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**MEd TESOL Research Dissertation:**

**Teacher cognition and academic vocabulary: to what extent do teachers' beliefs match their practices?**

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## **Abstract**

Over the last 30 years, a growing number of studies have concentrated on the correlation between second language teachers' beliefs and their pedagogical practices. A limited number of studies, however, have explored teachers' beliefs and practices concerning vocabulary instruction, and there have been no studies focusing on academic vocabulary, despite the crucial role that acquisition of academic vocabulary plays in the success of international students. The aim of this paper is to redress the balance by examining three English teachers working on a specialist course in academic reading and vocabulary, by investigating their beliefs about vocabulary teaching and their pedagogical practices. Semi-structured interviews, classroom observations and stimulated recall were utilized in order to elicit the teachers' beliefs and to help understand their practices. It was revealed that teachers had similar beliefs with regards to such aspects of academic vocabulary pedagogy as explicit vocabulary instruction, word meaning guessing, and a focus on form. Nevertheless their pedagogical practices in the observed lessons demonstrated both similarities and differences. Moreover, while many of their reported beliefs corresponded with their practices, there was limited or no evidence of other beliefs.

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# **1 INTRODUCTION**

## **1.1 Research Context**

The research project is located in the context of tertiary EFL teaching in East Asia, where the learners of English are aiming to improve their overall IELTS score, and also seeking to develop academic skills. The specific course in which the research project takes place is a specialized academic vocabulary module. The majority of students are eventually aiming to join post-graduate courses in a variety of disciplines, and need to be familiar with the academic vocabulary which is used throughout subject disciplines in western universities. The course is offered to any student who has an IELTS score of 5.5 in all four sub-skills.

Students are usually taught in classes of up to twenty students, where they follow one course book specializing in academic vocabulary. They generally experience a textbook-bound and language-focused approach. Learners are assessed through a mid-term vocabulary test and end of term vocabulary test, which focus on academic collocation, and academic vocabulary.

## **1.2 Background and Motivation**

Vocabulary is fundamental to the teaching of a second language. It gives students access to all forms of oral and written communication including both oral presentations and the content knowledge provided in lectures and seminars (Chazel, 2012). Word knowledge can be viewed as a form of empowerment because words serve as building blocks to learning. In the 'English for academic purposes' classroom vocabulary building frequently occurs through the reading of extended academic texts. However due to the heavy concept load involved in reading it is unlikely that learners will acquire the academic vocabulary needed to understand the subject-content and information they encounter in the texts in their field (Alexander et al, 2008).

One of the central roles of the teacher therefore centres on enabling students to learn vocabulary and equip them with viable strategies for learning key words.

In view of the existence of variety of techniques, approaches and strategies (e.g. Nagy, 1988; Nation 2001; Baumann et al., 2002; Alexander et al 2008; Nation 2001; Cummings 2008, Schmit 1997; Chazel 2012) regarding the issue of effective vocabulary instruction, language teachers often find it difficult to make the best choices. Indeed, the question of how to best transmit my knowledge of academic vocabulary to my students has been a consistent problem since I transitioned into working at a university around three years ago. Complex choices such as what to include in lesson plans concerning vocabulary instruction, the most efficient teaching techniques to implement in class, and how to select and teach vocabulary, have been challenging. Additionally, colleagues have often voiced confusion with regards to conveying their knowledge and understanding of vocabulary to international students successfully.

Nation (2001) points out that when students can identify the first 2000 words of English they are able to progress to learning other vocabulary, which includes academic vocabulary. If international students hope to be able to study on their university courses effectively in an English speaking country, it is imperative that they are able to identify and utilize words which appear frequently in their academic texts. These words should appear in many recommended texts in order for teachers to be able to justify committing precious class time and effort (Coxhead, 2006).

In spite of significant debate and discussion regarding vocabulary instruction, one important aspect appears to have been underestimated in the past, specifically the part played by the teachers who implement instructional practice in their classrooms. Numerous studies have shown that teaching is a cognitive process (Shavelson & Stern, 1981) and should be viewed as a complex cognitive activity (Borg, 2003) performed by the individual teachers. Consequently, it is vital to recognise the part played by teachers' beliefs in providing a foundation for these cognitive activities, especially as these beliefs

form the basis for the teachers' own teaching and learning strategies (Pajares, 1992).

As teachers perform the most important role in the language classroom, the techniques they use to teach vocabulary are also an essential component of students' success in language learning. There have been a number of studies devoted to comprehending and highlighting teachers' belief systems and how they impact on their classroom practices (Borg, 1998, 2003; Farrell, 1999).

A number of teaching methods have been reviewed through exploring the relationship between teachers' beliefs and their practices (Elbaz, 1983; Golombek, 1998; Farrell, 2005), but previous research has been predominantly limited to a focus grammar while other areas such as academic vocabulary are seldom studied. Accordingly, the relationship between beliefs and practices in vocabulary instruction can be explored in order to enable teachers to reflect on and improve their practice.

### **1.3 Purpose of the Study**

This research project provided a micro-examination of the relationship between teacher's beliefs and practices, focusing on lessons aimed at increasing students' academic vocabulary. The results of this research can be used as a resource for studies on academic vocabulary instruction. It can also provide teachers with a methodical demonstration of developing a better pedagogical methodology for academic vocabulary teaching.

The research goals are as follows:

1. To analyze the teacher's beliefs in relation to academic vocabulary teaching.
2. To investigate the teacher's common usage of pedagogical methodology.
3. To explore the extent to which teachers' beliefs about academic vocabulary teaching are consistent with their pedagogical practices.

## **1.4 Research Questions**

In this study, teacher's beliefs and classroom practices will be investigated. Three questions are addressed.

1. What are second language teachers' beliefs about teaching academic vocabulary?
2. How do second language teachers practice academic vocabulary instruction in classrooms?
3. To what extent are second language teachers' beliefs about academic vocabulary teaching consistent with their pedagogical practices?

## **1.5 Overview of the Study**

This research project includes six sections. Section one gives the background overview, the purpose of this study, and research questions. Section two is a literature review of academic vocabulary and teacher cognition. Section three then describes the methodology used for this research, which includes the instruments. Section four examines the data. Section five gives the results and discusses the findings of this study. Lastly, section six concludes the study with a thorough summary of the research, the effect of the teacher's beliefs and practice on the researcher, pedagogical implications, and recommendations for future research.

## **Summary of the introduction chapter**

- The study is introduced and the three key questions it aims to answer are put forward: what are second language teachers' beliefs about teaching academic vocabulary? How do second language teachers practice academic vocabulary instruction in classrooms? To what

extent are second language teachers' beliefs about academic vocabulary teaching consistent with their pedagogical practices?

- The study's origins and relevance are explored, emphasizing the importance of academic vocabulary within the context of studying at western universities, and how students' lack of knowledge in this area adversely affects their studies.
- The context in which the study is set is explained, looking at the institution and the course within which it is set, and the teachers who took part.

## 2 A REVIEW OF THE LITERATURE

This literature chapter of the dissertation first of all explores the importance, nature, and role of academic vocabulary by looking at a number of key theorists and recent studies. Next, the question of how to best transmit vocabulary knowledge to international students effectively is examined by summarizing current research. Finally, the topic of teacher cognition, beliefs and practices in language teaching is examined by a survey of recent literature.

### 2.1 Background to academic vocabulary

Acquiring an academic vocabulary is a key requirement for students preparing to study at an English-speaking university. Vocabulary is an important area of concern for learners, and subject lecturers find learners' use of vocabulary causes difficulties in understanding their written work (Alexander et al, 2008).

Vocabulary instruction and learning is problematic for both learners and teachers because traditionally there has been a lack of attention on the best ways to impart vocabulary knowledge in the language classroom (Flowerdew and Peacock, 2001). As a result of this, the development of vocabulary is a priority for international students.

According to Nation (2001) the typical native speaker enters nursery school with a knowledge of 5000 words while the typical English language learner might know 5000 words in his/her native language, but only a limited number of words in English. Native speakers carry on increasing their vocabulary while second language learners have to build on the foundation while attempting to close the language gap with native speakers.

**Table 2.1** below is a good illustration of how many words are required for effective communication in an L2.

Level	Number of words	Text coverage
High-frequency words	2000	87
Academic vocabulary	800	8
Technical vocabulary	2000	3
Total to be learned	4800	98
Low frequency words	123,200	2
Total	128,000	100

(Nation and Newman, 1997, 239, cited in Nation, 2001)

Flowerdew and Peacock (2001) separate the vocabulary of English into four specific categories:

- The high-frequency words. These contain approximately 2000 word families and include wide range high-frequency words that are a fundamental foundation for the ability to use language. They comprise of most of the 176 function words of English. Normally they provide focus of around 80% of words, which are included in an academic text. The most well-known group of these was published in 1953 by Michael West.
- The academic vocabulary. This entails a list of 570 words (Coxhead, 1998) which occur reasonably often in a broad variety of different academic texts. They are frequent in other types of texts. Due to the fact that they focus on approximately 8.5% to 10% of the words in an academic text they are very important for learners with academic purposes.
- Technical vocabulary. This varies according to different subject disciplines. Focusing on any specific subject it may entail around 1000 words or less.
- The low frequency words. These words are characteristically very limited and low frequency. Due to the specific content of a certain text a limited amount may occasionally be quite common.

Another key issue to consider is the amount of time required for international students to learn English and be ready for their studies. According to Cummings 2001 (as cited in Zwiers 2008) it takes seven years for ESL students to acquire basic interpersonal communication skills (BICS) whereas they need seven to ten years to progress to cognitive academic language proficiency (CALP).

In addition, International students have to be more diligent and need further scaffolding than the average native speaker who has an equivalent command of the English language (Coxhead, 2006). Finally, Chazel (2012) points out that academic vocabulary is often technical and less commonly used than communicative English, and there is a demand on students to use more complex language functions such as predicting, analyzing, explaining and justification (ibid).

## **2.2 What is academic vocabulary?**

Language is more than a sum of the discrete parts – it comprises meaning, discourse, style and register. In academic texts, language is the means of articulating cognitively challenging concepts and structures, both physical and abstract (Chazel, 2012). In this respect, just as chemical agents produce changes for particular purposes, new combinations of vocabulary in texts can produce more nuanced differences in meaning (ibid).

Academic language, which includes both written texts (such as essays textbooks and dissertations) and spoken texts (for example lectures and presentations), has a number of characteristics and tendencies. According to Alexander et al (2008) academic discourse is more globalized than other types of discourse, including fiction and journalism. Indeed Biber et al (1999:16) cited in Chazel (2012: 85) state that ‘academic prose, and to a lesser extent fiction, can be regarded as ‘global’, in that they are typically written for an international audience with relatively little influence from the national dialect of the author’.



Academic vocabulary is employed in all subject-specific disciplines to educate students concerning the subject matter of the discipline. (e.g. learners who are physics majors are required to be familiar with the key concepts of physics). Chazel (2012) suggests that it allows international students to comprehend the concepts and content taught in their subject disciplines, and that is vital for learners to have a deeper understanding of content vocabulary, so that they are able to understand the academic concepts required throughout the contents standards.

As mentioned previously Flowerdew and Peacock (2001) state that academic texts typically include vocabulary that is 'core' (i.e. frequent and wide ranging), 'academic' (i.e. related to specific academic contexts), and 'technical' and 'sub-technical'. Such terms and categories are not absolute, and there is a degree of overlap depending on the definitions used.

For Paquot (2010: 28) the term academic vocabulary refers to 'a set of options' designating 'those activities that characterize academic work, organize scientific discourse and build the rhetoric of academic texts'. Coxhead (2000) uses the term to refer to a set of lexical items that are not core words, but occur frequently in academic texts.

A major obstacle to the successful comprehension of texts and lectures by international students is insufficient familiarity with the technicality of academic vocabulary. Coxhead (2006) notes that academic vocabulary is derived from more Latin and Greek roots than regular spoken English vocabulary. She also points out that academic lectures and texts have a tendency to employ longer and more advanced sentences than are used in speaking.

If international students require a command of English which facilitates the opportunity to understand academic content and engage in seminar discussions and written assignments, it is vital that instructors introduce efficient and effective teaching strategies which empower learners to succeed.

The main challenges this involves from the teachers' perspectives involve being able to select, prioritize and present the vocabulary to be learned. From the students' perspectives the key question is of being able to cope with a significant proportion of unfamiliar vocabulary (Alexander et al, 2008).

### **2.3 The academic word list**

The academic word list was first developed by Coxhead in 2000 as an expansion of the general service list of Michael West in 1953 in order to establish if such vocabulary can be reasonably be considered as 'academic' or not. The list of 570 words was founded on a 3.5 million token corpus of academic English which was separated into four distinct groupings of arts, science, law and commerce, with each group entailing seven sub groupings, such as psychology, mathematics, history, etc (ibid).

The list focused on range and frequency, with each word family in the list appearing in all four groupings at least 100 times in the total corpus (Coxhead, 2000). Typical academic vocabulary lists entail words such as: assume, achieve, concept, community, proportion, which are frequent in academic texts (Flowerdew and Peacock, 2001). Owing to its advantages over earlier lists, Coxhead's AWL is considered to be the standard list.

However, Coxhead's word list has been criticized for a variety of reasons. One significant limitation is that it does not take into consideration the multi-word collocation patterns and 'chunks' which exist in language. Appropriate collocations create fluency by keeping a metaphorical flow through topic; for example, face / run into / encounter a problem all keep the reader focused on the idea that a problem is like an obstacle in the road, whereas, reach / come to / point to a conclusion use the metaphor that a conclusion is a destination or end point (Coxhead, 2012).

The requirement for the academic word list to be more representative was advocated by Coxhead herself (2000) in an article outlining some of the limitations with her academic word list. Since only individual words are

recorded, phrasal groupings and the meanings they represent tend to be lost. For example - looking at the word 'account' - the academic world list does not specify that it usually appears as part of two phrasal verbs (take into account, or account for) or that it typically appears in the fixed noun phrase (Alexander et al, 2008). However this can no longer be said to be the case in the light of work by Ackermann and Yu-Hua Chen (2012) who published a complete list of collocations with academic vocabulary.

A second fundamental issue with academic wordlists is the extent to which collocations are consistent across different academic disciplines. A variety of research has stressed the genre-specificity of collocation. This highlights the problem that collocations might be too domain-specific to permit an effective listing of collocations that are useful to learners from across the disciplines.

It is important to point out that - although academic word lists identify keywords for study - these are not enough in themselves for students to develop successful vocabulary mastery. According to Alexander et al (2008) academic word lists do not explain why these words frequently appear in academic texts, or how they are connected to other language items.

I believe that word lists are not efficient when teaching academic vocabulary for a number of reasons. Academic word lists will not include every word which students need to be aware of. If students are to become academically successful they have to learn a large number of words from spoken language and crucially from extended reading of specialist texts.

## **2.4 The importance of academic vocabulary**

Knowledge of academic vocabulary is a crucial component of academic reading abilities (Corson 1997; Chazel, 2012), which are inextricably linked with academic achievement, economic opportunity, and social well being.

An insufficient knowledge of academic vocabulary has been often linked with the 'gap' in academic attainment between various social groups. Many

researchers now advocate explicit teaching of academic vocabulary, which entails lists that directly correlate to disciplines (e.g. engineering, science, business, etc.).

There are a number of reasons as to why academic vocabulary is considered to be vital for international students. Coxhead (2012) states that there are two main ways of assessing how common academic language appears in a reading text: examining the amount of tokens (coverage), the vocabulary accounts for, and by exploring the amount of types, lemmas or Word families. Satarsyah, Nation and Kennedy (1994) - cited in Flowerdew and Peacock (2001) - found that academic vocabulary comprised of 8.4% of the tokens in the learned and scientific sections and 8.7% of the tokens in an economics text. Coxhead (2000) found that her academic word list covered 10.2% of the tokens in her 3,500,000 million running word academic corpus. These are substantial percentages given that a general service 3<sup>rd</sup> 1,000 word list would only cover around 4.3% of the same corpus (Flowerdew and Peacock, 2001).

Furthermore, they identified a number of problems with academic vocabulary other than a lack of knowledge of the words. At times, it was employed with a technical meaning and at times not. Students lacked awareness of related terms being employed to refer to the same thing. In other words, they did not notice examples of lexical cohesion through paraphrase (Flowerdew and Peacock, 2001).

## **2.5 The nature and role of academic vocabulary**

There have been a number of attempts to study the role that academic vocabulary plays in an academic text. Meyer (1990) distinguishes academic words into three separate groups. Firstly, vocabulary that is linked to the domain of the text and the linguistic functions accomplished in it. This entails words such as argue, examine, survey, recommendation which describe 'what the authors are doing in their texts and what they ascribed to other authors' (Meyer, 1990: 5). Secondly, vocabulary which describes scientific activities. This includes words such as analyze, examine, survey, implementation.

Thirdly, vocabulary which refers to the content of scientific activities. This contains technical vocabulary, but is not restricted to it (ibid).

According to Meyer (1990: 9) the academic vocabulary of a text allows the writer 'to generalize over complex states of affairs, and report and evaluate linguistic acts and scientific activities'. From this perspective academic vocabulary performs vital functions in facilitating the opportunity for academics do what is required. Flowerdew and Peacock (2001) note that the 'context independent' vocabulary is an vital tool for the writer in carrying out learned and scientific studies.

## **2.6 The significance of academic vocabulary instruction**

Since the focus of this dissertation includes an analysis of teachers' beliefs and practices with regards to vocabulary instructions in the language classroom, it is paramount to highlight the significance of academic vocabulary instruction. Nation (2001) suggests that vocabulary instruction directly improves comprehension. It has been shown that as the difficulty of words in the text increases, comprehension of the text decreases (Nation, 2006, Alexander et al, 2008). Therefore it is crucial for students to have a thorough understanding of academic vocabulary in order to be able to grasp new concepts.

Coxhead (2012) suggests that academic vocabulary enables international students to effectively communicate what they require, makes it more likely that their requirements are met, and makes it possible for them to understand the requirements of others. In addition, individuals who can communicate effectively and with suitable language are more likely to create a positive impression on future employers, co-workers and clients.

There are huge demands in learning academic language. If language teachers can introduce creative, diverse and effective teaching strategies then the richer the learner's academic language becomes. There is also an enhanced possibility of experiencing success in their subject content field, and

of acquiring the ability to communicate effectively with various registers (Alexander et al, 2008).

## **2.7 Best practices for academic vocabulary teaching and learning**

For international students, academic vocabulary can be viewed as a type of high-frequency vocabulary, and therefore any time spent learning it is productive. According to Flowerdew and Peacock (2001) the four main features of a language program- meaning focused input, language focus learning, meaning focused output, and fluency development – need to be viewed as opportunities for the development of academic vocabulary knowledge (ibid).

Furthermore it is paramount that the same words occur in each of these four areas, and therefore listening and reading activities are required which facilitate the acquisition of academic vocabulary. This should include the intensive and extensive reading of academic texts, as well as listening to lectures and discussions (Alexander et al, 2008).

One of the main characteristics of successful learners which has been stressed by a number of different researchers (Schmitt, 2000, Chazel, 2012, Alexander et al, 2008) is the need to utilize a diversity of learning strategies. According to Nation (2002) some learners will have more aptitude in certain features of vocabulary learning than others, and therefore by fostering the use of a range of learning strategies, teachers may have the opportunity to focus on individual flaws.

## **2.8 Noticing the target language**

Research into vocabulary learning has discovered that in order for a vocabulary item to be acquired it must first be noticed, and then retrieved at spaced intervals. Schmit (1990) suggests opportunities to retrieve an item (that is, identify or recall the word when the meaning is given) should take

place about four to seven times over a relatively short time during vocabulary learning.

Alexander et al (2008) advocate a method of noticing vocabulary whereby students use their awareness of the main functional purpose of the text to search for and identify language connected with that function. Students may search for target examples of 'problem and solution' language within a text. The meaning of new words may only be approximately known, but the fact that these words will be noticed (along with familiar words expressing the same function) gives a foundation for formulating a hypothesis concerning the meaning and usage of each item.

## **2.9 Meaning the focused output activities**

After noticing and recording vocabulary, retrieval and production are the next important steps in the acquisition of the vocabulary items. Although the recording process entails some instances of retrieval, additional activities such as matching words with their collocations, or sorting vocabulary expressions according to features of meaning, offer good opportunities for this (Chazel, 2012). Once again, it is vital that students work with a meaningful piece of text rather than a set of decontextualized sentences (ibid).

Since academic vocabulary is valuable in speaking and writing, students require the opportunity to produce it in meaning focused output activities, which involve speaking and writing in academic contexts. Corson (1997) argues that the use of academic vocabulary provides an opportunity for students to put their knowledge on display. They 'show that they can operate within the meaning system associated with the school's culture of literacy' (Corson, 1997: 149).

## **2.10 Teacher cognition**

The central theme of teaching cognition is that in order to understand teachers, it is necessary to investigate to study the psychological processes

whereby instructors understand their work. This exploration of teachers' psychology is now recognized as a key issue in the study of language teaching, and there has been growth of a substantial collection of work focusing on teacher cognition. In this study teaching cognition is defined as 'the unobservable cognitive dimension of teaching - what teachers know, believe, and think' (Borg, 2003: 81). This definition implies that 'language teachers have cognitions about all aspects of their work and that this can be described using various psychological constructs, which I collectively refer to as teacher cognition' (Borg, 2006: 283).

One component of the work on teaching cognition has concentrated on the dynamic between teachers' beliefs and their classroom practices. Curiosity has increased regarding whether teachers' stated beliefs correspond with their actual practices in the classroom, and whether or not they coincide. Borg and Phillips (2009) conducted research-investigating divergences between what second language teachers said and did in terms of grammar instruction. However there has been little focus on vocabulary from a teacher cognition viewpoint, and I hope my research will shed further light in this area.

### **2.11 Teachers' Beliefs on academic vocabulary instruction**

Teachers have responsibility for bridging theories and practices together in the language classroom, and they also typically decide which strategies of vocabulary instruction to use (Lawrence, 2000). Borg (2009) suggests that vocabulary as an area of study has been sidelined from a teacher cognitive perspective, and there is insufficient understanding about this curricular area of second language teaching. I agree with Borg that studies of vocabulary teaching (which aim to explore teachers' perceptions about vocabulary learning, and how these affect classroom practice) are rare.

Mohammad and Noordin (2013) compared teachers' beliefs regarding different strategies of teaching vocabulary and their influence on learners' lexical performance. Amiryousefi (2015) conducted a study investigating



various features of vocabulary teaching and learning and their applicability for instructors and learners.

In addition, Konopak & Williams (1994), cited in Borg (2006), explored teachers' beliefs and practices regarding vocabulary instruction, but the study did not offer any observational data, and therefore could not be viewed as an authentic representation of teachers' beliefs and practices about vocabulary pedagogy. Moreover the study only focused on elementary level students and may not accurately reflect the situation of higher-level learners. All the above studies have not addressed the topic of teaching cognition and academic vocabulary, and this is one of the reasons why this research project is justified and necessary.

## **2.12 Beliefs and practices in language teaching**

Teachers perform a vital function in students' vocabulary development as they alert learners to strategies which increase their vocabulary knowledge. Rios (1996) - cited in Borg (2003) - suggests that the teacher's beliefs, theories, and knowledge exert the most significant influence on their teaching. Johnson (1999) cited in Borg, (2003) also argues that beliefs exert a cognitive, affective, and behavioral element and thus act as influences on what teachers understand, feel, and do.

Pajares (1992: 489) cited in Borg (2006: 28) defines teachers' beliefs as 'an individual's judgment of the truth or falsity of a proposition'. Richardson (1996: 103) cited in Borg (2006: 28) defines beliefs as 'psychologically held understandings, premises or propositions about the world that are felt to be true'.

Consideration of the various factors which shape teachers' beliefs is a critical issue for researchers to reflect on. Borg (1999: 2003) points out how a teacher's own life experiences - personality, educational background, and professional experiences - can exert a commanding influence on the

development of teaching styles. In the view of Graves (2004) teachers' beliefs are influenced by experiences of learning, classroom practice, and the locales of professional development. According to Borg (2006) teachers' beliefs about teaching and learning have the following features and characteristics:

- Beliefs might be significantly influenced (positively or negatively) through teachers' unique experiences as learners; in some cases these will have been solidified when teachers go to university.
- They function as a filter through which teachers understand data and experience.
- They may overshadow the influence of teacher education in shaping how teachers behave in the classroom.
- In many cases they exercise a continuing, lasting influence on teachers' instructional approaches.
- They may not necessarily be reflected in what teachers actually do in the classroom.

In addition to the features shown above, language teachers' beliefs concerning teaching and learning exert a significant influence on teachers' pedagogical decisions (Johnson, 1994, cited in Brog, 2003). They impact the way in which teachers learn throughout their language teacher education, and can also be deeply entrenched and difficult to change (Golombek, 1998; Pickering, 2005).

### **2.13 Teacher cognition and prior language learning experience**

For a significant number of practicing language teachers their own experiences in learning a second language exerts a significant influence on the development of teacher cognition (Farrell, 1999). Previous language learning experiences might 'continue to exert an influence on teachers throughout their career' (Borg 2003: 86).

Borg (2003) also argues that teachers' previous language learning

experiences create cognitions concerning learning and language learning which shape teachers' 'initial conceptualizations' of second language teaching throughout teacher education. These may remain impactful throughout their professional lives. Courses which disregard the prior beliefs of teacher-trainees tend to be less effective.

## **2.14 Teacher cognition and teacher education**

There is major debate regarding the extent to which teacher education can influence teacher cognition. Borg (2003: 89) cites Almarza's study (1996) which claims that a number of research findings reveal it is problematic to measure the specific effect which teacher education has on learners' cognitions. In relation to this, Borg (2003: 91) highlights three important themes in this area:

- 1) Conceptions of individual developmental processes tend to be crucial in order to understand the influence of teacher education on language teacher cognition.
- 2) The difference between behavioural change and cognitive change throughout an individual's education, or specifically owing to teacher education, is fundamental to ongoing research.
- 3) Studies differ in what is accepted to be satisfactory proof of cognition and cognitive change.

A crucial issue to highlight is that it is difficult to assess the usefulness of teacher education in altering teacher cognition, and also that of research methodologies in examining cognition. This may be due to the fact that teacher cognition is an unobservable, psychological and unique cognitive process and therefore highly problematic in terms of obtaining empirical findings.

## **2.15 BAK (beliefs, assumptions and knowledge) in classroom practice**

One aspect of language teaching cognition is the question of how language

teachers develop their specialist knowledge and skills of language teaching, another is how teachers make choices in the language classroom. Woods (1996: 184) points out that 'the teacher's beliefs, assumptions and knowledge play an important role in how the teacher interprets events related to teaching (both in preparation for the teaching and in the classroom), and thus affect the teaching decisions that are ultimately made.' Woods employs the term BAK (beliefs, assumptions and knowledge), which principally refers to language teachers' decision-making processes in the area.

Wood argues that the issues which influence how teachers make decisions not only link to the content of lessons in the classroom but also throughout the longevity of their teacher career. Although BAK may be of use in presenting the manner in which teachers come to decisions with regards to teaching, it might not include the entire spectrum of English teachers' cognitions. Indeed Burns & Knox (2011) suggest that language instructors do not necessarily teach consistent with their logical decision-making process, and teacher cognition needs to be viewed as a multifaceted, emotional process, and affected by previous experiences and facts gained from the classroom itself.

## **2.16 Teacher Beliefs and Pedagogical Practices**

With reference to previous definitions (Breen et al, 2001; Borg, 2001; Borg, 2003), teacher beliefs include teachers' thoughts concerning what needs to be done with teaching, and contain both core and peripheral beliefs.

According to Phipps & Borg, (2009: 388) core beliefs are 'experientially ingrained' and 'are stable and exert a more powerful influence on behaviour than peripheral beliefs'. Conversely, peripheral beliefs are 'theoretically embraced' (Phipps & Borg, 2009: 388) and might not be reflected in pedagogical practices owing to the influence of contextual factors. For example, in Phipps and Borg (2009) the instructors believed in theory in the importance of group work for learners. However, their real-life experience informed them that teacher-class interactions were more easily controlled and beneficial. Thus they utilized teacher-class interactions rather than group

work when teaching grammar. It is thus evident that teachers' theoretical beliefs' regarding the importance of group work had a peripheral belief status while their real-life knowledge about teacher-class interactions constituted the core belief.

It has been demonstrated that teachers' beliefs act together with teachers' pedagogical practices (Phipps & Borg, 2009). Specifically, instructor beliefs can stimulate, mold, or guide teachers' pedagogical practices at the same time teachers' classroom practices can influence their beliefs. In addition, teacher beliefs and pedagogy are consistent on some occasions but inconsistent on others, and consistencies and inconsistencies may co-occur (Basturkmen et al., 2004).

The conflict between teacher beliefs and practices can be linked to the effect of circumstantial factors including curriculum, time constraints, students' language level, and examinations (Borg, 2003). According to Phipps & Borg, (2009) these inconsistencies arise from a struggle between teachers' core beliefs and peripheral beliefs. What's more they are related to contextual factors, and when contextual factors permit instructors' practices to be directed by their core and peripheral beliefs there will be limited inconsistencies. If this is not the case, the pedagogical practices directed by core beliefs will take precedence, and discrepancies between practices and peripheral beliefs will take place (Phipps & Borg, 2009).

### **Summary of the literature review chapter:**

- Definitions of key terms are provided.
- Acquiring an academic vocabulary is a key requirement for students preparing to study at an English-speaking university
- A lack of academic vocabulary knowledge has also been strongly related with the frequently cited 'gap' in academic achievement that exists between certain groups

- Coxhead's academic word list has been criticized for not taking into consideration the multi-word collocation patterns .
- The study of academic vocabulary has been sidelined from a teacher cognition perspective.
- Teachers' beliefs about teaching and learning have a number of features and characteristics.
- Teachers' beliefs include both core and peripheral beliefs.
- There may be discrepancies between teachers' beliefs and their practices.

### **3 A DESCRIPTION OF METHODOLOGY**

The aim of this section is to detail the research procedures I have employed in this investigation of teachers' cognitions and practices in the teaching of academic vocabulary. After the discussion of the participants, I will give an account of the methodological stages taken in the collection and the analysis of the data. The section will conclude with an evaluation of the ethical matters when completing the research.

#### **3.1 Participants**

The three teachers who agreed to participate were all experienced second language teachers who had completed between six to seventeen years of teaching in a range of different locations. It was the first time that all three teachers taught on the academic vocabulary course. In terms of education and teacher training, each participating teacher had earned a Cambridge CELTA, and one teacher had earned a Trinity diploma. Lastly, all of the participating teachers were native-speakers.

#### **3.2 Methods**

Research studies conducted with the aim of acquiring an understanding of teachers' cognition have taken a variety of different forms. A significant amount of this research has included a grouping of two or more of the following methods of research: classroom observations (Borg, 2006; Johnston & Goettsch, 2000), interviews (Basturkmen, 2004), stimulated recall sessions (Andrews & McNeil, 2005). In the case of investigations of teacher cognition focusing on a limited amount of participants (which is accurate for this study) a combination of interviews and observations has been found to be particularly effective in securing relevant information. In carrying out this research project I decided to employ the same methodology for gathering empirical data, particularly employing semi-structured interviews, classroom observations and stimulated recall interviews.

My initial intention was to combine the methods outlined above with a mixed method approach, including utilization of a quantitative observation instrument for the in-class observations. I believed this would enhance the validity of my research. My original idea was that this would enable me to achieve one of my central goals: that of finding out in a systematic way (via a quantitative observation instrument) whether teachers' beliefs do in deed correspond with their classroom choices.

However, as a result of my extensive reading into language teaching cognition research and classroom observation - particularly (Borg, 2006); Farrell & Lim, (2005); Cohen, et al., (2007) - I concluded that creating an instrument designed to quantify teachers' activities into prior categories would not be appropriate. As the rationale of such research is to deepen one's understanding of very complex processes, a more sensitive approach is needed to make sense of teachers' behaviour (Borg, 2006).

Indeed, because teachers' cognitions tend to differ from those of other teachers, and are characterised by their own exclusive practice, devising tools to quantify their behaviours tends not to be effective when carrying-out detailed investigations of teachers' multifaceted cognitions (Farrell & Lim, 2005). Such a quantitative approach is too blunt an instrument. I therefore shifted my position to a qualitative approach.

Dornyei (2007: 24) defines qualitative research as 'data collection procedures... resulting in primarily open-ended, non-numerical data which is then analysed primarily by non-statistical methods'. The key aim of qualitative research is to search for the richest possible data, and it is particularly important to include detailed descriptions of the process of conducting the research, the various procedures used to collect the data, and the validation procedures applied (Paltridge and Phakiti, 2015).

An important principle in conducting qualitative research is that the researcher must present the data in a manner in which the unexpected might emerge and conceivably change the direction of the research. In addition it is critical that the researcher puts aside any professional preoccupations that may distort the investigation. For example, while conducting classroom research into language teacher cognition, the researcher must endeavor to stop thinking



like a teacher and try and see the classroom from the stranger's point of view (Borg, 2006).

Due to the use of several research methods (e.g. semi-structured interviews, classroom observations, stimulated recall interviews), the legitimacy of this research project can be substantially enhanced. The joining of these methods increases the generalizability - and therefore the validity - of the results, but also their legitimacy as a result of broad examination within a local and specific context (Dornyei, 2007).

**Table 3.1** below illustrates how each of my research methods enables me to answer each of my research questions.

	<b>Semi-structured Interviews</b>	<b>Classroom Observations</b>	<b>Stimulated-Recall Interviews</b>
<b>What are second language teachers' beliefs about teaching academic vocabulary?</b>	√		√
<b>How do second language teachers' practice academic vocabulary instruction in classrooms?</b>		√	

<p><b>To what extent are second language teachers' beliefs about academic vocabulary teaching consistent with their pedagogical practices?</b></p>	<p>√</p>	<p>√</p>	<p>√</p>
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**Table 3.1: How each research method facilitates answers to each research question.**

### 3.3 Piloting

According to Mackey and Gass (2015) piloting allows a researcher to identify potential problems with the interview guide, and provides an opportunity to revise questions as required before beginning data collection.

After creating my interview questions, they were piloted with an experienced IELTS teacher at the private language school. During piloting a number of problems were identified: my original interview guide was far too long, and thus required too much of teachers' time (a sensitive issue, in a busy school); I also made the mistake of referring to my interviewee by his first name on two separate occasions, thus breaching confidentiality; finally, I did not ask for sufficient detail in the techniques my interviewee used in teaching academic vocabulary, and this may have adversely affected my stimulated recall interviews. As a result of these issues, some questions were eliminated or restated, and more specific questions were added regarding instruction techniques.

### **3.4 Teacher Data**

The three key means of collecting data from the three instructors involved in the study were: semi-structured interviews, classroom observations, and stimulated recall interviews. The procedure of using three methods contributes to the reliability of the study in that every method gives a unique outlook on the data (Dornyei, 2007). Taken together this better informs any conclusions then would be the case if only one method had been employed.

### **3.5 Semi-Structured Interviews**

Semi-structured interviews are employed when the research will benefit from a relatively open framework. A large number of qualitative studies of language teacher cognition that gather sizeable amounts of data from a limited amount of participants have favored the use of semi-structured interviews.

Cohen et al (2015) suggest that there are a number of distinct features of semi-structured interviews. They are flexible and allow the dialogue a degree of autonomy. Participants are also permitted to talk in an open-minded fashion about issues central to the conversation (or indeed any other issues they feel are relevant).

In addition, they facilitate the opportunity to cultivate a relationship with the participants, including building rapport (Fontana & Frey, 2000). They avoid forced choice responses (where the respondents has to choose one of the responses offered). They facilitate the researcher's job of understanding participants' experiences from their own perspective (Cohen et al, 2011).

One aspect of the difficulty in carrying out interviews is that pre-determined questions are not necessarily straightforward to present in a manner that will be obviously comprehended by the participant. Indeed Fontana and Frey (2000: 645) point out that 'the spoken or written word has always a residue of ambiguity, no matter how carefully we word the questions or how carefully we report or code the answers'. However, providing that the questions are expressed with clarity and answered succinctly, semi-structured interviews

have the ability for augmenting the depth of understanding into instructors' cognitions.

An important methodological point to consider when employing semi-structured interviews is that openly asking teachers to express their beliefs (i.e. by asking questions including, 'what are your beliefs about?') tends not to be a useful strategy. Indeed, Paltridge (2015) suggests that research should seek to elicit beliefs indirectly.

Another point to consider is that, according to Borg (2006), it is necessary to draw a distinction between beliefs which reflect ideals and those that reflect reality. If the researcher attempts to elicit participants' beliefs in an abstract context they are more likely to reflect ideals (i.e. professional beliefs). Consequently it is vital to establish interview contexts (such a stimulated recall interviews covered in section 3.7) where the discussion of beliefs is connected to concrete experiences.

The process of devising my interview questions took place by identifying topics and sub-topics from reading, which I had undertaken for the literature review section, on the topics of teacher cognition and academic vocabulary. These topics, such as teacher training, and prior language learning experience, were then used as the basis to form my questions (see appendix A for a full list of interview questions).

According to criterion outlined above, semi-structured interviews were selected as a principal research method. Altogether, three semi-structured interviews occurred during the academic semester in which the teachers took part. All of the three interviews was recorded with an iPod touch and later transcribed.

### **3.6 Classroom observations**

The categorization of 'classroom observation' can conceal considerable variation in the way in which teachers' beliefs are studied, and researchers have to make careful choices about the specific structures they adhere to. For example the research may be participant or non-participant, and data can

be obtained using video, audio, or field notes, and investigative categories may be predetermined or emergent (Borg: 2006).

According to Farrell & Lim (2005) the classroom is vital to the expansion of a teacher's skills and expertise. It could be argued that other influences including prior language learning experience (Farrell, 1999) and teacher training Almarza (1996) tend to exert a significant influence on cognitions and practice. However, the classroom continues to be the main setting in which teachers learn and improve. Indeed Borg (2003: p105) remarks that 'we are interested in understanding teachers' professional actions, not what or how they think in isolation of what they do'.

Consequently, as often expressed by Borg (2003), inquiries of instructors' cognitions that do not consider classroom practice are less productive than those which include investigations of what really takes place in the classroom. It is essential that they entail observations of real-life classroom practice rather than teachers' own impressions of classroom practice.

The fact teacher's cognitions are unique and vary substantially, and are characterized by individual and distinctive features, means that constructing tools to measure their behaviour has significant limitations when carrying out detailed examinations of teachers' multifaceted cognitions (Johnston & Goettsch, 2000). In comparison less controlled observations facilitate greater access to the varied - and at times unforeseen behaviour, incidents and occurrences - which could happen in the classroom, therefore affording greater awareness into teachers' cognitions.

Observations are a classic method of research, and less structured observations present significant benefits to researchers. A key strength of observations is that they allow for the collection of direct evidence as to what happens in classrooms. As the majority of research into language teacher cognition examines natural classroom contexts, observers can acquire an understanding of teachers' behaviours in authentic settings.

Moreover, in contrast to teachers' self-reports (which convey secondary descriptions on activity varying from directly after a particular class to some

weeks later), observations depict real life information on classroom proceedings and events as they occur.

When contrasting language teachers' self-reports about their classroom practices and cognitions with their authentic classroom practices, the impartiality of observations can serve to prove the extent to which teachers' self-reports (as acquired via interviews, diaries or other methods) reveal their real pedagogical practice. Cohen et al (2007) point out that observations can be conceived of as a form of 'reality check'. This topic has generated particular interest in a number of language teacher cognition studies (Johnston & Goettsch, 2000; Freeman, 1993).

Although there are significant advantages of observations being carried out in the classroom there are also some drawbacks. These include rash conclusions reached prior to the inquiry of a phenomenon which are founded on wide-ranging literature reviews (Borg, 2006); individual prejudices or discrimination that may twist and manipulate the researcher's views (Johnson, 1994). In addition, observer effects including the observer's paradox that was first set out by William Labov (1966). This suggests that the participants of the study may alter their behaviour, in significant ways as a result of the presence of the researcher. A good example of this in language teaching cognition research is that instructors might include tasks or methods into their teaching (which typically would not form a part of their practice) in order to portray behaviours they believe the observers want to see (Borg, 2006).

Furthermore in aiming to search for the commonplace the researcher might make mistakes when categorising one or more activities or events as characteristic of the teaching style of a specific teacher when in reality they may not be typical of their standard classroom practice (Borg, 2006).

It is important to recognize that while observation may facilitate inferences about teachers' beliefs, observation alone is insufficient as a source of evidence. A teacher may habitually correct students' errors in a particular manner, but unless the researcher raises this issue and makes enquiries as to why any conclusions drawn about their beliefs tend to be speculative (Borg: 2006). Deducing beliefs from behavioural practice also tends to be

problematic given that teachers may behave in similar ways for very different reasons. In view of this observation should ideally be combined with other data collection strategies, especially with interviews.

As well as the ipod recordings, I also made field notes when I watched the classes. According to Platridge and Phakiti (2015) field notes are valuable when observing teachers because they can provide a framework of occurrences during a lesson. An additional advantage of field notes is that they develop teacher profiles.

### **3.7 Stimulated Recall Interviews**

Stimulated recall procedures are a kind of reflective verbal account which entails an individual being exposed to a stimulus - a recorded event - and describing their thoughts at the same time as the event was occurring. Gass and Mackey (2005: 14) define the term as 'a technique in which participants are asked to recall thoughts they had while performing a prior task or while they had participated in a prior event. There will be a palpable (aural or visual) prompt of the event which will trigger recall of the thought processes in taking place during the occurrence and will, in essence, aid the participants in mentally re-engaging with the original event'.

Similar to semi-structured interviews and classroom observations, the use of stimulated recall has been subject to much methodological debate. A key criticism of stimulated recall is the extent to which teachers may provide post hoc rationalisations for them - that is descriptions conjured up during the interview, as opposed to more considered explanations of the thinking which underpins the incidents they have been asked to consider (Lyle, 2003).

Indeed, Gass and Mackey (2005: 5) express caution at the use of the stimulated recall technique: 'humans are essentially sense-making beings and tend to create explanations, whether such explanations can be justified or not'. As opposed to verbalizing genuine thoughts, participants may instead give instant 'on the hoof' expression of what they could have been thinking during the event.

How far stimulated recall can reliably create precise reports of instructors' thought processes is problematic. Yinger (1986: 268) cited in Borg (2006: 245) argues 'there is good reason to doubt the validity of stimulated recall as a means for accurately reporting interactive thinking' and 'the data gathered during stimulated recall interview may at best be only tangentially related to actual thinking during the recorded event and at worst be totally fabricated' (1986: 273) cited in Borg (2006: 245).

In relation to the validity of reports, time lag – the length of time between the recorded event and the stimulated recall interview – could adversely influence teachers' memories. Gass and Mackey (2005) advocate that stimulated recalls occurs quickly after the event, although they acknowledge that this could be impractical when considering teachers' busy timetables.

Regardless of the disadvantages of stimulated recall, it offers a variety of possible advantages for investigations into teacher cognition. A key advantage is the additional information which accompanies observations of different incidents, and other events in the classroom, by enabling teachers to express their outlook on occurrences in which they did not participate (Andrews and McNeil, 2005).

Stimulated recall interviews facilitate awareness of the cognitive developments and personal philosophies which influence a variety of teacher behaviours and activities (Egi, 2008; Lyle, 2003). Furthermore, with stimulated recall often being employed together with a variety research methods it usually enhances the reliability of results.

In this research project stimulated recall interviews were used as they are an effective choice for gathering information on teachers' thought processes. The stimuli employed in the study were ipod-recorded events, or classroom incidents, which were linked to academic vocabulary instruction. The procedure of recognising vocabulary-related events for each of the three classes was a lengthy process. My aim was to perform the stimulated recall interviews within two days of recording the three lessons, and in most cases I was successful in completing the interview within one day, or on the same day.



This condensed time frame between observing the lessons and conducting interviews was at times challenging as it normally required a few hours to effectively identify vocabulary-related occurrences. In order to help direct my decisions I utilized field notes safeguard against losing incidents I had identified.

Moreover, re-watching the recording exposed incidents which were missed the first time, especially events that occurred during the teachers' exchanges with learners. Using field notes and re-visiting the recording multiple times assisted me recognising vocabulary-related occurrences. After transcription, there was a limited number of extra vocabulary-related occurrences identified.

Altogether the teachers participated in three, 30-minute, stimulated recall interviews, that entailed inspection of around 10-20 minutes of vocabulary-related sections.

In order to help participants understand what was required of them in a stimulated recall interview, I presented each teacher with a document giving written instructions, and asked them to read the instructions carefully, and also tried to elicit questions regarding the protocol before the interview began. (See Appendix A for a copy of these instructions). Furthermore, I also made use of particular directing questions in order to help the teachers in expressing their cognitions while watching the video. With reference to guidelines described in Gass and Mackey (2005: 54), the following is an example of the question that I asked: "What were you thinking here/at this point/right then?"

### **3.8 Ethical Issues**

A critical ethical issue to consider in any research project is respect. It is vital to respect the rights, anonymity and feelings of participants. During two semesters I had established a good level of rapport with the three teachers involved in the research project. While interviewing participants I tried to ensure that their emotions were being respected, and that they were aware of their cooperation greatly appreciated.

Even though I made significant attempts to be candid, frank and transparent concerning the aims of the research, and assured participants that the aim of the research project was investigative, they may still have suspected they were being 'evaluated'.

One teacher requested feedback on their teaching. I explained that I appreciated the request, but could not give feedback, and advised that I would offer a summary of my results which would contain comments. I hoped to make it clear to the teachers that I valued their position both as teachers and participants in a research project exploring the dynamics between cognitions and practices.

The private language school where the study occurred had its own specific protocols for safeguarding participants. My research project was sent for approval to both the Director of Studies and the Centre Manager, and my dissertation tutor at SHU. I devised three informed consent forms for the teachers. The three participants all signed an informed consent prior to taking part in the study, (see Appendix D for a copy of the consent form).

A second consent form was signed by the learners in order to gain consent to conduct the video-recorded observations. I worded the consent forms in a manner comprehensible for learners, but as all students on the diploma program have an IELTS score of at least 5.5 this was not a significant challenge. Each of the three teachers advised me that they spent about 5-10 minutes examining the content of the informed consent form. I encouraged each teacher to advise learners that if they were not happy with being videotaped, they did not have to be present. All students agreed to sign the consent forms. However, one student expressed anxiety with the idea of being video recorded. I therefore made sure the camera was never pointing at her during the video recording.

For the purposes of ensuring participants' anonymity and safeguarding confidentiality, all data sources linked to the study have been kept in a locked case in the researcher's office and in a password-protected laptop. Any type of identifiable information that could possibly reveal their identity (e.g. their

names, etc.) was replaced with pseudonyms at all times, and were not shared with third parties.

### **Summary of the description of methodology chapter.**

- A significant amount of research into teacher cognition has included a combination of different research methods.
- Explorations of teachers' cognitions that do not include classroom practice tend to be less productive than those which include examinations of what teachers actually do.
- The flexibility of semi-structured interviews enables researchers to invite additional questions and thereby develop further understanding about teachers' cognitions.
- The extent to which stimulated recall can actually create reliable reports of teachers' thought processes is problematic
- Due to the triangulation of several research methods the legitimacy of this research project can be substantially improved.
- The limitations of the study are mentioned.
- The ethical issues of the study are outlined and the processes involved in making sure the study was ethically sound are set out.

## **4 Data analysis**

The analysis of data entailed three distinct methodological phases:

The analysis of the qualitative data involved in three parts. These parts involved: 1) transcribing the observation and interview data, 2) dividing the data and coding of the interview data, 3) data segmentation and coding of the observation data. The coding was amended a number of times before coding of subsequent chunks of the transcripts took place.

### **4.1 Coding**

The data gathered in this research is qualitative, and the transcripts from the semi-structured interviews, classroom observations, and stimulated recall interviews were all analysed via qualitative procedures. Strauss and Corbin (1998: 17) define this type of analysis as 'any kind of research that produces findings not arrived at by means of statistical procedures or other means of qualification'. In addition, Denzin and Lincoln (2011: 2) point out that qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter'.

The predominant tool of qualitative analysis used in this research project is thematic analysis. According to Boyatzis (1998: 4) thematic analysis can be defined as 'the process for encoding qualitative information'. When encoding data it is necessary to use a clear 'code'. An illustration of a code is a theme, that is 'a pattern found in the information that at minimum describes and organizes the possible observations and at maximum interprets aspects of the phenomena'.

As pointed out by Gass and Mackey (2005) in-depth analysis of verbal data - quantifying what is usually perceived as subjective coding of the contents of verbal utterances - can be challenging. However there has been substantial research conducted into language teacher cognition, and therefore the research questions presented by this study provided an effective basis for the formation of an initial list of pre-conceived codes to begin data analysis. The

application of an initial list has been utilised successfully in various studies of language teacher cognition research (Borg, 1998). The initial list of codes employed in this project was obtained via the research and theory examined previously in the literature, and was directly linked to the research questions.

#### **4.2 Coding of Interview Transcripts**

The initial list of codes was employed in the original examination of the three interview transcripts. However, while analyzing the data, the codes were refined a number of times in order to represent the data in a more effective manner. My first step was to read and read the transcripts so that I could develop a deep understanding of the data. After that I was able to generate my initial list of codes which were based on my research questions. This was done by coding each segment of data which was pertinent to a research question. Once this was done I searched for themes which captured something interesting about a research question, for example experience of teacher training. This approach was based primarily on the work of Braun and Clarke (2006) cited in Maguire and Delahunt (2017).

**Table 4.1** illustrates my initial process of trying to recognise patterns in the verbal data from my interviews.

Interviewer	Interviewee	Categories and themes
<p>Okay. What memories do you have about your earliest teaching experiences?</p>	<p>Well, I can say in China that I remember it was quite fun and easy going, <b>but not very professional.</b> Didn't really almost... Sometimes I felt more like a babysitter than a teacher. But after CELTA I remember feeling extremely stressed, <b>very huge lack of confidence,</b> no support structure, kind of hostile work environment at times. I was afraid to ask for help.</p>	<p><b>Previous teaching environment lacked professionalism.</b></p> <p><b>Lack of confidence and support.</b></p> <p><b>No specific training for teaching academic vocabulary.</b></p>
<p>Do you recall any aspects of academic vocabulary being addressed on your CELTA?</p>	<p><b>No, I don't. Actually,</b> when I think about it... I've been thinking about it with the IH CAM course. I <b>do remember there was a module on lexis,</b> but I can't remember much about the academic vocabulary. <b>Like the academic word list</b> and so on. I feel like a lot of this stuff was quite new for me when I started doing that here.</p>	<p><b>Reference to teacher training post CELTA</b></p> <p><b>Reference to the academic word list.</b></p> <p><b>Lack of confidence and support with teaching academic vocabulary.</b></p>
<p>What influences have been the most significant,</p>	<p>All this came to mind</p>	<p><b>Lack of confidence and support with teaching academic vocabulary.</b></p>

specifically in relation to academic vocabulary?	recently here at ACE. I did the diploma program. And I, you know, to be completely honest, I feel like it's still quite new territory for me. And I guess between you and me and your academic advisors I wish I had more guidance on this topic.	
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*Note: The different colours in this table refer to identifying specific patterns in the interview data. For example, 'confidence' or 'teacher training'.*

**Table 4.2: Initial list of codes.**

Transcript	Codes	Categories and themes
<p><b>Interviewer:</b> Okay. What memories do you have about your earliest teaching experiences?</p> <p><b>Interviewee:</b> I remember feeling... Well, I can say in China that I remember it was quite fun and easy going, but not very professional. Didn't really almost... Sometimes I felt more like a babysitter than a teacher. But after CELTA I remember feeling extremely stressed, very huge lack of confidence, no support structure, kind</p>	<p>TE</p> <p>TT</p> <p>TF</p> <p>TE</p>	<p>Lack of professionalism in previous work environment.</p> <p>Completed CELTA course.</p> <p>Lack of confidence, and</p>

<p>of hostile work environment at times. I was afraid to ask for help.</p>		<p>teacher support.</p>
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*Note: TE refers to teaching experience, as in the final list of codes (see table 4.3)*

The main problem I encountered in coding the data was establishing a distinction between knowledge and beliefs. This is a problem which other scholars have also recognised as challenging (Pajares, 1992, Borg, 2006, Burns, 1992). With reference to this discussion, I altered my perspective of having two wider-ranging groups of beliefs and knowledge into the sole group of ‘cognitions’.

With the purpose of improving the validity and legitimacy of the data analysis, I coded the data a number of times. The stimulated recall data were also referred to for triangulation. The Codes below are mainly adapted from the work of Revesz (2012), cited in Mackey and Gass; Baralt (2012), cited in Mackey and Gass (2012) but also from Brown (2007); and Gass and Mackey (2005).



**Table 4.3** below provides the final version of the codes used for the interview data

#### 4.3: Final version of codes

<b>Development of cognitions</b>		
<b>Code</b>	<b>Abbreviation</b>	<b>Description</b>
Teaching Experience	TE	Previous teaching experiences before the current role. Contains timeframes, locations, thoughts on teaching.
Students	SS	The way in which previous experiences with a particular group of students has influenced current teaching practices.
Prior Language Learning Experience	PL	Predominantly second language learning experiences with regards to vocabulary. However, may entail first language or bilingual experiences.
Teacher Training	TT	Education related to TESOL. (For example, CELTA, MA TESOL, academic presentation or workshops).
Reflective practices	RP	May include a variety of reflective practice that teachers perform, such as journaling.
Knowledge sharing with colleagues	KS	May entail classroom-based research and discussions regarding teaching academic vocabulary with co-workers.
Additional academic education	AE	Includes all the qualifications not specifically related to TESOL.

### 4.3: Final version of codes

<b>Cognitions (Beliefs, Knowledge, and Attitudes)</b>		
<b>Code</b>	<b>Abbreviation</b>	<b>Description</b>
Topic focus (content)	TF	Includes comments regarding confidence with the topic, and about the significance of having knowledge about academic vocabulary.
Pedagogical content	PC	With regards to how to teach academic vocabulary employing suitable techniques.
Assessment	AS	Entails approaches whereby teachers assess learners' academic vocabulary as well as the manner in which they give feedback on academic vocabulary. Potentially discussed with respect to learning outcomes for the program.
Curriculum	CC	Concerning the curriculum. Entails looking at any of the anticipated learning outcomes/objectives for the course; the features of academic vocabulary taught and the way knowledge of the curriculum influences their teaching.
Materials	M	Anything related to materials that are used in the classroom and teachers' reflections on the effectiveness of such materials.
Educational contexts	EC	In relation to the main context of the English course.
Attitude	AT	With regards to teachers' overall feelings about teaching academic vocabulary.

### 4.3 Coding of observation data

When coding the observation data, the focus of each of the three teachers on vocabulary instruction was identified in the video recording of the observed lesson. Afterward, I then further divided into *vocabulary instruction episodes*, that were then coded.

In this dissertation, lexis represents both single words and multiple-word phrases (Schmitt, 2000). A vocabulary instruction episode was defined as discourse in the classroom whereby focus on vocabulary begins to the point where it finishes (Nation, 2001, Basturkmen et al., 2004, Coxhead, 2006).

Whereas the final codes employed for the interview transcripts had similarities with my initial list of codes, the codes I utilized for the observation data differed significantly from the coding of my first observation transcript. After consulting with my dissertation tutor, I recognized that the initial codes were too wide-ranging to provide a sufficient depiction of teachers' pedagogical practices. For example, I initially created categories where a focus on form and meaning was sometimes defined within the same category, which meant I could not effectively separate each instructional episode. Therefore the coding needed to be more specific and carefully defined.

**Table 4.4** illustrates how I recorded each VIE for Calvin's sixty minute lesson.

	0.00	10.00	20.00	30.00	40.00	50.00
Association	II IIII I I	I I II	III I I		I I II	
Pronunciation			II I I			III II
Putting into use			I II			
Rephrasing		I	I	II I		
Use of an online dictionary						

After referring to the reading I had undertaken on academic vocabulary, I further amended my codes. My new list of amended codes was developed from examining the research of Schmitt, (2000), Nation, (2001), Chazel, (2012) and Flowerdew and Peacock, (2001). With reference to this literature, each vocabulary instruction episodes was coded into six categories, as outlined in the table 4.5 below.

**Table 4.5: Features of the teachers' vocabulary instruction episodes**

Features	Categories	Kalvin	Simon	Paul	Total
Word Instruction	Responsive	3 (33%)	1 (11%)	5 (56%)	9 (11%)
	Teacher-led	32 (47%)	14 (21%)	22 (32%)	68 (81%)
	Student-initiated	3 (43%)	1 (14%)	3 (43%)	7 (8%)
	Total (100%)	38	16	30	84
Word Type	Single Word	38 (53%)	14 (20%)	19 (27%)	71(85%)
	Multiple-word	0	2 (15%)	11 (85%)	13 (15%)
Aspect of Word Focus	Form	30 (79%)	7 (44%)	9 (30%)	46 (55%)
	Meaning	5 (13%)	7 (44%)	9 (30%)	21 (25%)
	Use	3 (8%)	2 (12%)	12 (40%)	17 (20%)
Instruction Approach	Association	21 (55%)	2 (12%)	7 (23%)	30 (36%)
	Pronunciation	9 (24%)	3 (19%)	2 (7%)	14 (17%)
	Putting into use	3 (8%)	2 (12%)	12 (40%)	17 (20%)
	Rephrasing	5 (13%)	7 (44%)	9 (30%)	21 (25%)
	Use of an	0	2 (12%)	0	2 (2%)

	online dictionary				
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The five different kinds of instructional approaches are defined as follows:

Association: teaching words by referring to word forms, identifying prefixes or suffixes, or by asking students to guess the form. **(Form)**

Pronunciation: teacher focuses on the pronunciation of a word or phrase **(Form)**

Putting into use: using a word in a sentence or collocation. **(Use)**

Rephrasing: teaching words using synonyms, antonyms; sorting vocabulary according to features of meaning, and concept checking. **(Meaning)**

Use of online dictionary: students are encouraged to use an online dictionary to retrieve word meaning or word form. **(Form)**

#### 4.4 Transcripts

The transcription of the semi-structured interviews, observations and stimulated recall interviews for each teacher took place the month after the data collection period. I had the six interviews and three observations transcribed. Finally I listened again to each of the video recordings and confirmed the reliability of the transcripts.

## Summary of the data analysis chapter

- Thematic analysis is the predominant tool of qualitative analysis employed by this research project.
- In-depth analysis of verbal data can be challenging.
- In order to enhance the validity and reliability of the data analysis, the data was coded a number of times.
- When coding the observation data, each of the three teacher's focus on vocabulary instruction was identified and divided into *vocabulary instruction episodes*.

## **5 RESULTS AND ANALYSIS**

The exploration of teacher cognition is a multi-faceted task entailing an in-depth study of fluid relationships that maybe subject to change. This section starts by examining the initial growth of the three teachers' knowledge and teaching of academic vocabulary, and the manner in which this knowledge has manifested in how they presently teach academic vocabulary.

In the subsequent section the focus is on a more detailed examination of a variety of categories of instructors' cognitions as related to the teaching of academic vocabulary. More precisely these categories involve: teachers' attitudes towards teaching academic vocabulary; cognitions about academic vocabulary; cognitions about the most effective way to teach academic vocabulary utilizing specific techniques; and thoughts about students.

### **5.1 Development of Teachers' Cognitions About Academic Vocabulary Pedagogy (how to teach).**

When examining the development of experienced teachers' cognitions a mixture of interviews and classroom observations is required. In contrast to research into the cognitions of beginner teachers - which commences during teacher training and utilizes real-time observations of both learning and teaching contexts (Burns, 1992) - research which aims to explore cognitions of veteran teachers is naturally based on their actual accounts of their experience of learning as teachers.

There are a variety of potential sources of influence on teachers' current practices including learning experience, teaching experience as a beginner or veteran teacher, discussion with co-workers, teacher education, and additional aspects of reflective practice.

### **5.2 Prior L2 Learning Experiences**

When attempting to identify the foundation of the teachers' knowledge of vocabulary pedagogy it is necessary to ask the teachers to outline their most significant recollections regarding learning the vocabulary of a second language. The impact of previous experience learning a second language on teachers' cognitions and classroom practice has been an area of intrigue in various studies (Borg, 2006; Burns, 1992).

Each of the three teachers had experience in trying to learn at least one second language during their secondary school education. However none of the participants had particularly fond memories of this part of their education. For example, Simon remarked that:

'I did have some classes, some French classes as a teenager. I found it not really helpful. And as an adult the majority of my language classes have been unnecessarily difficult and not well planned, not well structured'. The other two teachers echoed this opinion.

With regards to the primary pedagogical practices employed by their teachers, memorization and drills seemed typical of the other teachers' experiences. However, this approach to learning was not considered to be an effective way of improving their vocabulary knowledge. Calvin noted: 'In terms of learning Spanish. A lot of it was pretty traditional in terms of memorization and drilling the vocabulary over and over. Although I would remember the first eight words but then I would forget them after memorizing other words'.

### **5.3 Teacher Education**

A second aspect which appears regularly in the literature as exerting a significant impact on language teachers' cognitions and their classroom practice is teacher training (Borg, 2006, Fang, 1996, Pajares, 1992). I asked teachers to outline their most distinct memories of teacher training in the area of TESOL. Particular training in vocabulary pedagogy varied between the three teachers. They had all obtained their Cambridge CELTA from different institutions. Moreover, Simon had taken part of the DELTA course with



International House, and Paul had already achieved his Trinity diploma in Budapest.

The memories of the teachers in respect of the most distinctive aspect of the vocabulary-related elements of their course differed significantly, despite the fact that all instructors received their teaching certificates from Cambridge. When asked what he most recalled from the vocabulary pedagogy aspect of the courses, Paul responded:

‘With the diploma, we did look at the lexical approach. Michael Lewis... And I think, after that, I started focusing more on vocabulary than I did before. I think before that I didn't really focus so much on vocabulary. It was nearly all grammar, and vocabulary was just like a little add-on.’

In his response to the question, Simon remarked: ‘They were all about the CCQs. So like boarding a word, maybe putting down the definition, then asking a few questions to check the understanding. It was kinda basic, very basic stuff because it's the CELTA, it's intensive’.

With regards to specifically academic vocabulary, all three teachers were clear that their teacher training courses did not cover this area at all, which included both CELTA and diploma courses.

## **5.4 Teaching Experience**

The following key element, which is often mentioned in studies as exerting a critical influence on teachers' understanding about language teaching, is their teaching experience (Borg, 2003; Woods, 1996).

The three instructors are veteran teachers of English, as they have all taught for a minimum of seven years in a variety of different countries and educational settings. However, none of the teachers had any previous experience of teaching the specific academic vocabulary course that was the focus for the present study. In the context of the current teaching setting,

Simon expressed a lack of confidence in dealing with academic vocabulary. Specifically, he remarked that: 'All this came to mind recently here at \*\*\*. I did the diploma program. And, you know, to be completely honest, I feel like it's still quite new territory for me. And I guess between you and me and your academic advisors, I wish I had more guidance on this topic.'

Conversely, in his response to the question, Calvin emphasized that he tried to teach academic vocabulary in a variety of different teaching contexts: 'I deal with academic vocabulary no matter what, regardless of curriculum. Again, our own language is built from Latin and ancient Greek, so even if the curriculum thinks it's not academic, it will have academic words'.

### **5.5 Teachers' Cognitions and Academic Vocabulary Pedagogy**

After exploring the growth of the teachers' cognitions and the way these find expression in their present instructional practices, this part presents a more detailed examination in terms of the categories of each teacher's cognitions. The emphasis of the present study is on the relationship between teachers' knowledge, beliefs and practices with regards to the subject of academic vocabulary. It does not seek to acquire a complete representation of the full extent of teachers' declarative knowledge about academic vocabulary. The aim is rather to explore specific features of this knowledge as they relate to the classroom.

Some of the features of teachers' cognitions explored in this part include: cognitions about academic vocabulary; attitudes toward teaching academic vocabulary; cognitions about how to teach academic vocabulary; cognitions about materials; and cognitions about students.

### **5.6 Attitudes Toward Teaching Academic Vocabulary**

An interesting aspect in exploring teachers' attitudes is evaluating their feelings regarding teaching academic vocabulary. In order to gain an

appreciation of how the teachers felt about teaching academic vocabulary the study asked them: “How much do you like teaching academic vocabulary?”

**Table 5.1** illustrates their responses.

Paul	Kalvin	Simon
I like it. I don't really see how it's any different from any other vocabulary, to be honest, other than the fact is that the words are more formal and it's more advanced. But other than that, I don't see how it's any different.	I love it.	I like it and I also feel neutral about it depending on the day. But generally, I feel quite interested and intrigued by it.

As you can see, teachers had a positive attitude towards the teaching of academic vocabulary. In addition to the above comments, at least two times during his interviews Simon expressed concern over his lack of ‘qualifications’ in helping students to improve their academic vocabulary knowledge, and also his lack of content knowledge. One time while observing himself interact with a specific student in his stimulated recall interview, he admitted not being able to respond confidently with regards to a question concerning homonyms, and confessed that his reaction was to change the topic.

In contrast to research conducted by MacDonald (2002), both the interviews and the observations did not indicate that the teachers were at all unwilling to teach academic vocabulary. Moreover, Kalvin was keen to teach again on the

diploma program in the future so that he could add to his understanding of academic vocabulary pedagogy.

A subsequent question which I asked the teachers was if they viewed possessing knowledge about academic vocabulary valuable in teaching academic vocabulary to their learners. Each teacher stated that they viewed such knowledge to be worthwhile. In his response to the question, Paul emphasized how vital his education was in fostering an awareness of the benefits of how to teach academic vocabulary. He explained, 'with the diploma, not specifically, but we did look at the lexical approach. Michael Lewis... So I did read his book on the... I think he wrote two books. I read... Certainly read one of them on the lexical approach. I've come to realize that actually vocabulary is much more important. And especially giving students chunks of language rather than individual words. If you give them individual words, they don't mean anything, you have to see them in context.'

### **5.7 Techniques in Teaching academic vocabulary**

In order to give an overall representation of the total range of academic vocabulary-related techniques influencing instructors' pedagogical content knowledge for their present programs, I examined each segment of class time to establish what particular techniques the instructors employed to teach academic vocabulary.

I also invited instructors to outline certain techniques they employed, especially those they thought to be particularly effective in developing their learners' academic vocabulary.

### **5.8 What Do Teachers Believe About These Techniques?**

I asked the teachers: '*what techniques do you believe to be especially useful in enabling students to improve their academic vocabulary?*'

In Simon's case, he had difficulty in signaling out one specific technique as

being especially beneficial for students due to the number of techniques he uses. However he identified developing learners' noticing skills when they encounter new words by encouraging them to guess meaning through context and form. He also stressed that he was 'absolutely getting them away from translating academic vocabulary to their L1'.

Kalvin emphasized teaching academic vocabulary through context and through prefix, root and suffix learning. He stated that 'those two strategies combined should allow anybody to pick up an academic text and feel comfortable enough to get through it in such a way where they get the meaning and they don't feel lost'. He also stressed that academic vocabulary should be taught 'contextualized in academic texts', rather than in isolation.

In Paul's case the importance of teaching academic collocations was highlighted, and once students have read an academic text they should go back over it and highlight the collocations, as well as reading widely outside the class and keeping vocabulary journals.

My next question was: *what challenges do you face when teaching academic vocabulary?*

Paul expressed concern over a lack of opportunities for students to make the vocabulary active. To remedy this he explained that he would try and incorporate opportunities for students to use the language. During his stimulated recall interview he remarked:

'I'm trying to make the academic vocabulary active somehow, because I found in the past you can do a lot of vocabulary but they don't actually use it. And so what I started doing is basically every lesson we look at seven or eight words from each lesson, and then they put them in the vocabulary books and find out as much as they can about these words. And they learn the words. And then at the beginning of each lesson we start practicing with the cards'.

Kalvin felt a lack of content knowledge sometimes kept him from effectively teaching academic vocabulary. He stated he 'still has to look up academic

words etymologically, sometimes with my students. And so, on that level, I'm sometimes actually learning with my students, learning together with them'.

The next question was: *Do you teach with academic collocations or lexical chunks?*

Both Paul and Calvin placed a strong emphasis on academic collocation instruction. Paul felt it is easier for students to remember chunks of language than individual words. He remarked: 'I think words in isolation are very difficult to remember and difficult to kind of make sense of. But if you've got a collocation you've often got a verb to go with it as well. So like for example, have a huge impact, so you've got a huge impact then you've got the verb, so you've got a bigger chunk of language then'. Similarly Calvin felt that academic collocation was very important when teaching academic vocabulary.

### **5.9 A Closer Examination of the Observed practice**

In this part, the question of the extent to which the teachers' beliefs are demonstrated in the three observed lessons is explored. Of course the observation of three classes in itself only gives a limited insight into the entire teaching practice over the course of a full semester. In view of this limitation, this part examines the different kinds of instructional techniques employed by the instructors in teaching academic vocabulary, in greater detail.

### **5.10 Correspondence between EFL teachers' cognitions and their academic vocabulary instructional practices.**

The development of the teachers' shared beliefs may be credited to the negotiation which takes place between teacher training and the institutional culture that the teachers shared (Holliday, 1999). Both factors may have influenced the instructors' cognitions about academic vocabulary instruction (Borg, 2003, 2006).

It is clear that the majority of the shared teaching techniques recounted in the interviews were observed in the teachers' pedagogical practices. A commonly used strategy for teaching academic vocabulary reported by the teachers was an emphasis on form, particularly prefix and suffix learning. 55% of the overall vocabulary was taught by focusing on form, and *association* was the most common technique which accounted for 36% of the total instructional episodes.

Looking in more detail at individual teachers, 30 of Calvin's 38 vocabulary items were taught using form. This instructional strategy was congruent with his pre-observation interview where he reported the way he taught academic vocabulary was 'to approach it essentially through prefix, root and suffix learning'. This methodology is also supported by Graves (2004) who suggests that the most effective word-learning strategy is linked to morphological awareness.

An additional correspondence between teachers' cognitions and their practice was the use of instructional techniques focusing on meaning. Indeed, rephrasing accounted for 25% of the overall instructional episodes. Simon utilized 7 of his 16 vocabulary instruction episodes in this way, particularly focusing on synonymous and antonyms. This was reflected in Simon's pre-observation interview where he highlighted the importance of 'concept checking questions' for testing meaning, and the use of an online dictionary for recording vocabulary

The next strategy, which was congruent between what the instructors thought and what they carried out in the classroom, was teaching vocabulary in both contextualised and decontextualized ways. All three teachers spent a part of the lesson focusing on academic vocabulary, which was embedded within an academic text. This strategy is also advocated by Alexander et al (2008) Chazel (2012) who stress the importance of extensive reading of academic texts for learning vocabulary.

Additional points of correspondence can be seen between Paul's beliefs and his classroom practices. Eleven of the thirty words taught by Paul were in

multi-word form, which was reflected in his beliefs. For example, he remarked in his stimulated recall interview 'If you give students individual words, they don't mean anything'.

Focusing on use was a key strategy employed by Paul. He alone accounted for 40% of the total instances, with twelve of his thirty words being taught this way. This was also consistent with his stimulated recall interview in which he reflected that 'I'm trying to make vocabulary active somehow, because I found in the past you can do a lot of vocabulary but students don't actually use it'.

In summary, there was a fairly strong relationship between the teachers' beliefs and their classroom practices. This supports the notion that teachers of academic vocabulary generally teach in according to their theoretical beliefs, and that variations in theoretical beliefs might produce differences in the nature of instruction (Borg, 2003; 2006).

### **5.11 Discrepancy between EFL teachers' cognitions and their vocabulary instructional practices**

Despite a substantial amount of consistency existing between teachers' beliefs and their classroom practice, certain key differences were also apparent. This discrepancy between teachers' cognition and their instructional practices was demonstrated in a number of ways.

All three teachers reported in their pre-observation interviews that they taught using chunks of language and academic collocation. However examination of the data reveals 85% percent of the academic vocabulary was taught using single word forms. Indeed, while Calvin stated he taught using academic collocation, all of the thirty-eight words he taught were in single form. Moreover only two of Simon's sixteen words were in multiple word form, which was also not reflective of the beliefs expressed in his pre-observation interview.

Although the teachers' unanimously expressed beliefs about the importance



of teaching chunks of language and academic collocation, no pertinent examples were observed in the case of one teacher, and few examples were witnessed with another. This once again exemplifies the inconsistency between teachers' peripheral and core beliefs, namely, their belief about teaching academic collocation and their belief about effective instruction, as pointed out by Phipps and Borg (2009).

An additional discrepancy between EFL teachers' cognition and the teaching practice relates to the teachers getting learners to use their academic vocabulary. In the case of use, it was the least favoured instructional approach employed by the three teachers, accounting for just 14% of the total instruction episodes. Looking closer at individual teachers, Calvin only focused on students using their academic vocabulary in three of his thirty-eight instructional episodes, despite stating that he commonly employed it as a strategy. Likewise, Simon did not favour such use as an instructional technique. These limited attempts at getting students to use the academic vocabulary supports the view that regardless of the importance of word use as a lexical learning strategy, it is not viewed as an efficient technique by teachers of academic vocabulary.

### **Summary of the results and analysis chapter**

- Some teachers lacked confidence when teaching academic vocabulary and feel they have not been given enough support.
- There was a relatively strong relationship between teachers' beliefs and their classroom practices.
- Despite a large degree of consistency existing between teachers' beliefs and their classroom practice, some key differences were also apparent.
- Differences in theoretical beliefs might produce differences in the nature of instruction

## 6 Conclusion

This research project presented an in-depth analysis of three instructors' knowledge and beliefs regarding their actual teaching of academic vocabulary, and the dynamic nature of the relationship between their cognitions and observed pedagogical practice. The investigation enhances awareness of the realities faced by academic English teachers by supplementing a comparatively understudied area of teachers' cognitions about academic vocabulary teaching on the basis of classroom-based research.

A key dimension of this study explored the growth of the teachers' cognitions, resulting from previous language learning experiences, teacher education, teaching experience and reflection on practice. Analysis was also made of how these mutual developmental experiences were manifested in the present teaching of academic vocabulary as revealed classroom observations.

One important discovery from this section of the research project was the vital part that teacher education, particularly the CELTA and Diploma courses, had in shaping the teachers' cognitions. Relevant aspects of these courses made a discernible impact on the specific ways in which academic vocabulary was taught.

Without such an input in teacher education, together with the efforts made by instructors to dedicate significant time and energy to reflective practice, teachers' knowledge of academic vocabulary pedagogy would have been limited and their professional confidence in teaching academic vocabulary constrained.

Teachers who lack guidance in teaching areas, such as academic vocabulary, have been found to lack confidence in teaching this area of expertise (Burns, 1992). However it should be noted that there are not many instructors who are sufficiently interested in undertaking lengthy reflective practices or further

training so that they can develop their knowledge of vocabulary pedagogy.

The topic of how confident teachers were in teaching academic vocabulary arose during the study. Similar to the findings of (Borg, 2006) even teachers who are experienced in academic vocabulary pedagogy continue to have anxieties in teaching it. For example, Simon remarked: 'I guess between you and me and your academic advisors I wish I had more guidance on this topic'. Both researchers and EAP teachers agree that practicing teachers are in need of supervision and training in discerning what makes a word 'academic', and the process of assessing their students' knowledge of academic vocabulary, and how learners are best able to use it.

Another research finding related to the teachers' cognitions about techniques used for teaching academic vocabulary. The study revealed that the teacher with more advanced teacher training qualifications (Cambridge, diploma) used a broader range of techniques in class than teachers without similar qualifications and training. This was particularly the case when it came to teaching academic collocations, and chunks of language.

Finally, although pedagogical practice as demonstrated via classroom observations can facilitate insight into teachers' cognitions, the perspective of the outsider looking in unavoidably affects such insight. Interviews with teachers, particularly stimulated recall interviews which try to draw instructors' thoughts at the exact point of a particular of classroom interaction, are vital in grasping the justifications for teachers' behaviour.

Nevertheless, there is still a significant limitation in that instructors may not be able to reliably remember what they were actually thinking at any specific point. Also, the participant whom is involved in a stimulated recall interview could be fabricating a entirely different explanation. Having an awareness of these difficulties is why combining a variety of different data collection is crucial.

## 6.1 Limitations

The investigation of teachers' cognitions is inherently predisposed to encounter a number of limitations. Examining the beliefs, views and decision-making procedures of instructors is a demanding project. No single method is able to gain insight into the cognitions of instructors.

By combining semi-structured interviews with classroom observations, and then enabling instructors to comment on video-recordings of their classroom practice, it is possible to acquire insight into both the recognizable and concealed mental processes of instructors. Nevertheless it is still only possible to examine procedures that teachers have the ability to express clearly, and instructors are not always able to provide satisfactory explanations for their actions, even when it is clear by classroom observations that they act in a certain way.

In a setting where all teachers have very busy schedules with lessons occurring in different time slots, the number of possible observations was limited. Therefore the classroom observations offered only glimpses of teacher behaviour and it is possible that they are not characteristic of instructors' cognitions with regards to pedagogical content. Conducting a greater number of observations of each teacher's academic vocabulary instruction practices would enhance the validity and legitimacy of the research.

Lastly, another significant drawback with the research is the question of generalizability. Only the beliefs, thoughts and behavior of a small sample (three teachers) in a specific academic context were examined. In view of the fact that participating teachers were working at the same institution on the same course, and were all male native English speakers, their cognitions and classroom practice should not be viewed as illustrative of all experienced academic English teachers.

## **6.2 Recommendations for future research and TESOL practice**

The teacher can facilitate the development of academic vocabulary in international students more successfully by covering the core themes of the curriculum, including academic collocation, content specific collocation, and syntax, all of which mirror what is learnt in class.

Students can sometimes become demotivated if they believe they are not making sufficient progress in their academic vocabulary learning. This may be a result of evaluating their performance in comparison to native speakers. In this respect, I advocate that EAP teachers keep collections of their learners' work throughout the academic term in order to help evaluate their progress at regular intervals. Periodic analysis of learners' development will demonstrate the progress being made. This feedback will in turn will give them the motivation to work harder.

Given that academic English is difficult for the typical international student, I would recommend that focus be given to establishing the key ideas in the EAP curriculum. In addition, if instructors support learners in focusing on the most important components of vocabulary, content will be easier to manage and the amount of work less demanding. This facilitates the opportunity for learning and teaching to become more dynamic.

Finally, the results from the research project highlight a number of significant issues and provide an outline for future explorations in different contexts. Future studies could include English for specific purposes programs at universities, pre-sessional EAP programs or, alternatively, other academic English programs.

## **6.3 Participants' gains**

I would hope that the three teachers involved in this research project have also benefited substantially from their participation. Through the process of reflecting on their own knowledge of academic vocabulary, and explicitly

considering the influences of their current beliefs on the most effective techniques to impart to their students, I believe they have deepened their own awareness of the issues covered in this topic.

#### **6.4 Personal gains**

This research project has significantly improved my own academic knowledge, skills and awareness. I have developed a deeper understanding of the various effective teaching techniques the EAP classroom. Each of these teaching approaches has their benefits and drawbacks, and it is my obligation to devise and apply vocabulary-teaching techniques that will enhance the process of learning for my students.

Chazel (2012) points out that vocabulary is the clearest indicator of academic success for international students. If learners hope to be able communicate more efficiently within their specific academic communities it is vital that they attain a level of proficiency in academic vocabulary. I regard it as my duty as an EAP teacher to equip students with the appropriate vocabulary so that they are able to be autonomous and effective members of their own academic communities.

Finally, I have developed awareness to the fact that language is an ever-changing entity, which continuously evolves. As an EAP teacher, I need to remain well informed concerning the latest developments within my field. This is vital if I am to continue to be an effective teacher.

My prospective teaching career will be profoundly shaped by the techniques and understanding which I have acquired in this study. It is necessary reevaluate the way I have taught before, assess my previous teaching style, and put into practice successful new approaches that I have gained and observed in several EAP classrooms. Furthermore, I will share my knowledge and skills with my new colleagues and am keen to witness the results.

**Word Count: 15901**

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## Appendix A

### Semi-structured interview questions

<b>Participant's Background</b>	<ol style="list-style-type: none"><li>1. What is your main language?</li><li>2. How long have you been teaching at the current school/college?</li></ol>
<b>Second language learning</b>	<ol style="list-style-type: none"><li>1. Have you learned a second language during childhood or as an adult?</li><li>2. What do you recall about your experiences of learning a second language? With regards to learning vocabulary:<ol style="list-style-type: none"><li>a. What types of strategies were used to teach vocabulary?</li></ol></li><li>3. Do you believe that your own education as a language student has effected the way you teach vocabulary today? (If so, give specific examples).</li></ol>
<b>Teacher education</b>	<ol style="list-style-type: none"><li>1. Why did you become an ESL teacher?<ol style="list-style-type: none"><li>a. What memories do you have regarding your early teaching experiences?</li><li>b. Were these especially positive or negative? How about in relation to teaching vocabulary?</li></ol></li><li>1. Briefly describe your formal teacher training experiences.<ol style="list-style-type: none"><li>a. Did they encourage participants to approach</li></ol></li></ol>

	<p>vocabulary in any particular way?</p> <p>d. Do you recall any aspects of academic vocabulary being addressed in your courses?</p> <p>2. What do you feel has made most significant impact on your development as a teacher? (For example: Language learning experiences. Previous teaching experiences. Teacher training or professional development courses). What influences have been most significant specifically in relation to academic vocabulary?</p>
<p>Reflections about typical teaching practices for academic vocabulary</p>	<p>1. In regards to your general feelings about teaching academic vocabulary:</p> <p>a. Do you like/dislike/or feel neutral about teaching academic vocabulary?</p> <p>b. c. Do you hold any specific views on how academic vocabulary should be taught? (For example should it be taught explicitly as part of a lesson? Taught implicitly on a case-by-case or ad hoc basis? Or should learners simply be encouraged to read it outside of class?)</p> <p>d. Teaching academic vocabulary can involve helping students gain familiarity with the academic word list, and also explaining the different functions of academic words (such as cause and affect). In your view should an</p>

	<p>understanding of academic words form an important part of an academic skills or IELTS course, or should it viewed as an expertise, which students will acquire in their subsequent studies at university?</p> <p>2. Which textbook do you prefer? Why? How do you select your textbook in teaching? How does this influence which vocabulary you select to teach?</p> <p>3. How do you teach academic vocabulary? (Please describe more details. What vocabulary teaching method do you prefer? What kind of techniques do you use frequently? Why?</p> <p>4. Do you use explicit instruction techniques, such as explaining word form, word meaning, or word use?</p> <p>Do you use association, for example, by identifying productive prefixes-and postfixes? synonyms or antonyms, or by getting students to infer?</p> <p>Do you teach with academic collocations or lexical chunks?</p> <p>Do you tend to teach words contextualized in academic texts or decontextualized?</p> <p>Do you think that <i>particularly important</i> academic words or phrases should be pointed out as to arouse students noticing?</p> <p>Should students be required to guess word meaning?</p> <p>Do you encourage word self study after class?</p>
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	<p><b>What techniques do you use?</b></p> <p><b>Does the time available in class affect the kind of instructional strategies which you use for vocabulary?</b></p> <p><b>Does the level of the students affect how you teach vocabulary?</b></p> <p><b>Do you think that dictionary checking for unknown words is important for students?</b></p> <p><b>Do you encourage students to record vocabulary in specific ways?</b></p> <p><b>Do you use activities such as asking students to match words to their collocations?</b></p> <p><b>What kind of strategies do you teach students to learn academic vocabulary?</b></p> <p><b>5. What challenges do you face in teaching academic vocabulary?</b></p>
<p><b>Other influences on teachers' cognitions</b></p>	<ol style="list-style-type: none"> <li><b>1. In what ways do external factors (for example the curriculum) influence how you address academic vocabulary?</b></li> <li><b>2. Do you participate in any reflective practice including journaling or other kinds of reflection? With respect to academic vocabulary?</b></li> <li><b>3. How does knowledge sharing with other teachers influence your knowledge about academic vocabulary or how you teach academic vocabulary to your students?</b></li> </ol>

## Appendix B

### Excerpt from semi-structured interview

**Interviewer:** 01:49 S1: Okay. What memories do you have about your earliest teaching experiences?

**Interviewee:** 01:54 S2: Funnily enough, my earliest teaching experience was when I was in Germany and I hadn't done a CELTA course at the time. And stupidly I thought it would be easy. Of course, it wasn't and I realized after about a week that I didn't know what I was doing, so I quit. That was my earliest one. And then I did the CELTA, and that gives you a grounding, and then my... And then you have to learn the grammar, so I remember having to spend a long time learning the grammar.

**Interviewer:** 02:18 S1: Yeah.

**Interviewee:** 02:19 S2: To find out, you know. And you didn't really think too much about vocabulary. It's mostly grammar because you had to know that.

**Interviewer:** 02:24 S1: Could you briefly describe your formal teacher training experiences on the CELTA and the diploma? Did they encourage participants to approach vocabulary in a particular way?

**Interviewee:** 02:39 S2: No, once again, it's some time ago since I did it, so I'm gonna have to look back. With the CELTA, we did a lot of topic based lessons. So we were encouraged to integrate vocabulary into the lesson, so giving them some vocabulary they could use. Sorry, task-based lessons, sorry, not topic-based, task-based lessons. They could use it in a task at the end. So you kind of feeding them some vocabulary that they then use when they do a task, which also you're preparing them for during the lesson.

**Interviewer:** 03:13 S1: Okay.

**Interviewee:** 03:13 S2: And with the diploma, not specifically, but we did look at the lexical approach. Michael Lewis... So I did read his book on the... I think he wrote two books. I read... Certainly read one of them on the lexical approach, and that did have an influence on how I... And I think, after that, I

started focusing more on vocabulary than I did before. I think before that I didn't really focus so much on vocabulary. It was nearly all grammar, and vocabulary was just like a little add on.

**Interviewer:** 03:47 S1: Sure.

**Interviewee:** 03:47 S2: But now, I've come to realize that actually vocabulary is much more important. And especially chunks of language rather than individual words, because individual words... If you give them individual words, they don't mean anything, and as you say, you have to use them, you have to see them in context. I found with my... Since I've been teaching here, I think there's active vocabulary and passive vocabulary, and you need to get the students using the vocabulary. That's the most difficult thing.

**Interviewer:** 04:17 S1: Okay. Do you recall any aspects of academic vocabulary being addressed on either of your courses?

**Interviewee:** 04:24 S2: Specifically, no.

**Interviewer:** 04:27 S1: Okay, alright. [chuckle] What do you feel have been the most significant influences on your development as a teacher? For example, previous language learning experience, second language learning experiences, previous teaching experiences, or teacher training and development courses.

**Interviewee:** 04:48 S2: On my teaching vocabulary or in general?

**Interviewer:** 04:51 S1: This is just a general...

**Interviewee:** 04:53 S2: In general?

04:54 S1: Yeah.

**Interviewer:** 04:55 S2: What's had the biggest influence in the way I teach?

**Interviewee:** 05:00 S2: I think the CELTA was the turning point, because I think that gives you the foundation, and I did quite a lot of reading after the CELTA. So by the time I got to the diploma, I kind of knew a lot of the ideas, a lot of the theory.

**Interviewer:** 05:13 S1: Yeah.

**Interviewee:** 05:13 S2: So it was the CELTA that was the... And of course, you learn by teaching as well. And so are the teachers in the staff room played a big... Play a big part as well.

**Interviewer:** 05:24 S1: Okay. And what influences have been most significant specifically in relation to academic vocabulary?



**Interviewee:** 05:32 S2: I think it's when I started teaching exam classes when I, especially IELTS, and the higher levels advanced, Cambridge advanced, and the CPE classes. I think it's then that I realized how important vocabulary was for students if they wanted to get a good score in the exams, especially for the IELTS exam because it helps [05:52] \_\_\_\_\_ the exam.

**Interviewer:** 05:54 S1: Okay, moving on to the next section now: Reflections about typical teaching practices. In regards to your general feeling about teaching general academic vocabulary, do you like, dislike or feel neutral about teaching it?

**Interviewee:** 06:08 S2: I like it. I don't really see how it's any different from any other vocabulary, to be honest, other than the fact is that the words are more formal and it's more advanced, but other than that, I don't see how it's any different.

**Interviewer:** 06:19 S1: Okay. Do you hold any specific views on how academic vocabulary should be taught? For example, should it be taught explicitly as part of a lesson, taught implicitly on a case by case or ad hoc basis, or should learners simply be encouraged to read outside of class?

**Interviewee:** 06:39 S2: I think all of those things. I think you can, explicitly... If you want to do that, explicitly focus on vocabulary, for example collocations, but also when they're doing a reading, after they've done the reading, you can get them to go back over it and highlight the collocations. And also obviously the more they read outside the class, the greater their vocabulary's going to be, so all of those things together.

## **Appendix C**

### **Instructions for Stimulated Recall Interview (modified from Gass and Mackey, 2005) Guidelines for research participants**

'What we're going to do now is view the recording. I am interested in what you were thinking when you were teaching, discussing or addressing covering anything in relation to academic vocabulary. We can hear what you were saying by looking at and listening to the video. However we don't know what you were thinking. Therefore, what I'd like you to do is describe what you were thinking, what was in your mind at that time while you were observing or speaking or listening to your students. I will put the mouse next to you and you can pause the video at any time that you see fit. So if you want to tell me something about what you were thinking, you can click the mouse to pause to video. To play the video, click the mouse again. If I have a question for you, then I will pause the video and ask you to respeond'.

## Appendix D

### Teacher consent form

Name of researcher: <b>Daniel Morgan</b>	
Title of research project: <b>Teacher Cognition and Academic Vocabulary</b>	
Different stages of project: <b>Tick (☐) below to show which stages of the project you agree to participate in.</b>	
	1. Semi-structured, pre-observation interview.
	2. In class observation.
	3. Post-observation stimulated recall interview

**I understand that the in-class observation and interviews will be recorded via video.**

**I understand that the information I will disclose will be anonymous and only used in this research project.**

**I understand that findings will be readily available upon request.**

Signed:

Date:

Signed:

Date:



