dr Christine Biebricher

Researcher introduction
My name is Mageshni Narain. I am student enrolled for the Doctor of Education, Faculty of Education and Social Work at the University of Auckland.

Project description and invitation
The purpose of the research is to examine the confidence levels of secondary teachers' use of content-based teaching practices/instructional strategies to support English Language Learners content and language development. I seek permission from the Principal and Board of Trustees to pass on information to the teachers about the study. I request your assurance that teachers' decisions to participate or not will have no effect on their employment or relationships with the school. Participation is voluntary.

Project Procedures
Teachers from secondary schools are invited to participate in the research. The researcher plans to potentially recruit 500 participants for the online survey. The questionnaire will take approximately 5-7 minutes to complete through an online survey. Participants will also be given the opportunity to participate in an interview by e-mailing their name to the researcher. The e-mail address will be given at the end of the survey. The researcher potentially plans to interview 15 participants (subject teachers from different learning areas). Participants will be given the opportunity to ask questions or clarify any information. The interview will take 30-40 minutes. Interviews will be held at the participant's school (after school hours) at a time convenient to the participant. A prize draw of $200 will be offered to interview participants.

Anonymity and Confidentiality
The questionnaire is anonymous and no IP addresses or other identifying information will be gathered. Submission of the questionnaire counts as consent to participation, and because the information is anonymous data cannot be withdrawn once the questionnaire has been submitted. Participants will be informed about confidentiality in the consent form.

I will give an undertaking that teacher identities as the source of information will be kept confidential by the researcher, and if data are shared, published or reported, this will be done in such a way that the source of particular data cannot be identified.

Data storage/retention/destruction/future use
All data collected by the researcher, electronically, will be stored in a secure database at the University of Auckland for a period for up to six years after the completion of the research. All data will be deleted at the conclusion of the project.

Contact Details

If you have any questions to ask or concerns you wish to discuss, please contact the appropriate person from the following:

Professor Judy Parr School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 6, Room 600 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand jm.parr@auckland.ac.nz	Dr Christine Biebricher School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 5, Room 555 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand c.biebricher@auckland.ac.nz
Associate Professor Helen Hedges Head of Department - School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland A - BLOCK EPSOM - Bldg 6EA Level 2, Room 232 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand h.hedges@auckland.auckland.ac.nz	Researcher Mageshni Narain mnar022@aucklanduni.ac.nz

For any concerns regarding ethical issues you may contact the Chair, the University of Auckland Human Participants Ethics Committee, at the University of Auckland Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711. Email: ro-ethics@auckland.ac.nz

Approved by the University of Auckland Human Participants Ethics Committee on **20 June 2018 for three years.** Reference number **021346**

Appendix F: Consent Form (Principal and Board of Trustees)

EDUCATION AND SOCIAL WORK

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Auckland 1135
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THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: Examining teacher self-efficacy perceptions for teaching of content and language to English Language Learners

Name of researcher: Mageshni Narain
Name of Supervisors: Professor Judy Parr
Dr Christine Biebricher

I have read the Participant Information Sheet, and I have understood the nature of the research.

- I give permission for teachers to participate in this study.
- I agree to pass on information about the study to the teachers.
- I give the assurance that teacher's involvement (or not) in the study will not impact their employment or relationship with the school.

Approved by the University of Auckland Human Participants Ethics Committee on the **20 June 2018 for three years.** Reference Number **021346**

Appendix G: Participant Information Sheet (Online Community Facilitators)

EDUCATION AND SOCIAL WORK

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New Zealand

Project Title: Examining teacher self-efficacy perceptions for teaching of content and language to English Language Learners

Student Researcher: Mageshni Narain
Name of Supervisors: Professor Judy Parr
Dr Christine Biebricher

Researcher Introduction
My name is Mageshni Narain. I am a student enrolled for the Doctor of Education, Faculty of Education and Social Work at the University of Auckland.

Project description and invitation
The purpose of the research is to examine the confidence levels of secondary teachers' use of content-based teaching practices/instructional strategies to support English Language Learners content and language development. I seek permission from Online Community Facilitators to distribute the questionnaire online. Participation is voluntary.

Project Procedures
Secondary teachers from different learning areas are invited to participate in the research. The researcher plans to potentially recruit 500 participants for the online questionnaire. The questionnaire will take approximately 5-7 minutes to complete. Participants will also be given the opportunity to participate in an interview by e-mailing their name to the researcher. The researcher's e-mail address will be given at the end of the survey. The researcher potentially plans to interview 15 participants (secondary teachers from different learning areas). Participants will be given the opportunity to ask questions or clarify any information. The interview will take 30-40 minutes. Interviews will be held at the participant's school (after school hours) at a time convenient to the participant. A prize draw of $200 will be offered to interview participants.

Anonymity and Confidentiality
The questionnaire is anonymous and no IP addresses or other identifying information will be gathered. Submission of the questionnaire counts as consent to participation, and because the information is anonymous data cannot be withdrawn once the questionnaire has been submitted. Participants will be informed about confidentiality in the consent form. I will give an undertaking that teacher identities as the source of information will be kept confidential by the researcher, and if data are shared, published or reported, this will be done in such a way that the source of particular data cannot be identified.

Data storage/retention/destruction/future use
All data collected by the researcher, electronically, will be stored in a secure database at the University of Auckland for a period for up to six years after the completion of the research. All data will be deleted at the conclusion of the project.

Contact Details

If you have any questions to ask or concerns you wish to discuss, please contact the appropriate person from the following:

Professor Judy Parr School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 6, Room 600 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUC Zealand jm.parr@auckland.ac.nz	Dr Christine Biebricher School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 5, Room 555 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand c.biebricher@auckland.ac.nz
Associate Professor Helen Hedges Head of Department - School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland A - BLOCK EPSOM - Bldg 6EA Level 2, Room 232 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand h.hedges@auckland.auckland.ac.nz	Researcher Mageshni Narain mnar022@aucklanduni.ac.nz

For any concerns regarding ethical issues you may contact the Chair, the University of Auckland Human Participants Ethics Committee, at the University of Auckland Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711. Email: ro-ethics@auckland.ac.nz

Approved by the University of Auckland Human Participants Ethics Committee on **20 June 2018 for three years**. **Reference number 021346**

Appendix H: Participant Information Sheet (Secondary Teachers)

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

EDUCATION AND SOCIAL WORK

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Private Bag 92019
Symonds Street
Auckland 1135
New Zealand

Project Title: Examining teacher self-efficacy perceptions for teaching of content and language to English Language Learners

Student Researcher: Mageshni Narain
Name of Supervisors: Professor Judy Parr
Dr Christine Biebricher

Researcher introduction
My name is Mageshni Narain. I am student enrolled for the Doctor of Education, Faculty of Education and Social Work at the University of Auckland.

Project description and invitation
The purpose of the research is to examine the confidence levels of secondary teachers' use of content-based teaching practices/instructional strategies to support English Language Learners content and language development. I invite secondary teachers from different learning areas to participate in the research. Participation is voluntary. It is anticipated that through the analysis of your responses, a better understanding can be achieved about how you can be further assisted and supported in teaching content and language effectively to English Language Learners. The Principal has given the assurance that your decision to participate or not will have no effect on your employment or relationships with the school.

Project Procedures
Your participation will involve completing a short survey of 5-7 minutes about your teaching beliefs and practices. Participants will also be given the opportunity to participate in an interview. If you are interested in further exploring the issues around teaching ELLs, please e-mail the researcher. The e-mail address will be given at the end of the questionnaire. Participants will be given the opportunity to ask questions or clarify any information. The interview will take 30-40 minutes. Interviews will be held at the participant's school (after school hours) at a time convenient to the participant.

Anonymity and Confidentiality
The questionnaire is anonymous and no IP addresses or other identifying information will be gathered. Submission of the questionnaire counts as consent to participation, and because the information is anonymous data cannot be withdrawn once the questionnaire has been submitted. You will be informed about confidentiality for the interview in the consent form. I will give an undertaking that teacher identities as the source of information will be kept confidential by the researcher, and if data are shared, published or reported, this will be done in such a way that the source of particular data cannot be identified.

Data storage/retention/destruction/future use
All data collected by the researcher, electronically, will be stored in a secure database at the University of Auckland for a period for up to six years after the completion of the research. All data will be deleted at the conclusion of the project.

Contact Details

If you have any questions to ask or concerns you wish to discuss, please contact the appropriate person from the following:

Professor Judy Parr School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 6, Room 600 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand jm.parr@auckland.ac.nz	Dr Christine Biebricher School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 5, Room 555 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand c.biebricher@auckland.ac.nz
Associate Professor Helen Hedges Head of Department - School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland A - BLOCK EPSOM - Bldg 6EA Level 2, Room 232 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand h.hedges@auckland.auckland.ac.nz	Researcher Mageshni Narain mnar022@aucklanduni.ac.nz

For any concerns regarding ethical issues you may contact the Chair, the University of Auckland Human Participants Ethics Committee, at the University of Auckland Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711. Email: ro-ethics@auckland.ac.nz

Approved by the University of Auckland Human Participants Ethics Committee on the **20 June 2018 for three years.** Reference number **021346**

Appendix I: Participant Information Sheet (Secondary Teachers—Interviews)

THE UNIVERSITY OF AUCKLAND
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New Zealand

Project Title: Examining teacher self-efficacy perceptions for teaching of content and language to English Language Learners

Student Researcher: Mageshni Narain
Name of Supervisors: Professor Judy Parr
Dr. Christine Biebricher

Researcher introduction
My name is Mageshni Narain. I am a student enrolled in the Doctor of Education, Faculty of Education and Social Work at the University of Auckland.

Project description and invitation
The purpose of the research is to examine the confidence levels of secondary teachers' use of content-based teaching practices/instructional strategies to support English Language Learners content and language development. Secondary teachers from different learning areas are invited to participate in the research. Participation is voluntary. A prize draw of $200 will be offered to interview participants.

Project Procedure
Participation involves an interview of approximately 30-40 minutes. You will be given the opportunity to ask questions or clarify any information. Interviews will be held at a time convenient to you. You have the right to request for the recording device to be turned off at any point.

Data storage/retention/destruction/future use
All data collected by the researcher, both paper form and electronically, will be stored in a secure database at the University of Auckland for a period for up to six years after the completion of the research. Consent forms will be stored in a locked cabinet in the supervisor's office to be separate from the data material. All data will be deleted or shredded at the conclusion of the project. The interview will be recorded. All recordings for the interviews will be transcribed by the researcher. The transcripts will be e-mailed, and you will be given the opportunity to review and edit the transcripts two weeks from receipt of the transcript.

Right to Withdraw from Participation
You may withdraw from participation without giving a reason or withdraw your data at any time before the completion of data collection by 30 November 2018.

Confidentiality
You will be informed about confidentiality in the consent form. I will give an undertaking that teacher identities as the source of information will be kept confidential by the researcher, and if data are shared, published or reported, this will be done in such a way that the source of particular data cannot be identified.

You may request the summary of findings of the project.

Contact Details

If you have any questions to ask or concerns you wish to discuss, please contact the appropriate person from the following:

Professor Judy Parr School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 6, Room 600 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand jm.parr@auckland.ac.nz	Dr Christine Biebricher School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland N - BLOCK. EPSOM - Bldg 6EN Level 5, Room 555 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand c.biebricher@auckland.ac.nz
Associate Professor Helen Hedges Head of Department - School of Curriculum and Pedagogy Faculty of Education and Social Work The University of Auckland A - BLOCK EPSOM - Bldg 6EA Level 2, Room 232 EPSOM CAMPUS, 74 EPSOM AVE EPSOM AUCKLAND 1023 New Zealand h.hedges@auckland.auckland.ac.nz	Researcher Mageshni Narain mnar022@aucklanduni.ac.nz

For any concerns regarding ethical issues, you may contact the Chair, the University of Auckland Human Participants Ethics Committee, at the University of Auckland Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711. Email: ro-ethics@auckland.ac.nz

Approved by the University of Auckland Human Participants Ethics Committee on **20 June 2018 for three years.** Reference number **021346**

Appendix J: Consent Form (Interviews)

EDUCATION AND SOCIAL WORK

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Private Bag 92019
Symonds Street
Auckland 1135
New Zealand

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project Title: Examining teacher self-efficacy perceptions for teaching of content and language to English Language Learners

Name of researcher: Mageshni Narain
Name of Supervisors: Professor Judy Parr
Dr Christine Biebricher

I have read the Participant Information Sheet, and I have understood the nature of the research and why I have been selected. I have had the opportunity to ask questions and have them answered to my satisfaction.

▪ I agree to take part in this research.

▪ I understand that the principal has given the assurance that my involvement (or not) in the study will not impact my employment or relationship with the school.

▪ I understand that I am free to withdraw my participation at any time, and to withdraw any data traceable to me up to the 30 September 2018.

▪ I understand that I have a right to request for the recording device to be turned off at any point.

▪ I agree to be audio recorded.

▪ I understand that all records of data will remain confidential and my identity will not be revealed.

▪ I understand that I will be given the opportunity to review and edit the transcript.

▪ I understand that the data will be kept for 6 years.

▪ I wish to receive the summary of findings, which can be e-mailed to me at this e-mail address:

Name: _____
E-mail address: _____
Signature: _____

Approved by the University of Auckland Human Participants Ethics Committee on **20 June 2018 for three years.** Reference Number **021346**

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