

**EXPLORING THE COMPLEXITY OF ‘CAN’, ‘COULD’ AND ‘BE ABLE TO’
THROUGH CORPUS ANALYSIS AND CLASSROOM- AND COURSEBOOK-
BASED INVESTIGATION**

by

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Abstract

The purpose of this study is to investigate the central modal auxiliaries CAN and COULD, and the quasi-modal BE ABLE TO, together with their negative forms, and from this investigation, make a contribution to English language learning pedagogy. This study uses analysis of the spoken and written components of the British National Corpus (≈ 100 million words) to gain a better understanding how these modal auxiliaries are used by native and native-like speakers of English. It also draws on a classroom data set (68,265 words), containing a spoken and written component, to investigate how they are being used by students and an instructor. Furthermore, these modal auxiliaries are examined in an English language learner coursebook, *New Headway* series (441,760 words).

This study uses both quantitative and qualitative methods for analysis. In the first phase of this investigation, previous literature along with an examination of each modal auxiliary form in a sample BNC data set were used iteratively to establish meaning categories for CAN, COULD and BE ABLE TO. In the second phase, overall frequencies were obtained from each data source. And finally, based on the categories of meanings found, in the third phase, meaning frequencies for all three data sources were determined. Taking these overall frequencies and meaning frequencies into consideration, comparisons were made between the classroom and the BNC, and *New Headway* and the BNC.

As a result of the investigations above, this study found ‘possibility’ to be the predominant meaning for CAN, COULD and BE ABLE TO with a subset of meaning categories. The subset of categories identified is larger than previously identified in literature. Context played a central role in interpreting these meanings of modal auxiliaries and this study suggests that it would be beneficial for anyone writing about modal auxiliaries to fully account for context when modal meanings are being examined, especially in pedagogical materials. As a result, included in this study are instances with expanded criteria.

Focusing on the classroom, this study shows not all meaning categories are present in the classroom data set and also suggests that students may benefit from explicit instruction around the role and communicative effects of these modal auxiliaries in various social contexts. Moving to the *New Headway* series, this study demonstrates that the meaning frequencies for some categories (e.g. ability) were higher in frequency than the British National Corpus due to the inclusion of contrived example conversations. Taking these and other findings in the study into consideration, this thesis raises awareness of the complexities

of understanding and conveying these modal auxiliaries and concludes with recommendations for instructors in English language classrooms.

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Chapter 1: Introduction

When asked by friends, family and acquaintances what it is that I study, my first reply is “modals”, just in case they are familiar with the term. However, I am usually met with a puzzled look that prompts me to continue, “I study the words ‘can’, ‘could’ and ‘be able to’”. Though still met with a puzzled look, I at least know they are familiar with those words, perhaps too familiar to recognise the nuances that go into them, which is the same mind set I had when I first started this study. If anyone had told me that I would spend hours, days and sometimes even longer, analysing just one instance of ‘can’, I never would have believed them.

Diving into the world of modal auxiliaries and then specifically, CAN, COULD and BE ABLE TO has been a fascinating journey. Listening to those who, including myself, say they “can’t” do something, I now often find myself questioning “Do you mean that it is not possible? You are not capable? You don’t want to? or You think it is unacceptable to?”, whereas in the past, I would not have given such a statement much thought at all.

During this study, I found that the further I investigated these modal auxiliaries, the further I needed to go, as their nuances were sometimes endless. I wondered, if I find these modal auxiliaries difficult as a native speaker, how is it possible to explain these to English language learners? This is the overall question that drove this study and what I hope to answer by the end of this thesis. I think it is first important to understand the background of this study and my motivation for choosing to perform a corpus-based investigation of CAN, COULD and BE ABLE TO, which this chapter will address. Following on from there, I answer the question of why I have chosen these specific central modal auxiliaries and quasi-modal auxiliary, any why it matters pedagogically, and then present the research questions for the present study. I conclude with an overview of the organisation of this thesis.

1.1 Background of the study

During my English as a second language teaching for the four years prior to beginning my current study, I developed an interest in grammar in the classroom. I was particularly aware of the grammar descriptions in coursebooks and also the way this information was or was not used by instructors to inform students of different grammar points. During my Master’s work, while I was teaching, I was introduced to corpus linguistics and how corpora provide

language in real context use, or rather, how language is used by native and native-like speakers. From that point forward, I was enthusiastic about using corpora as a teaching resource. When asked about a grammar point by students in my class, instead of reasoning about what I thought I would or would not say, I turned to corpora to investigate the various patterns of grammar used by English speakers. And after examining these patterns I would refer back to the coursebooks and in many cases find myself discouraged by explanations or ‘rules’ offered which did not fit the patterns I was finding.

Because of the above, I decided for my PhD study, I wanted to use a corpus-based analysis to examine a grammar point that both students and instructors found problematic, which modal auxiliaries fit the description. Furthermore, with modal auxiliaries being prevalent in our everyday English language, and though more often than not decontextualised, prevalent in materials for English language learners (e.g. the unit titled “We can do it!” with subsection of “Requests and offers” in the English learner coursebook *New Headway Beginner Student’s Book* (Soars & Soars, 2002)), I felt that if I were to pursue this study, I would be able to make a contribution to classroom pedagogy.

1.2 Why study modal auxiliaries?

As Palmer (1979) affirms, “There is, perhaps, no area of English grammar that is both more important and more difficult than the system of the modals” (Preface), which makes these a worthwhile study in itself. When I began investigating the modal auxiliaries, I was astounded by how conflicting previous linguists’ approaches to the modals were, from the differences in terminology and classifications used to their interpretations of instances. In only trying to understand what had been done previously, a large part of my thesis study began.

Adding a corpus component to my study meant that quantitative, and more importantly, qualitative data would be a factor, which meant it would be impossible to do a quality study of this nature inclusive of all the central modal auxiliaries (see Section 2.4), and furthermore, quasi-modal auxiliaries (see Section 2.4.1). Therefore, I chose to study the central modal auxiliaries CAN and COULD, and the quasi-modal auxiliary BE ABLE TO.

I selected CAN as it is a high frequency modal. Quirk, Greenbaum, Leech, and Svartvik (1985) found from their investigation of English language corpora that CAN and COULD are

“notably more frequent than other modals” (p. 136); others have had similar findings (e.g. Collins, 2009; Kennedy, 2002). I included BE ABLE TO because it is the quasi-modal associated with both.

Along with the above modals’ affirmative forms, I investigated each negative form, instances in which the modal co-occurs with ‘not’ or ‘un’: *cannot/can’t*, *could not/couldn’t* and *not able to/unable to*. Kennedy (2002) claims that “the importance of examining the occurrence of modals in negative contexts is well-illustrated with *can*” (p. 79), where he found a significant difference in frequency in spoken and written corpora for negative *can*. Therefore, in this thesis, when a modal auxiliary includes spoken and written forms, along with its positive and negative counterparts (e.g. *can / can’t / cannot* – spoken and written), this lemma is represented by way of a capitalised form – CAN. Following on from this ‘spoken CAN’ includes *can / can’t / cannot* – spoken, and ‘written CAN’ includes *can / can’t / cannot* – written. The same format is followed for COULD and BE ABLE TO, with the BE in ‘BE ABLE TO’ indicating all forms of BE (e.g. am, is, are, was, were). A list of these conventions can be found in Appendix 1. Though I follow these conventions for my own study, when I refer to other linguists’ works, I preserve their conventions. For example, Ehrman (1966) uses the form “*can*” to represent all forms of CAN.

Furthermore, in regard to terminology used in this study, it should be noted that henceforth, for convenience, the term “central modals” is used for “central modal auxiliaries”, the term “quasi-modals” is used for “quasi-modal auxiliaries”, and the term “modals” includes central modal auxiliaries and quasi-modal auxiliaries. Accordingly, relevant to this study, “modals” refers to CAN, COULD and BE ABLE TO.

I was also interested in these particular modals because of the ‘ability’ meaning associated with all three. As Perkins (1983) notes from reviewing previous research, “CAN in its ‘ability’ sense has been regarded by various linguists within the space of a few years as a root modal, exclusively as an epistemic modal, and not a modal at all!” (pp. 30-31). However, as I found and will demonstrate in this thesis, it is not only the ‘ability’ meaning that proved to be challenging. Throughout my investigation, my recognition of the complexity of the meanings for all three lexical items continued to grow, starting with the various views in the literature through to my corpus, classroom and coursebook investigations.

1.3 From a pedagogical perspective, why study these modal auxiliaries?

During my data collection in the classroom, I observed an instance of what I perceived to be miscommunication between the instructor and students. This occurrence took place during a discussion about writing timed essays in a test environment.

Instructor: First of all, think about, what are the things that affect what you're **able to** write and how you write it?

Student A: Our knowledge of the topic, how much we know.

Instructor: Okay, so one of the constraints, or one the challenges, in test conditions is that you don't have other resources to draw on. You have to use just what's in your head. Okay, other sorts of?

Student B: We need to brainstorm to think as much as ideas.

Instructor: Okay, so that's a strategy for, for doing that, getting used to that brainstorming idea and pulling ideas out of your head. But in terms of expectations, given that you don't, you can't go and look up in books or anything like that, what do you think that does in terms of what you're expected to produce? Do you think you should produce something, we're expecting, we have similar expectations for, in that, in those conditions, compared to for example when you're writing a prepared essay?

[Group discussions to respond to question from instructor]

Instructor: Okay, so let's um, let's hear some of those ideas. So first of all, some of the constraints, some of the challenges of writing under test conditions, what-

In this excerpt I believe the instructor is trying to elicit "things" which are external to the students, and the students responding have interpreted the "things" to be connected to their abilities. Student A responds, "our knowledge of the topic, how much we know," which shows he/she has interpreted this use of "able to" as ability. The instructor responds by accepting the response, and putting it into context of external circumstances, "don't have other resources to draw on". Student B also focuses on ability and replies "we need to brainstorm". Again, the instructor shifts the focus to external circumstances such as "you can't go and look up in books". Additionally, after the group discussion, we see the instructor

rephrase her question to focus on external circumstances such as “constraints” and “challenges”.

As I will show in my study, these modal auxiliaries allow for multiple interpretations, which makes it easy for the instructor in this case to be able to accept responses that are outside of what she intended, but at the same time, we see her adding further context to try to move the students’ focus away from their abilities to the external circumstances affecting timed essay writing. Learners need to understand that these modal auxiliaries have multiple uses and multiple interpretations.

To help avoid miscommunication, or for learners to grasp the ways CAN, COULD and BE ABLE TO are used, learners of English deserve to have a complete set of tools for communication. During the examination of the coursebook series I use in my study, I found that the ‘ability’ use of CAN was emphasised more than the ‘external possibility’ use, while the British National Corpus showed the opposite. I find this to be problematic, as conveyed in Figure 1.

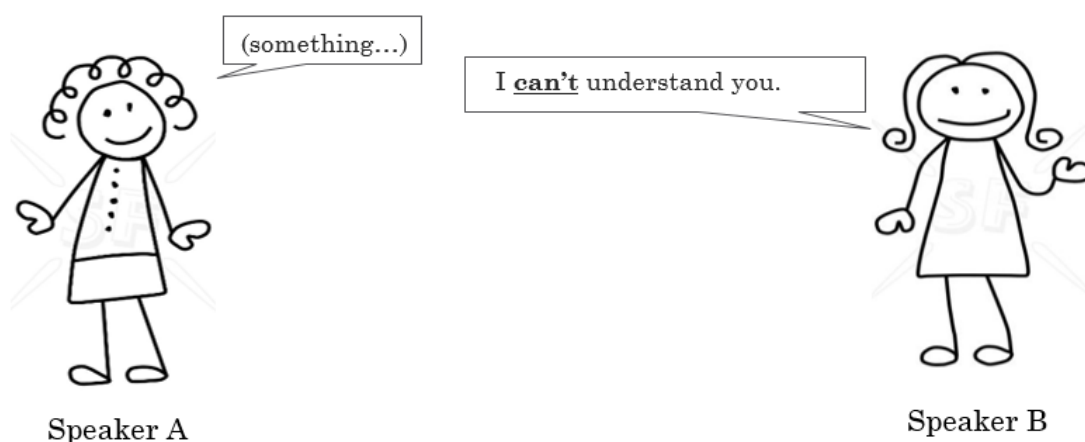


Figure 1: Example Dialogue

In Figure 1, Speaker A says (something) and Speaker B responds, “I can’t understand you”. If Speaker A has been primarily exposed to the ability use of CAN, Speaker A will interpret Speaker B’s not understanding as an ability issue on Speaker B’s part, and may not consider that Speaker A may be speaking too softly, or that there is too much background noise to have a conversation. By showing learners all the uses of a lexical item, in this case CAN, we are contributing to the tools they need for communication.

1.4 Research questions

In an effort to better understand CAN, COULD and BE ABLE TO, as used by native and native-like speakers, in an English language learner classroom and in English language learner coursebooks, I initiated the current research project. The research questions for this study are as follows:

1. What are the categories of meaning associated with the central modal auxiliaries CAN and COULD and quasi-modal BE ABLE TO?
2. What are the overall frequencies of occurrence of my selected modals in the following sources?
 - a. a general English corpus of spoken and written texts
 - b. a data set of spoken and written English used by students and their instructor in an English language classroom
 - c. an English as a second language coursebook series
3. What are the meaning frequencies of my selected modal auxiliaries in each of the above?

1.5 Organisation of the thesis

Following this introduction, this thesis continues with a literature review in Chapter 2. This review provides an explanation of modality and the characteristics of modal auxiliaries that have been previously identified by linguists. The principal meaning categories are discussed, along with previous corpus-based, classroom and coursebook studies connected to the modals in the present study. Chapter 3 follows with the research design and methodology used in this study. This includes a description of all three data sources – British National Corpus (BNC), English proficiency classroom and *New Headway* coursebook series (NH) – and how each was utilised in this investigation. Chapter 4 provides an overview of the meanings found in this study and the framework for the analysis that I employed for examining all three data sets. Chapters 5, 6 and 7 identify the meanings and frequencies found for CAN, COULD and BE ABLE TO, respectively, in the BNC, and include comparisons to previous corpus-based investigations. Chapter 8 focuses on how the modal auxiliaries were used in the classroom by the students and instructor while Chapter 9 focuses on their use in the *New Headway* coursebook series. Finally, Chapter 10 considers all three sources and puts forward findings, while Chapter 11 discusses implications for the English language classroom.

In addition, throughout this thesis, I have made note of conventions that I will use consistently. A list of these with their explanations is in Appendix 1.

Chapter 2: Literature Review

This chapter first presents an overview of modality; answering ‘what is it?’; ‘how do we convey it?’; and ‘why do we need it?’ I then provide a table outlining the characteristics of English modal auxiliaries. From there I move to a discussion on the difference between what is most commonly termed ‘deontic’ and ‘epistemic’ modality; however, with regard to this study, I respectively call these ‘possibility (real-world)’ (see Section 2.5.2) and ‘epistemic possibility’ (see Section 2.5.3). Within my explanation I include a discussion of why these meanings are difficult to distinguish for the modals in the present study. I then offer a brief account of indeterminacy, monosemy and polysemy, and subjectivity and objectivity, as these have all been considerations in earlier work on modality and they are relevant to my work as well. Finally, I discuss previous corpus-based studies on CAN, COULD and BE ABLE TO, along with classroom-based and coursebook studies that have been undertaken on modal auxiliaries.

2.1 What is modality?

In my attempt to ‘define’ modality, I was met with numerous explanations that were in some ways similar but in other ways different. In this section I present explanations from prominent linguists in the field: Halliday (1985, 1970), Quirk et al. (1985), Carter and McCarthy (2006), Perkins (1983), Palmer (1986) and Celce-Murcia and Larsen-Freeman (1999). I show how their explanations of modality helped to shape mine, and conclude with my explanation of modality.

Halliday (1985) takes a functional approach and uses the idea of polarity to describe modality. He first sets up the idea that “POLARITY is the choice between positive and negative, as in *is/isn’t*, *do/don’t*” (p. 85). He continues by saying that in modality “the possibilities are not limited to a choice between yes and no”; there are “intermediate degrees, between the positive and negative poles” (p. 86). Earlier work from Halliday (1970) breaks modality up into two parts, one being “modality” which is described as when “the speaker associates with the thesis an indication of its status and validity in his own judgement; he intrudes, and takes up a position” (p. 335). This idea relates to the speaker sharing his or her assessment of possibilities. A second part of modality is what he terms “modulations” and describes as having “no speaker’s comments, but form part of the content of the clause,

expressing conditions on the process referred to” (p. 338). To simplify this into more commonly used terminology, Halliday’s idea of “modality” relates to ‘epistemic’ modality and his idea of “modulation” relates to what many linguists call ‘deontic’ or ‘root’ modality.

Quirk et al. (1985) explain in their work that “*modality* may be defined as the manner in which the meaning of a clause is qualified so as to reflect the speaker’s judgement of the likelihood of the proposition it expresses being true” (p. 219). Carter and McCarthy (2006) explain modals as being “used to say whether something is real or true” (p. 638). Although I think these explanations contribute to modality, I find them limiting as they are more of an explanation of ‘epistemic’ modality, which is only one component of modality; they lack a connection to other components, such as ‘possibility’, ‘volition’ and ‘permission’.

Perkins (1983) describes modality as being “relative to”, for example “*relative to* my set of personal beliefs” [epistemic], or “*relative to* the laws of the country” [real-world] (p. 10). The notion that modality is “relative to” *x* supports the idea that intermediacy is a part of modality and helps to mitigate the idea of ‘true’ and ‘false’ which is what I think Quirk et al. (1985) and Carter and McCarthy (2006) are missing from their explanations.

In addition to the views above, Palmer (1986) describes modality as “the grammaticalization of speakers’ (subjective) attitudes and opinions” (p. 16) and Celce-Murcia and Larsen-Freeman (1999) observe that “when English speakers use a modal, they interject their own perspective and view a proposition more subjectively than when they simply use past or present tense” (p. 141). Carter and McCarthy (2006) also describe modality as “a speaker’s or a writer’s attitude towards, or point of view about, a state of the world” (p. 638). These aforementioned views on modality helped to form my explanation of modality, which is:

The grammaticalisation of a speaker’s (or writer’s) subjective attitude and opinion, relative to *x*, about the possibilities between “yes” and “no”, based on his or her own perspective about a state of the world.

This explanation is grounded mainly in Palmer’s and Halliday’s descriptions, yet adds key elements from Celce-Murcia and Larsen-Freeman such as subjectivity and “own perspective”, and from Carter and McCarthy, “a state of the world”. Furthermore, it includes Perkins’ notion of being “relative to” *x* as discussed above, and expanded upon further with regard to my findings in Section 4.14.

2.2 How do we convey modality?

The most recognised way to convey modality in English is through modal auxiliaries (e.g. *will, must, can*) but Holmes (1988) points out:

There are many many ways of expressing doubt and certainty in English including modal verbs (e.g. *may, might*), adjectives (*unlikely, doubtful*), tag questions, and fall-rise intonation, as well as a wide selection of non-linguistic and paralinguistic devices such as facial expression, hesitations, and stutters. (p. 21)

Using various sections from corpora, Holmes created a data set which allowed her to identify all modal forms. Her results are presented in Table 1, which has been reproduced from Holmes (1988, p. 27).

Table 1: Holmes' (1988) frequency percentages for the grammatical classes used to express 'epistemic' modality

Grammatical Class	Speech	Writing	Total
Modal verbs	42.4	36.8	40.2
Lexical verbs	31.5	35.9	33.3
Adverbials	21.5	12.8	18.1
Nouns	2.3	7.7	4.5
Adjectives	2.3	6.6	4.0
Total	100	100	100

Though the findings are focused on 'epistemic' modality, Table 1 provides an indication of the various forms that can be used to express modality. From this table we can see that modal verbs make up the highest percentage of forms used to express epistemic modality, yet lexical verbs are not too far behind in frequency.

Hoye (1997) also undertook a corpus-based study of adverbs and modals in English and explains that "English has a variety of means by which it can signal modal contrasts" (p. 3). He includes the following devices: modal idioms (e.g. "had better"), adjectives (e.g. "possible"), adverbs (e.g. "perhaps") and modal lexical verbs (e.g. "doubt"); each example used comes from Hoye (p. 3). Additionally, Perkins (1983) argues that there are a "wide

range of expressions and other linguistic devices which are also available for the expression of modality in English” (p. 25). Barnard and Scampton (2006), who also refer to Holmes' (1988) work, add that “a very large number of open class words are inherently modal” (p. 4), and include “*allege* and *believe*” as examples of words that are ‘epistemic’.

2.3 Why do we need modality?

Borrowing from Perkins (1983), modal auxiliaries aid us in our communication by allowing us to talk about “things being otherwise” (p. 6) which Perkins admits is “vague” but I think a good starting point for my following discussion. Perkins elaborates on “things being otherwise” by stating, “it would appear that such notions [necessity, possibility and impossibility] are conceptually grounded in the fact that human beings often think and behave as though things might be, or might have been, other than they actually are, or were” (p. 6). Perkins views the world not as one world only, but as there being an “infinite set of possible worlds” (p. 7). This idea of possible worlds is paramount in my work with CAN, COULD and BE ABLE TO, as these modal auxiliaries signal ‘possibility’, which I discuss further below.

Modality is a tool in language that allows us, as taken from my explanation, to express our attitude and opinion, relative to *x*, based on our own perspective about a state of the world. Like Perkins, Hoye (1997) also views modality as stemming from humans’ capacity to think about “things being otherwise” (p. 40). One function of modal auxiliaries is as a grammatical tool we choose to use, or not use, to mark, or not mark, modality, and signal with our language that our viewpoint is being expressed, which is not necessarily reality, but “conceivably real” (p. 40) as Hoye puts it. Or as Perkins (1983) explains, the speaker will situate his or her utterance in a context which either validates what he or she is saying, or expresses conditions around it. Interestingly, Palmer (1986) complements the above by stating, “Hearers do not expect the truth, or what is known to be true, but only what the speaker believes to be true” (p. 84). And though expression of our viewpoints is one reason to use modality, there are often many more. Perkins (1983) attributes using modality to further reasons such as “uncertainty, tact, or politeness” (p. 19). Stubbs (1996) eloquently encapsulates the idea of modality in the following passage and concludes:

When we speak or write, we are often vague, indirect and unclear about just what we are committed to. This might appear, superficially, to be an inadequacy of human language: but only to those who hold a rather crude view of the purposes of communication. Vagueness and indirection have many uses. Politeness is one obvious reason for deviating from superficially clear or rational behaviour, and claiming precision is done appropriately only in certain situations. However, we often signal that our utterances are vague. So, whenever speakers or writers say anything, they encode their point of view towards it: whether they think it is a reasonable thing to say, or might be found to be obvious, questionable, tentative, provisional, controversial, contradictory, irrelevant, impolite or whatever. The expression of such speakers' attitudes is pervasive in all uses of language. All utterances encode such a point of view, and the description of the markers of such points of view and their meanings is a central topic for linguistics. (p. 202)

What Stubbs does not include in his explanation is the role of the hearer or reader and how modality is understood. Because modality is “vague, indirect and unclear” this also leaves room for multiple interpretations.

In English, we strategically take advantage of modal auxiliaries to express ourselves, as they operate on many levels. The excerpt below, taken from a newspaper, is an example of this (see Appendix 1 for explanation of coding conventions).

- (1) A spokesman for the Civil Aviation Authority said: 'We can confirm the centre is under offer, but that's as much as we can say at this stage.' (BW511)
(W_newsp_other_report)

This type of utterance is quite a standard response. Though, when examined further and taking into consideration the usual meaning categories presented for CAN of ‘ability’, ‘permission’, and ‘possibility’ (e.g. Biber, Johansson, Leech, Conrad, and Finegan, 1999; Römer, 2004a), we see that it is difficult to assign this “can” to one of these meaning categories. Upon closer analysis, we can interpret that it is not the case that the Civil Aviation Authority is not capable of saying anything further (‘ability’), or that it is not possible (‘possibility’), or that they are not allowed (‘permission’); it is more likely the case that the organisation chooses not to say anything further; it is their own ‘volition’ preventing them from saying anything further. Yet they choose “can” to convey this to the public in an evasive

way. To anyone studying language, using evasive language is not a new finding. The pedagogical issue underlying my research is how we help make learners of English aware of the complexity of modals and these evasive meanings.

However, before my research can address these complexities and the learner community, it is necessary for me to unpack the work of past linguists, and there is quite a bit of unpacking to do. As Nuyts (2006) confirms, there are many varying approaches to modality, which in turn, leads to varying approaches to analysing the modals.

2.4 Characteristics of English modal auxiliaries

Linguists (Coates, 1983; Collins, 2009; Huddleston & Pullum, 2002; Palmer, 1990; Quirk et al., 1985) mostly agree on the properties of the English modal auxiliaries. They also mostly agree on what they consider to be the “central” modal auxiliaries – CAN, COULD, MUST, MAY, MIGHT, WILL, WOULD, SHOULD – though there is debate around whether to include items such as DARE and USED TO. Examples of studies which have excluded DARE and USED TO have each dismissed them for various reasons. Collins (2009) excludes DARE on the grounds of “*dare* expressing the courage of the subject-referent” (p.12). Perkins (1983) does not include DARE, calling it the “semantic black sheep of the modal family” (p. 29) and Coates (1983) also “ignored” (p. 5) DARE because its use as a modal compared to a lexical verb is not frequent. Collins did not include USED TO in his study as he believes it “express[es] aspectual rather than modal meaning” (p. 12) and Quirk et al. (1985) note that USED TO is more “an auxiliary of tense and aspect” (p. 140) than a modal auxiliary.

The modal auxiliaries stand out from lexical verbs as they behave differently syntactically. The characteristics listed below in Table 2 primarily draw on Quirk et al. (1985) as they seem to have the most comprehensive list. Listed first are the properties that apply to all English auxiliaries, and further below, those that are specific to English modal auxiliaries. While most of the criteria are straightforward, which is aided by presenting the contrast of auxiliary verb and main verb, I have included notes below about those that were not obvious to me and how I have altered them to make them more transparent.

Table 2: Characteristics of English modal auxiliaries (in comparison to a main verb)

Auxiliary Criteria	Auxiliary	Main Verb
(a) Operator in negation	He <i>cannot</i> study.	*She <i>likes not</i> to study.
(b) Negative contraction	<i>can 't</i>	* <i>liken 't</i>
(c) Operator in inversion	<i>Can</i> we study?	* <i>Like</i> we to study?
(d) Operator in reduced clauses	I can study if you <i>can</i> .	*I like to study if you <i>like</i> .
(e) Pre-adverb position	We <i>can always</i> study early.	*We <i>like always</i> to study.
(f) Position of quantifier	They <i>can all</i> study. ?They <i>all can</i> study.	*They <i>like all</i> to study. They <i>all like</i> to study.
(g) Independence of subject	Ann <i>can</i> study it. It <i>can</i> be studied by Ann.	She <i>likes</i> to study it. *It <i>likes</i> to be studied by him.
Modal Auxiliary Criteria		
(h) Bare infinitive	I <i>can</i> study.	*I <i>like</i> study.
(i) No non-finite forms	*to <i>can/canning/ canned</i>	To <i>like/liking/ liked</i>
(j) No –s form	*She <i>cans</i> study.	She <i>likes</i> to study.
(k) Abnormal time reference	You <i>could</i> study this evening. [not past time]	You <i>liked</i> studying this evening. [past time]
(l) No co-occurrence	*We <i>can must</i> study.	We <i>liked</i> studying.
* indicates not used in English language. ? indicates awkward but possibly used in English language.		

The main content of this table comes from Quirk et al. (1985, p. 137), yet I made alterations. Firstly, the verbs *like* and *study*, taken from Collins (2009, p. 12), were used instead of the original verbs for ease of comprehension. Quirk et al. chose to use numerous verbs throughout their table but I felt that it was easier to understand using a consistent ‘auxiliary + main verb’ and ‘main verb’.

Furthermore, I included (l) “no co-occurrence” which comes from Coates (1983) and Palmer (1990), though I do recognise that according to Celce-Murcia and Larsen-Freeman (1999), “There are Southern dialects of North American English where certain modal-plus-modal sequences are possible” (p. 159). I also excluded the characteristic “no emphatic positive”

which was listed under the main auxiliary section in Quirk et al. (1985). Quirk et al. give the examples “*Yes, I *DÒ* *can* come” and “Yes, I *DÒ* *hope* to come” (p. 137). I found this confusing because taking out the “DO” which is not the only signal for emphatic positive, as it is any verb that is spoken with a greater inflection, results in an instance whereby CAN can be emphasised (e.g. *Yes, I CÀN come*). For example, Collins (2009) uses the examples “They think he won’t study, but he WILL” and “*They think he doesn’t like studying, but he LIKES” (p. 12). Collins demonstrates emphasis by showing how the lack of *DO* support does not affect modal auxiliaries, and does not work for lexical verbs, while Quirk et al. demonstrate emphasis by showing the way *DO* support works for lexical verbs but not with modal auxiliaries. In either case, we can see that emphasis works in different ways and therefore I have omitted it from the characteristics above.

One further alteration I made was for the criteria (e) “pre-adverb position”. In the main verb column I moved the adverb to after the verb, as opposed to before in the original, to help demonstrate that the difference in adverb placement is that while an auxiliary can take an adverb after, a main verb cannot (Quirk et al., 1985, p. 126).

I have also listed for (f), position of quantifier, in the auxiliary column, that it is “awkward but possibly used in English language”. To do an extensive search on this pattern of “quantifier” + “modal auxiliary”, including all quantifiers in English, may have resulted in a second thesis; therefore, I explored this further by examining the quantifier *all* as is used in Table 2. Using the entire BNC (96,263,399 tokens, see Section 3.3.1.1), I performed a search on *all* followed by a modal verb and a modal verb followed by *all*. The results were:

all + modal verb = 697 tokens

modal verb + *all* = 3,019 tokens

From these results, we can see that though the pattern “*all* + modal verb” is used by native and native-like speakers of English, it is not as common as the pattern “modal verb + *all*”.

The properties listed above are syntactically helpful in identifying modals, but as we will see further into this thesis, when examining their meanings, syntax plays a minor role and it is the context that is central.

2.4.1 Quasi-modals

This section offers a brief account of the decision behind using the term ‘quasi-modal’ and the characteristics of the quasi-modal BE ABLE TO. Though Collins (2009) found the term “quasi-modal” to be “widely used” (p. 15), in my search on “quasi-modals” I found an array of terms used to describe these multi-word verb forms that function semantically like central modals. These include *phrasal modal counterparts*, *periphrastic modals* and *pseudo modals* (Celce-Murcia & Larsen-Freeman, 1999), *marginal modals*, *modal idioms* and *semi-auxiliaries* (Quirk et al., 1985), *emerging modals* (Krug, 2000), *periphrastic forms* (Westney, 1995) and *quasi-auxiliaries* (Bolinger, 1980). Therefore, taking into consideration the available aforementioned terms, Collins' (2009) work influenced me to choose the term ‘quasi-modals’ as according to the online Oxford Dictionary, *quasi* is defined as “being partly or almost” (Quasi, n.d.), which seems to capture the majority of terms aforementioned (e.g. *pseudo*, *marginal*, *semi*).

With regard to the quasi-modal present in this study, BE ABLE TO, the properties that pertain to it are: (a) multi-word verb form; (b) functions semantically like modal auxiliaries; and (c) construction with the bare infinitive. For a more detailed review of the characteristics of quasi-modals and the issues around drawing the line between quasi-modals and other lexical verb combinations (e.g. *want to*), see Biber et al. (1999), Collins (2009), Huddleston and Pullum (2002) and Quirk et al. (1985).

2.5 Meanings associated with the modal auxiliaries

In this section, I explain the main division in modal auxiliary meanings, what I term ‘possibility (real-world)’ and ‘epistemic possibility’. I focus on previous linguists’ views on their different meanings along with their complicated nature, which for CAN and COULD, is mainly due to the closeness in paraphrases used for each and their close ties to ‘possibility’. In Section 4.1, I provide a detailed summary of the views of linguists who have studied modality and their views on the meanings associated with the modal auxiliaries.

2.5.1 ‘Root’ or ‘deontic/dynamic’ and ‘epistemic’ modality

Most linguists recognise the modal auxiliaries as having categories of meaning which include either ‘root’ or ‘deontic/dynamic’, and ‘epistemic’, depending on whether they adopt a

bipartite or tripartite scheme. In a tripartite scheme, ‘deontic’ instances are, as explained by Collins (2009), those that “involve some type of authority” and ‘dynamic’ as when a possibility arises from “general circumstances” (p. 22). Kennedy (2003) describes the modals as having the following meanings: “**possibility, certainty, ability, habit, inference, obligation, desirability, intention, necessity, politeness, consent, willingness, permission**” (p. 186) and uses the terms “core” and “epistemic” for the main meaning groups.

Using *may* and *should* as examples, Bybee and Pagliuca (1985) describe the differences between ‘deontic’ and ‘epistemic’ in terms of “scope” and explain deontic modality as having a wilful agent whereby conditions are set and epistemic modality as having no wilful agent and “the modal has the whole proposition in its scope” (p. 65). In short, deontic modality focuses on a wilful agent doing something and in epistemic modality, the whole proposition is looked upon as a unit over which the speaker is projecting his or her level of certainty of this unit. My understanding is that for ‘epistemic’ modality, the entirety of the proposition is affected by the modal, as opposed to non-epistemic modality whereby only part of the proposition is affected by the modal. Using simple examples from Kennedy (2003), in “You *must* be home before dark” (p. 186), which is a non-epistemic example, the part of the proposition “be home before dark” is the obligation set upon “you”. Also from Kennedy, in “You *must* be joking” (p. 186), which is an epistemic example, “be joking” is not an obligation set upon “you”. The whole proposition “You *must* be joking” needs to be evaluated together. In other words, from Kennedy, *I am almost certain you are joking*.

Papafragou (2000) also explains the difference between the two, in which she uses the terms “real world” and “conclusion”. She states:

Broadly speaking, the utterances in [root modality] convey that a given state of affairs is considered possible or necessary in view of some (physical, moral, legal, social, or other) circumstances in the real world; the utterances in [epistemic] convey that a given proposition presents itself as a possible or necessary conclusion in view of a body of evidence which is available to the speaker. (p. 520)

“Real world” grounds what the speaker is saying in a discussion of what happened, what is happening, or what he/she wants to happen, while “conclusion” grounds what the speaker is saying in his/her idea of what happened, what is happening or what he/she thinks will happen.

Continuing on from the above discussion, in the next two subsections, I have included my explanations for what I term ‘possibility (real-world)’ and ‘epistemic possibility’.

2.5.2 ‘Possibility (real-world)’

Given that most linguists (e.g. Bybee & Pagliuca, 1985; Sweetser, 1982) recognise ‘real-world’ modality as preceding ‘epistemic’ modality, I will discuss ‘real-world’ modality first. Not often called ‘real-world’ modality, this type of modality is usually referred to as ‘root’, ‘deontic’/‘dynamic’, ‘core’ or ‘non-epistemic’. However, I chose to adopt the term ‘possibility (real-world)’, as taken from Papafragou’s explanation above and Sweetser (1982), as ‘real-world’ alleviates the notion that ‘core’ or ‘root’ indicate a more ‘valid’ sense of modality over ‘epistemic’. Also, from my perspective, ‘real-world’ is more obvious in meaning than ‘deontic’, ‘dynamic’ and ‘non-epistemic’.

Coates (1995) explains, “Root modality encompasses meanings such as permission and obligation, and also possibility and necessity” (p. 55). Palmer (1986) describes deontic modality as “concerned with language as action, mostly with the expression by the speaker of his attitude towards possible actions by himself and others” (p. 121). And Collins (2009) complements Palmer’s view and states, “The most common and arguably important type of root modality is ‘deontic’, which occurs when the factors impinging on the actualization of the situation referred to in the utterance involve some type of authority” (p. 22). Collins continues, “It is not easy to provide a unitary definition of ‘root’ modality” (p. 22).

I propose my explanation for ‘possibility (real-world)’ to be:

Speaker’s (or writer’s) response, attitude and expression of conditions concerning the possibility of a past, current or future situation.

My explanation contains elements from the descriptions above and also from Huddleston and Pullum’s (2002) idea that this type of modality “concerns the speaker's attitude to the actualisation of future situations” (p. 178). I added “past” and “current” to “future” as modality is not limited to the future. We often talk about things that “could have been” (past) (e.g. *I could have gone along with that.* (BS438) (S_sermon)) and things that “could be” (present) (e.g. *But, if you use your imagination, it could be a glorious retreat a place to go and hide...* (BS523) (S_brdcast_news)). I also felt it was imperative to include the idea of

“possibility” as modality is in effect signalling some kind of ‘possibility’; or, as described above, “things being otherwise” (Hoye, 1997; Perkins, 1983). In order to account for the notion of modal strength (e.g. *And, the story line could go...* (BS448) (S_unclassified) (weaker) vs. **And, the story line must go...* (stronger)), I included “response”. Also, I retained “expression of conditions” from Halliday's (1985) explanation of “modulation” (see Section 2.1). However, “conditions” is also included in works from Bybee and Pagliuca (1985) and Perkins (1983) (see Sections 2.5 and 2.3 respectively).

Lastly, “speaker’s attitude” is something that Carter and McCarthy (2006), Huddleston and Pullum (2002) and Palmer (1986) include but not all linguists do. I consider this to be one of the key components of ‘real-world’ modality as utterances are indeed based on “speaker’s attitude”.

2.5.3 ‘Epistemic possibility’

One meaning category recognised by all linguists studying modality is ‘epistemic’ modality. The majority of linguists use the term ‘epistemic’, with the exception of Biber et al. (1999) and Quirk et al. (1985) who favour the term ‘extrinsic’. For this study, I have chosen to keep in line with the majority of linguists and use ‘epistemic’ as it is the only term which has almost uniform agreement. However, readers will soon see that the term ‘epistemic’ may be the only thing in sync within ‘epistemic’ modality. Below are two very different views on ‘epistemic’ modality.

Palmer (1990) says the following:

Epistemic modality is the simplest type of modality to deal with. In both its syntax and its semantics, it is the kind of modality that is most clearly distinct from the others and has the greatest degree of internal regularity and completeness. (p. 50)

While Palmer is clearly at ease with ‘epistemic’ modality, I, however, feel the opposite and am aligned with Nuyts (2001), who states that, “beyond a general, intuitively straightforward definition, (the behaviour of) epistemic modality has so far proven very elusive and volatile, and empirically hard to assess” (p. 23). How can these two views be so different?

Starting with the various explanations of ‘epistemic’ modality, I think part of the confusion stems from there being multiple ways of interpreting ‘epistemic’ and its division from

‘possibility’ (real-world). One way is seen in Jenkins (1972). He uses three subcategories to describe “epistemic”: “possibility”, “logical entailment” and “future prediction” (p. 37), and does not have a ‘general’ possibility subcategory. Jenkins fails to take into account ‘possibility’ on its own, without speaker certainty, which is discussed in Section 2.5.4 below. Coates (1983) describes ‘epistemic’ modality as being “concerned with the speaker's assumptions or assessment of possibilities and, in most cases, it indicates the speaker's confidence (or lack of confidence) in the truth of the proposition expressed” (p. 18). Additionally, Coates has a separate meaning category for ‘possibility’. Though both ‘epistemic’ modality and ‘possibility’ involve the concept of ‘possibilities’, they have different meanings. Whether something is ‘possible’ (‘possibility’) is different from how certain one is of x (‘epistemic possibility’).

Coates’ description of ‘epistemic’ modality above is helpful, especially if combined with the idea of “certainty” which comes from Kennedy's (2003) explanation of epistemic modality, “Epistemic modality is the expression of degree of certainty” (p. 187). Though a simple description, as we continue, I will show how “certainty” underpins my explanation of epistemic modality, which is presented at the end of this section.

One issue I saw in the literature is that linguists often offer suitable, logical and seemingly helpful explanations for ‘epistemic’ modality, which make ‘epistemic’ modality seem as clear as Palmer claims it is, yet in practice, their explanations are not dependable. For example, Sweetser (1982) differentiates between ‘root’ and ‘epistemic’ modality with ‘root’ modality being the “real-world domain” and ‘epistemic’ modality being the “domain of reasoning” (p. 503). She explains:

Pragmatic factors will determine which world the modal is taken as operating in: for example, I swayed the interpretation of “John must go to all the department parties” towards an epistemic reading by adding a clause expressing a reason for reaching a conclusion [“because I see his name on the signup sheet every time”]. If instead I had added a clause expressing a real-world cause (such as “because he agreed to be bartender”), then the weight would have been towards a root reading. (pp. 495-496)

In her explanation Sweetser uses invented examples which adds clarity to her explanation, but is not realistic as this language is not natural. To support this point, I have taken an

example from the BNC using *could* which is ambiguous between ‘possibility (real-world)’ and ‘epistemic modality’.

- (2) richest concentration of villas of all periods. If one could select those areas where there appears to be the largest proportion of sites which seem to have been affected, they are in Hampshire, Hertfordshire and north Kent, possibly indicating that they suffered the greatest disturbance. Refinements in the dating evidence **could** easily change the pattern, and there are examples well outside these areas: in Sussex, for example, at Chilgrove, where there are several sites. (BW618)

(W_ac_humanities_arts)

In instance (2) it is unclear if the speaker is only stating that it is possible for “refinements in the dating evidence” to change the pattern or whether the speaker thinks that the refinements in the dating evidence will change the pattern. Additional text, such as, *Refinements in the dating evidence could easily change the pattern, as we have seen in x*, or, *Refinements in the dating evidence could easily change the pattern, which is the direction x is moving in...* would help to clarify whether this is an example of ‘possibility (real-world)’ or ‘epistemic possibility’ respectively.

Collins (2009) describes epistemic modality as being, “prototypically concerned with the speaker’s attitude towards the factuality of the situation, the speaker’s judgement of the likelihood that the proposition on which the utterance is based is true” (p. 21). He continues to describe that this judgement is on a scale “ranging from weak possibility (“It may be the case”) to strong necessity (“It must be the case”)”. Collins’ and the aforementioned explanations are perfectly logical and encompass ‘epistemic’ modality; however, it is when one tries to apply these descriptions that ‘epistemic’ modality gets tricky as these explanations fail to capture all the difficult nuances that ‘epistemic’ modality in practice comprises.

Before I continue, I would like to make a note regarding the above term “strong necessity” used by Collins and others (Biber et al., 1999; Coates, 1983, 1995; Palmer, 1990; Quirk et al., 1985). I find the term “strong necessity” confusing, as, for me, it conjures up the idea of a strong need, not the idea of the highest logical conclusion available. You can see in Table 2 (p. 15) I have disambiguated the term ‘necessity’ by adding ‘logical’ where appropriate, but this is not commonly done by authors. Additionally, the idea of “weak possibility” in ‘epistemic’ modality potentially confuses the issue of ‘external possibility’. My view is

supported by Palmer's (1990) assertion that “*necessary* and *necessity* are not words used in ordinary speech to indicate epistemic judgements” (p. 50). I believe these terms presented to an English language learner would cause the student to be confused or misled, especially because the same terms are being used for very different ideas. Therefore, in my research, when discussing ‘epistemic possibility’ and its scale of strength of an ‘epistemic’ statement, I replace Collins’ “weak possibility” and “strong necessity” and employ a scale ranging from ‘possible’ to ‘certain’, which comes from Holmes (1983); Halliday (1970) includes these levels of certainty in his early work, though less explicitly than Holmes. I also consistently use the terms ‘epistemic possibility’ and ‘external possibility’ to help maintain clarity between the two.

Returning to ‘epistemic possibility’, for my explanation, I took components of the descriptions above, from Collins (2009) and Kennedy (2003), and have also included Celce-Murcia and Larsen-Freeman's (1999) idea of “logical probability”, Papafragou's (2000) idea of “conclusion”, along with Holmes' (1983) ‘epistemic’ scale of certainty ranging from ‘certain’ to ‘possible’. From the marrying of these descriptions, my explanation for ‘epistemic possibility’ is as follows:

Speaker's (or writer's) conclusion of certainty concerning the factuality of a past, present or future situation based on logical probability. This degree of certainty ranges from ‘certain’ to ‘possible’.

Even though the explanation above seems straightforward, Sections 2.5.4 and 4.7 below reveal some general complications related to ‘epistemic possibility’ and further layers of complexity around ‘epistemic possibility’ also come through when I present my BNC data (see Sections 5.3.8 and 6.4.2).

2.5.4 ‘External possibility’ vs. ‘epistemic possibility’

In reviewing the literature on CAN and COULD, I found it quite difficult to understand and distinguish the difference between ‘epistemic possibility’ and ‘external possibility’. I attribute this difficulty to the fact that the paraphrases used, “it is possible that” and “it is possible for”, which is explained in the section below, are similar, and also that an ‘epistemic possibility’ reading using CAN and COULD indicates a level of ‘possible’ on a scale of certainty

(Holmes, 1983). Both meanings have a sense of ‘possibility’, which makes them difficult to differentiate at times.

2.5.4.1 “It is possible for” (‘external possibility’) vs. “it is possible that” (‘epistemic possibility’)

Palmer (1990) approaches these two ideas using different terminology, “propositional” and “event” modality, and uses the paraphrases, respectively, “possible for” and “possible that” (pp. 7–8). Leech (2004) applies a similar concept and uses the terms “factual possibility” and “theoretical possibility”. Theoretical being paraphrased by “it is possible for” and factual paraphrased by, “it is possible that” (p. 82). Using *can* and *may*, Leech (2004) explains the difference between “theoretical possibility” and “factual possibility” and claims that CAN represents the former and MAY represents the latter. He offers the following examples, which I find to be a bit humorous. He asks his audience to compare *This illness can be fatal* to *This illness may be fatal*. He says “the second of these statements is likely to be far more worrying than the first” and that, “if a doctor used the second statement in addressing a patient, the patient would have reason to be pessimistic” (p. 83). I think the idea of “far more worrying” is a bit of a stretch as I know I would be pessimistic either way – with CAN or MAY – if this news was delivered to me, as I don’t believe there is a clear contrast in meaning between these examples.

With regard to my understanding of ‘external possibility’ (*it is possible for*), in my own words, I would explain it as a general acknowledgement that a situation is possible. I would describe ‘epistemic possibility’ (*it is possible that*), as the speaker or writer is stating his/her level of certainty that the situation has actualised, or will actualise, and this certainty is at a level from ‘certain’ to ‘possible’.

“Possible for” and “possible that” paraphrases are also found in Hermerén (1978, p. 111). Hermerén states, “it is also clear that the two epistemic senses Certainty and Possibility [...] express different degrees of likelihood” (p. 94). He describes “POSS1” as “indicat[ing] the speaker’s view of the likelihood of an event occurring or having occurred” and “POSS2” as being “ungraded” and the, “possibility of the occurrence of an event or the existence of a state” (p. 110). Applying POSS1 and POSS2 to my own study, I have interpreted these as POSS1 being equivalent to ‘epistemic possibility’ and POSS2 being equivalent to ‘external possibility’ and under the umbrella of ‘possibility (real-world)’ (see Section 4.6). This was

confirmed in an email exchange with Hermerén where he stated with reference to his own work (Hermerén, 1978):

I would say that POSS (1) is more obviously epistemic than POSS (2) in that POSS (1) relates more directly to the modalities 'above' it [probability, custom presumption, prediction and certainty] in the diagram on p 98 than POSS (2), which is essentially a root modality. That is what I try to indicate by means of the broad arrow as opposed to the thin arrow in that diagram. (Hermerén, L., personal communication, 15 April, 2015)

In his work he goes on to say that “it is possible to maintain that [‘epistemic possibility’] is ‘stronger’ than [‘external possibility’]” (p. 111). The examples he provides are “It is possible that Sonia cuts (will cut) the lawn” (‘epistemic possibility’) and “Sonia can cut the lawn” (‘external possibility’). In the ‘external possibility’ sense, we are informed that it is possible for Sonia to cut the lawn which must mean that there is an “existence of grass and a lawn-mower” (p. 111). Building on that, the “stronger” ‘epistemic possibility’ reading communicates we can now project our certainty and “evaluate the chances of whether the actual cutting of the lawn by Sonia takes (will take) place or not” (p. 111).

As clear as the distinction above is at the moment, as discussed in Section 2.5.2 using Sweetser’s examples of “real-world” and “epistemic” modality, Stubbs (1996) asserts:

...a characteristic of many of the invented data used in pragmatics and speech act theory is that they are grossly simplified. Pragmatics therefore has a tendency to overemphasize the inferences performed by hearers, and to underemphasize the surface indicators of modal meanings which are available to hearers. (p. 201)

This again raises the problems of using invented examples as opposed to real language. Instance (3) below from the BNC shows that it is not always easy to distinguish between the two.

(3) But a number of councillors are now having second thoughts. They have warned that private developers could agree to destroy 'dangerous waste' from throughout Europe and claimed that the council **could** make more than 1m a year if it modernised the Duncrue plant. (BW563) (W_newsp_other_report)

a. *It is possible FOR council to make more than 1m a year if it modernised...*

- b. *It is possible THAT council would make more than 1m a year if it modernised...*

In paraphrase (a) the councillors are stating that the situation is possible, and in paraphrase (b) the councillors are stating that they think that the outcome would be that the council would make more than 1m a year. In this instance it is difficult to distinguish between the two by altering only “it is possible for” and “it is possible that”.

Because of the often found ambiguity between the two readings, Coates (1995) bases her paper on her “impression” that “there is some confusion about the root/epistemic distinction when it is applied to possibility” (p. 56) because the “root and epistemic possibility are only weakly distinguished” (p. 64). Though Coates’ focus is on CAN and MAY, I agree with her and also found the same issue in my own study, particularly with written COULD. Though she resolves some of this ambiguity by application of a matrix, she still cites instances which she believes are so close in meaning that they “merge” and “the reader is not required to choose one or the other” (p. 62). While this may be the case, the idea of the meanings “merging” is misleading as in her previous work (Coates, 1983), and work with Leech (Leech & Coates, 1980), they describe merger as instances which have two meanings, yet those meanings are complementary and “the context fails to exclude one of the two possible meanings” (Coates, 1983, p. 16). This indicates that they do not necessarily merge and become one, but that both are applicable. Perhaps this is why Collins (2009) also does not adopt “merger”; he argues, “it is not necessary to assume that two meanings have merged into one” (p. 100).

Hyland (1996), with a focus on COULD, also shares Coates’ view on this confusion between ‘external possibility’ and ‘epistemic possibility’ and states:

Could expresses both hedging and “root possibility,” which concerns the role of enabling conditions on a proposition rather than the writer’s assessment of its truth. Distinguishing between the conceptually possible and the experientially possible is often problematic and may depend on access to the participant’s knowledge... (p. 262)

Though Hyland helps identify the difficulties in distinguishing between ‘external possibility’ and ‘epistemic possibility’, he does not offer a solution. Hyland’s lack of resolution of this

issue and Coates' use of "merger" helps confirm my conclusion that there is most likely no definitive way to disambiguate the two in certain cases.

Now that I have examined the similar paraphrases associated with these meanings in the literature, I next present 'possible' on a scale of certainty and how it contributes to the confusion between 'epistemic possibility' and 'external possibility'.

2.5.4.2 Position of CAN and COULD on 'certainty' scale

Another aspect to this close relationship between CAN and COULD is where these modal auxiliaries sit on the 'certainty' scale in 'epistemic possibility'. In all instances of the scales I have seen, in order, MUST, WILL, and WOULD start the scale and represent most certain (Celce-Murcia & Larsen-Freeman, 1999; Hermerén, 1978; Kennedy, 2003). From there, OUGHT TO and SHOULD appear, in varying order. And then at the lowest level of certainty discrepancies arise, with some placing CAN and COULD at the lowest point (Kennedy, 2003), and others putting COULD and MIGHT equally lowest (Celce-Murcia & Larsen-Freeman, 1999). Either way, there is general agreement that CAN and COULD are towards the lower end of the scale, which indicates a certainty level of 'possible'. Juxtaposing this with 'possibility (real-world)' meanings, which are at the very core, indicating that something is or is not 'possible', these are very close in meaning. This underlines why there is in some cases an added difficulty when analysing for an 'external possibility' versus 'epistemic possibility' meaning; the very essence of where CAN and COULD are on the scale of certainty lies in the realm of possibility.

To help put this into perspective, comparing CAN and COULD with MUST, when analysing epistemic MUST and the real-world modal meaning for MUST, 'obligation', the difference is much more visible than for CAN and COULD. The difference between an instance of a speaker stating a high level of certainty of something, for example, *I must be dreaming, I thought I saw a unicorn* (BNC, W_fict_drama) versus something that one is obligated to do (or not to do), for example, *you must ask them first* (BNC, S_meeting) is more apparent than with CAN and COULD.

2.6 Indeterminacy

Palmer (1979) found that, in his work, instances that were clear-cut were not the norm. He states:

It has been increasingly apparent in recent years that there are many areas of syntax and semantics where no clear, discrete categorization is possible. This does not invalidate any attempt to categorise; it simply means that the model must recognize that there are often continua with extremes that are clearly distinct, but with considerable indeterminacy in the middle. (pp. 172-173)

Others have had the same findings as Palmer, and accordingly, there have been various ways linguists have handled what I call ‘impreciseness’ of modals which is an important part of any discussion on identifying modal meanings. Leech and Coates (1980) apply three types of “indeterminacy” to their analysis, “gradience”, “ambiguous” and “merger”. “Gradience” can be described as a scale in which instances do not belong definitely to group *a* or *b* but somewhere in between; “ambiguous” is when an utterance can be interpreted in more than one way, but the reader/hearer interprets only one; and “merger” is explained as when an utterance can be interpreted in more than one way. Coates (1983) uses “fuzzy set theory” which is based on Zadeh (1965). Coates explains “fuzzy sets” as “sets with a continuously graded degree of membership” (p. 12). Quirk et al. (1985) use the idea of gradual distinctions, as opposed to absolute, (p. 221) to explain impreciseness within modal auxiliaries. And Facchinetti (2002) uses the category “borderline” (p. 238) for her indeterminate cases. It is also worth mentioning linguists who have not explicitly explained their method for handling indeterminacy, yet do include an “indeterminate” category in their analyses (e.g. Bald, 1990; Collins, 2009). See Section 3.5.2 for a discussion of how I have managed this issue in the present study.

2.7 Monosemy and polysemy

Linguists appear to be split in their views of whether monosemy or polysemy applies to the English modals. Ehrman (1966) found in her corpus analysis for each of her studied modals, a “basic meaning”, and that any other meanings associated with that modal were connected to the “basic meaning”. For example, for *can*, the basic meaning is “there is no obstruction to the action of the lexical verb of which *can* is an auxiliary” with permission and ability being

“closely related” (p. 12). Similarly, Westney (1995) describes *can* as “‘possibility’ or ‘lack of restriction’” (p. 208). Along with Ehrman and Westney, there are others (e.g. Perkins, 1983; Sweetser, 1990) who have taken a monosemic approach.

On the other hand, there are linguists (e.g. Biber et al., 1999; Coates, 1983; Collins, 2009; Hermerén, 1978; Kennedy, 2003; Leech, 2004; Mindt, 1995; Palmer, 2001; Römer, 2004a) that take a polysemic approach. Though Coates’ approach seems to be polysemic and Collins’ declares his polysemic, both discuss the relationship of polysemy involving that of monosemy. Coates affirms that “an adequate description of the meanings of the modals must achieve a synthesis of these two approaches” (p. 10) and Collins affirms “polysemy and monosemy positions are not in practice absolutely mutually exclusive” (p. 24). See Section 4.2.2. for a discussion of the approach taken in the present study.

2.8 Subjectivity and objectivity

Many linguists (e.g. Coates, 1995; Collins, 2009; Lyons, 1977; Palmer, 1990; Perkins, 1983; Traugott, 1989) also include a section on subjectivity and objectivity with regard to the English modal auxiliaries and assign subjectivity and objectivity to meaning categories within modality. In this section I discuss the various conflicting views put forth by linguists on subjective and objective modality.

Traugott (1989) believes that at first non-epistemic modals were used quite objectively, and then when epistemic meanings evolved, they were first used quite weakly, and later more subjectively. Similar to other divisions in modality, the boundaries of ‘subjectivity’ and ‘objectivity’ differ depending on the linguist. For example, Coates (1995) includes ‘root possibility’ (and ‘root obligation’ and ‘root necessity’) in ‘objectivity’ and ‘epistemic’ in ‘subjectivity’ (p. 59). And Palmer (1990), claims that ‘epistemic’ and ‘deontic’ modality are ‘subjective’ and ‘dynamic’ modality is ‘objective’; however, Palmer (1983) noted that ‘epistemic’ modality “can be objective” (p. 208) but credits this to Lyons (1977).

I found Nuyts (2006) to be most helpful when explaining the issues around subjectivity and objectivity in modality. He states that “Most authors use the notions subjective and objective in a quite intuitive way, without formally defining them” (p. 13). Nuyts draws from Lyons (1977, p. 797) to define objective modality as “express[ing] a measurable chance that the state of affairs under consideration is true or not” and subjective modality as “involv[ing] a

purely subjective guess regarding its truth” (p. 13); but he discusses these in connection to ‘epistemic’ modality only. The explanation provided by Nuyts for an example taken from Lyons (1977), is what really helped me understand the distinction between the two. The instance, “Alfred may be unmarried” (Nuyts, 2006, p. 13) can indicate subjective modality in that it is a guess made by the speaker. This differs from an objective reading, “(s)he knows that Alfred belongs to a community of ninety people, of which there are thirty unmarried, hence one chance in three that he is unmarried” (Nuyts, p. 13); this includes a “measureable chance”. Having made this distinction between ‘guess’ (subjective) and ‘measured guess’ (objective), I will show below how others have determined what is subjective and objective in their own work.

Focusing on objective modality first, Coates (1995) and Collins (2009) provide example instances for ‘objective modality’. Coates (1995) uses the following ‘root possibility’ examples: “*I can get a cheap kettle*” and “*you can hear the whistle*”, both of which she says “are statements of fact; subjectivity is not involved” (p. 60). Collins (2009) also claims, “In non-prototypical instances epistemic modality will be a matter of objective conclusion rather than the speaker’s attitude (as in the objective algebraic necessity expressed by *must* in *If $2x = 10$, x must be 5*)” (p. 21). See Section 3.5.3 for my discussion of these instances and their subjectivity as I view them through the lens of the present study.

Contradicting the views above are works from Palmer (1986), Carter and McCarthy (2006) and Høye (1997) who put subjectivity at the centre of modality, and for Carter and McCarthy, this extends to non-modalised utterances. Although his later work, Palmer (1990), contradicts the following statement, Palmer (1986) states, “Modality in language is, then, concerned with subjective characteristics of an utterance, and it could even be further argued that subjectivity is an essential criterion for modality” (p. 16). Carter and McCarthy (2006) describe all three of the following statements as cases where modality is present: “*Charles is at home now*”, “*Charles may be at home now*” and “*Charles should be at home now*”. They claim, “All of these statements, even the simple, neutral statement of fact, can be said to carry modality, in other words the speaker’s point of view” (p. 638). Høye (1997) concludes that the way linguists use ‘objective’ leads to misunderstandings. He redefines it as being “relative” rather than “absolute”, explaining that it “is a process whereby the speaker asserts and highlights a particular modal meaning, possibility, necessity or an intermediate value, but within a modal framework which is fundamentally subjective” (pp. 52-53).

In Section 3.5.3, I discuss how the principle that subjectivity is an aspect of all modal utterances is adopted in the present study.

2.9 Previous studies

For the investigation of CAN, COULD and BE ABLE TO, most studies carried out have been corpus-based. Some research has been undertaken with modal auxiliaries in coursebooks, yet very little has been done in the way of examining these modals in the *New Headway* series and no research to my knowledge has been carried out in the classroom in the same manner as this study. I review previous studies below as they pertain to this present study.

2.9.1 Corpus-based studies

The importance of carrying out a corpus-based study is that it allows for a study of real language examples as opposed to invented examples. Specifically relevant to modal auxiliaries, Coates (1983) says:

It is only corpus analysis that can bring to light the fact that classic examples like *You must be back by 10 o'clock* (Leech 1971:71), *You may go* (Palmer 1974:118), *He can speak English* (Quirk 1972: 97), occur relatively infrequently in actual language (both written and spoken)... (p. 21)

Many linguists (e.g. Ehrman, 1966; Hoyer, 1997) have carried out studies of modal auxiliaries using examples from corpus data, but for my study, I have drawn primarily on those who have carried out corpus-based investigations which not only use example instances from corpus data but also include the frequency of occurrences in their analysis and/or meaning frequencies (Bald, 1990; Biber et al., 1999; Coates, 1983; Collins, 2009; Facchinetti, 2000, 2002; Hermerén, 1978; Kennedy, 2002; Mindt, 1995; Römer, 2004a). These aforementioned studies include an investigation of CAN and COULD, and sometimes BE ABLE TO. I briefly describe each study below, then draw on their meaning categories and frequency data in later chapters.

2.9.1.1 Bald (1990)

Bald examined the London-Lund corpus of spoken English and chose sections of texts which consisted of “conversations between a number of academics, undergraduates, and a secretary” (p. 348). For his analysis, he divided modality into two categories, “epistemic” and “deontic”, examining the modals frequency use in context.

2.9.1.2 Biber, Johansson, Leech, Conrad, and Finegan (1999)

Biber et al. compiled the Longman Spoken and Written English Corpus (LSWE) comprised of 40,025,700 words (p. 25) made up of both American and British English. They do not focus on BE ABLE TO, but do provide overall frequencies per million and meaning frequencies per million for CAN and COULD, and have a focus on how these are used in various registers (conversation, fiction, news, and academic).

2.9.1.3 Coates (1983)

Coates' (1983) work is described by Collins as being “the most detailed and widely referred to corpus-based study of the English modals” (p. 6). Coates uses two corpora in her study. The first is a written component, the Lancaster corpus, which she explains is “now superseded by the Lancaster-Oslo/Bergen (LOB) corpus” (p. 1), which contains 1 million written words. The second, containing both spoken and written materials, is from the corpus of the Survey of English Usage (Survey) which contained 725,000 words when she undertook her research. She analysed all three modals and provides overall frequencies and meaning frequency findings, along with example instances.

2.9.1.4 Collins (2009)

Collins' work includes an analysis of all three modals in the present study and uses the following corpora: *International Corpus of English* (‘ICE-GB’), the Australian component of the *International Corpus of English* (‘ICE-AUS’), and a corpus of American English (‘C-US’). His study is by far the most thorough to date, as he analysed each of his tokens, a total of 46,121 (p. 1). Because the present study has a large focus on British English and uses the

BNC as its main data set, I will only be making comparisons to Collins' ICE-GB corpus analysis. Collins provides overall frequencies, detailed meaning percentages, figures for spoken and written registers, as well as example instances.

2.9.1.5 Facchinetti (2000, 2002)

In her 2000 study, Facchinetti performed an investigation centred around *be able to* using the LOB (*Lancaster-Oslo/Bergen* corpus), Freiburg-LOB corpus (FLOB) and BNC (samples from imaginative prose categories). In her 2002 study, focusing on *can* and *could*, she analysed the ICE-GB, as Collins (2009) did. While her frequency investigation is subdivided into very specific genres (e.g. direct conversations, telephone calls), she examines the meanings of these modal auxiliaries using a sample of 10% of the corpus. For this, she uses “semantic values” (p. 239) that I can use for comparison to my own study.

2.9.1.6 Hermerén (1978)

Hermerén uses the Brown University Corpus of American English for his investigation, which includes CAN and COULD. His study focuses on five subcategories from the corpus: sports, cultural, letters to the editor, religion and novels. His total corpus is 70,000 words and he analyses 978 modal forms (p. 57). Though Hermerén's focus was on American English and therefore cannot be directly compared to my own study of British English, major contributions that his study has made to mine are his use of paraphrases to convey meanings and his views on context, which I discuss in Sections 4.3.1 and 4.2.3 respectively.

2.9.1.7 Kennedy (2003)

Kennedy (2003) includes a section in his *Structure and Meaning in English: A Guide for Teachers* on the modal auxiliaries in which he bases his observations on Coates' 1983 findings. He creates a table on the “Use of modal auxiliaries in the London-Lund (spoken) and LOB (written) corpora based on Coates (1983) (percentages)” (p. 188). However, it should be noted that though Kennedy describes the London-Lund as a spoken corpus, it actually includes written texts as well.

2.9.1.8 Mindt (1994)

Mindt uses a corpus-based approach as well, drawing from fictional texts in British English. Though limited in genre, Mindt targets his findings towards “learners and teachers of English” (p. 7). With the English language learners at the heart of this thesis, I believe it is relevant to discuss his findings for comparison to my own.

2.9.1.9 Römer (2004a)

Römer examines all modal auxiliaries, including CAN and COULD, in the British National Corpus, spoken portion, and compares her findings to the language used in a German coursebook series. Because her analysis includes only the spoken part of the BNC, I am careful in my comparisons to only compare the spoken portion of my own data from the BNC.

2.9.2 Classroom studies

The only study I am aware of that focuses on modal auxiliaries in the classroom was performed by Bose (2005). She went into classroom to investigate modal auxiliaries but through surveys of the students and instructors, not through observation. Her findings do not relate to my study as not only was her methodology different but also she was examining the social and rural aspect of the way modal auxiliaries are used, and specifically in India.

2.9.3 Coursebook studies

Previous researchers have gained pedagogical insights from using this method of comparing learner coursebooks to general language corpora (Barnard & Scampton, 2006; Durán, Alonso, & Sánchez, 2007; Hyland, 1994; Klages & Römer, 2002; Mukundan & Khojasteh, 2011; Römer, 2004a, 2004b; Vine, 2013; Vine & Warren, 2012). Related to modality in coursebooks, Hyland (1994) asserts, “interest in modality in the research literature is not widely reflected in the pedagogic materials” (p. 246).

Mukundan and Khojasteh (2011), Römer (2004a, 2004b) and Klages and Römer (2002) undertook studies comparing learner coursebooks and general English corpora using central

modals. Mukundan and Khojasteh performed their study using Malaysian English coursebooks with comparisons to the spoken and written sections of the BNC. Klages and Römer (2002) and Römer (2004a, 2004b) used a German English coursebook series and compared it to the spoken part of the British National Corpus. All four studies found that there were differences between central modal frequencies found in learner coursebooks compared to English language corpora. Römer (2004a) calls attention to the significance of these findings:

Frequencies can be very important as they show us which words or structures are central in a language. Thus they can help with decisions about what to include in teaching materials and what not. On the basis of frequency data it is possible to see which modals are the most important ones... (p. 186)

As demonstrated in her study, Römer is not only concerned with the overall frequency of the grammatical items, but also their meanings and co-occurrences, which is paramount in researching the modal auxiliaries because each has multiple meanings.

Holmes (1988) analysed ESL coursebooks and focused mainly on epistemic modal auxiliaries. Comparing frequencies, she examined four different English learner coursebooks (two reference and two coursebooks) and three different corpora (one written from Holmes, one spoken from Holmes and one written from Hermerén (1978)), (see Holmes (1988) for further details of corpora used in her study). Overall she found that there was a discrepancy between native speaker use and coursebook presentation.

Though Barnard and Scampton (2006) do not provide comparisons to general English corpora, they do investigate modality in the *New Headway* series. They approached their study by using the contents list as an indicator of the presence and explicit mention of modality and then performed a focused analysis of specific units in the *Upper Intermediate* level (Soars & Soars, 2005a, 2005b), and included the student and teacher book. Within the overall series they found that though not explicitly referenced in the contents lists, modality was used in “several of the example sentences of many units” (p. 10) and from their findings concluded with a list of questions for teachers to guide them when choosing a coursebook to teach modality. Furthermore, they are in agreement with Römer (2004a) that frequency should play a part in coursebook material design.

2.10 Summary of chapter

This chapter began with an explanation of modality, followed by discussion of the characteristics of modal auxiliaries. Next, a discussion on ‘possibility (real-world)’ and ‘epistemic possibility’ was provided. Though these two categories are recognised by the majority of linguists, I stressed that these categories are also difficult to distinguish when it comes to CAN and COULD since their ‘possibility (real-world)’ sense lies in the realm of ‘possibility’ as does ‘epistemic possibility’. I then discussed specific issues that contribute to my position on indeterminacy, monosemy and polysemy, and objectivity and subjectivity, the most salient issues being indeterminacy and objectivity and subjectivity; I elaborate how I approach these in Section 3.5.2 and Section 4.2.3 respectively. I concluded with descriptions of previous corpus-based studies, classroom-based studies and coursebook studies, as along with previous literature, these are the main avenues I use to explore CAN, COULD and BE ABLE TO. In the next chapter I discuss the methodology used to investigate the modal auxiliaries in this study.

Chapter 3: Research design and methodology

Chapter 3 begins with a review of my research questions and then discusses the phases in my research, the data sources I explored and how they worked together to inform my findings. I have also included a description of the linguistic software which facilitated my investigation and the statistical analysis tools which supported my frequency findings. I conclude with three special considerations - context, prototype theory and accountability - which have significant application to my methodology.

3.1 Research questions

As previously stated in Section 1.4, my research questions are as follows:

1. What are the categories of meaning associated with the central modal auxiliaries CAN and COULD and quasi-modal BE ABLE TO?
2. What are the overall frequencies of occurrence of my selected modals in the following sources?
 - a. a general English corpus of spoken and written texts
 - b. a data set of spoken and written English used by students and their instructor in an English language classroom
 - c. an English as a second language coursebook series
3. What are the meaning frequencies of my selected modal auxiliaries in each of the above?

3.2 Research design

This study took place in three phases. For the first phase, in order to address my first research question, I used the literature to develop preliminary categories of meaning. In the second phase, still pertaining to the first research question, I utilised the BNC to adjust these meaning categories. In the third phase, I determined overall frequencies and meaning frequencies for the three main data sets, which concerns my second and third research questions. This is a simplified explanation of the phases, as the development of the meaning categories, along with my analysis of meanings within the BNC, was quite iterative, at first

heavily reliant on the literature for guidance, and later heavily reliant on the modal auxiliaries in use and in context for confirming meaning categories.

This study is both quantitative and qualitative in nature. As Hoffmann, Evert, Smith, Lee, and Prytz (2008) discuss in their work, corpus linguists “typically rely on both quantitative and qualitative techniques” (p. 18), with frequency counts being the quantitative part and the examination of the studied linguistic feature in context being the qualitative part. This study examines both the overall frequencies of the studied modal auxiliaries, and most importantly, their meaning frequencies. Obtaining meaning frequencies required careful examination of the uses of the modal auxiliaries in their surrounding contexts; the importance of the context during analysis is discussed in Section 3.5.1 below. Examining both overall frequencies and meaning frequencies in the three main data sources in this study allowed me to make comparisons between the different sources, which led to insights about the studied modal auxiliaries.

3.3 Data sources in this study

This study is corpus-based and relies on three types of data: (a) the British National Corpus; (b) classroom observations; and (c) *New Headway*, an English as a second language coursebook series. Using a corpus-based approach allowed me to examine how native and native-like English speakers use the modal auxiliaries CAN, COULD and BE ABLE TO. I was able to determine overall frequency use for my studied modal auxiliaries and take a closer look by examining their meanings and determining meaning frequencies. The comparisons made in this study are made between the classroom data and the BNC, and the coursebook data and the BNC; comparisons are not made between the classroom data and coursebook data. The coursebook examined is not used by the learners in the classroom; therefore, for the purpose of this study, I found a stronger connection is a comparison of each data set, classroom and coursebook, to the BNC, or native and native-like speakers of English.

Previous corpus-based studies on central and quasi-modals (Biber et al., 1999; Carter & McCarthy, 2006; Coates, 1983; Collins, 2009; Huddleston & Pullum, 2002; Kennedy, 2002; Klages & Römer, 2002; Krug, 2000; Mukundan & Khojasteh, 2011; Nokkonen, 2006; Römer, 2004a, 2004b) have been valuable resources for my own corpus work. All have

contributions which I have emulated (e.g. comparing general corpora to coursebooks (Klages & Römer, 2002; Mukundan & Khojasteh, 2011; Römer, 2004a, 2004b)) and contributions which I have not, which are primarily related to meaning category differences (see Chapter 4) and reported context, which is discussed in Section 3.6.2.

According to Biber and Finegan (1991), “computerized corpora of English and other languages have greatly extended the domain of linguistic inquiry” (p. 219). Stubbs (1996) suggests that a corpus is necessary for this kind of research (p. 197) and Biber, Conrad, and Reppen (1998) call attention to “language use” in their book and explain, “from this perspective, we can investigate how speakers and writers exploit the resources of their language. Rather than looking at what is theoretically possible in a language, we study the actual language used in naturally occurring texts” (p. 1). “Exploit” is particularly appropriate in my study as I demonstrate how speakers and writers of English can use modal auxiliaries to their advantage (see Section 4.10). Specific to modal auxiliaries, Hyland and Milton (1997) affirm, “Meanings do not reside in the items themselves, but are assigned to utterances which contain them. Determining how an item is used therefore requires a pragmatic interpretation of actual instances of use” (p. 185). Studying each of these modal auxiliaries with a corpus-based approach allowed insight that would have been otherwise impossible.

3.3.1 The British National Corpus

There were several reasons for choosing to use the British National Corpus as my resource for general English. One was that my classroom study (see Section 3.3.3) took place within New Zealand, and New Zealand English is more closely related to British English than to American English (see Section 10.2.1.3 for notes regarding the *New Zealand Component of the International Corpus of English*). Also, the integrity of the BNC was a strong factor as it has been referred to as a “finite, balanced, sampled corpus” (Leech, Rayson, & Wilson, 2001, p. 1) and “exceptional in that it is fairly ‘balanced’ yet very large” (Biber et al., 1999, p. 27). With regard to the spoken component of the BNC, Burnard (2007) explains, “As with the written part of the corpus, the most important considerations in constructing the spoken part were sampling and representativeness” (Design of the spoken component). This sampling and representativeness for the BNC can be seen in the selection of participants, keeping in mind age, gender and social group, and also from selecting written texts based on bestsellers and library lending statistics.

3.3.1.1 BNC data

The BNC is often described as a 100 million word corpus (e.g. Davies, 2004; Hoffmann et al., 2008). However, for data calculations, I used the figure 96,263,399 for the total word count in the BNC, which comes from written correspondence with Mark Davies (personal communication, 6 September, 2013) and was later included on the BYU-BNC site; however, I recognise that Hoffmann et al. (2008) use 98,313,429 (p. 50). Table 3 below offers a breakdown of tokens per category, which comes from the aforementioned correspondence with Davies. The BNC is roughly broken up into 90,000 written words and 10,000 spoken. According to Hoffmann et al. (2008), “the bulk of the texts are from 1974-1993, with a small number of samples of fiction going back as far as 1960” (p. 29).

Table 3: BNC number of tokens per section

Section	Number of Tokens
Spoken	9,963,663
Fiction	15,909,312
Magazine	7,261,990
Newspaper	10,466,422
Non-Academic	16,495,185
Academic	15,331,668
Miscellaneous	20,835,159
Total	96,263,399

The BNC offers an insight into the language used by native and native-like speakers of English. The phrase “native and native-like speakers of English” is one that I use to describe the participants of the BNC as I feel using the term “native” alone is not representative of the participant speakers and writers involved. Interestingly, the BNC does not include the term “native” (to confirm or deny) within their Reference Guides (Burnard, 2000, 2007). However, in the 2000 version, as described in the section titled “the person element”, a code “flang” is included and described as “specifies the first language or mother tongue of the participant”, while in the 2007 version, as described in the same section, a code “firstLang” is included and described as “specifies the country of origin of the participant, as identified by the respondent”. This information confirms that not all participants in the BNC are native speakers of English, yet I think it is fair to assume that the non-native speakers hold a native-like proficiency; this is the reason why I describe the participants in the BNC as “native and native-like speakers of English”.

By having access to such a vast corpus of spoken and written English, an investigation of the BNC helped me to identify first the meanings associated with CAN, COULD and BE ABLE TO, then frequencies of occurrence and meaning frequencies as used by native and native-like speakers of English.

3.3.1.2 BNC data collection

I used the server from Brigham Young University (Davies, 2004) to collect my data from the British National Corpus. For overall frequency counts, I drew from the entire BNC, and for meaning frequencies, I selected 100 instances of each modal auxiliary form for analysis. The steps I followed are detailed below.

First, I searched for my selected modals in BYU-BNC without any tags. This helped me to capture all forms and avoid the issue that Hoffmann et al. (2008) report of not knowing what has not been captured in a search (p. 79). By capturing all instances of my chosen modal auxiliaries, I hope to have eliminated this issue and also any tagging errors that may exist. The result of this search left all available instances of the selected modal auxiliaries for me to analyse. The exact searches I did for CAN, COULD and BE ABLE TO are shown in Table 4.

Table 4: Searched modal auxiliary forms in the BNC

Modal to Investigate	Exact search	Search results include forms
<i>can</i>	can	<i>can, cannot, can not</i>
<i>can't</i>	ca n't	<i>can't</i>
<i>could</i>	could	<i>could, couldn't, could not</i>
<i>be able to</i>	able to	<i>be able to, not be able to</i>
<i>be unable to</i>	unable to	<i>be unable to</i>

Each search was performed in spoken and written contexts, yielding a data set of 1,000 instances total from the BNC. Using the yielded results for each individual search, I used the “find sample” function within the BNC to take a random sample of 200 instances from each modal form’s results, with the intention of using 100 instances for analysis and having the rest as ‘spare’ to replace any instances which were non-modal and avoid retrieving duplicate instances. In any case where there were less than 200 instances, I took all the available instances. From these 200 (or less) instances of each modal, I expanded the context so that

instead of viewing 30 words of context, the default given by the BYU-BNC, I was able to view around 100 words (see Section 3.5.1 below for an elaboration on the role of context). I then copied all of the instances for each modal into Word 2013.

Next, I ensured that each instance was a clear example of a central or quasi-modal form. The criteria I used for *can* and *could* were to include either *can* or *could* + lexical verb (e.g. *can take*) and for *BE able to*, form of *BE* + *able to* + lexical verb (e.g. *be able to take*). In instances which were non-modal (e.g. *can* as a noun form) or where there was no clear modal (e.g. *could ru-*), I did not analyse these instances for meaning and ‘eliminated’ them by using strikethrough text.

The instances below are representative of those that I did not use in my meaning analysis.

(4) I mean you could sa--, cut an artery or (pause) anything couldn't you? (S_conv)

(5) A spokesman said: 'She was obviously deeply upset but still felt able to continue with her duties the following day.' (W_newsp_other_report)

In (4), a false start is present; one could assume that the speaker was going to say ‘you could say’; however, the false start makes it impossible to know unequivocally what the speaker intended. Therefore, this instance and all instances that contain false starts, or are incomplete for whatever reason, were labelled as such and not included in my meaning analysis.

However, these types of instances were included in my overall frequency counts. Instance (5) was not analysed as there is no form of *BE* before “able to”; it and similar instances were not included in my data set or the overall frequency count, as they are clearly non-modal. Once I identified those instances which should not be part of my data set, starting with the 101st instance retrieved from the original 200 instances, those that did fit my criteria were substituted in. I did this until I had 100 instances for analysis.

With these 100 instances, I added a unique identifying code to each. For example, “BW524”. “BW” represents BNC written, and the number “524” is part of my own established sequential series. In reporting my instances, I also include, for example “W_fict_prose” as an assigned section as per BYU-BNC. I chose to include each section as these sources can serve as contextual clues when analysing meanings.

Next, I tagged each selected instance of the modal. For example:

(6) " Oh, you think you should wish luck to people who merely feed lines, do you?

People whose job <Lcould>could be equally well -- and probably better -- done by a tape recorder." (BW524) (W_fict_prose)

In the instance above, "<Lcould>could" represents the tagged instance, with L used to help tagged instances stand out (see Appendix 1).

Figure 2 below is a snapshot of my Word file with identifying codes for COULD from the written component of the BNC. As you can see, the first column represents the source (e.g. "BW" = BNC written) and the numbered (e.g. 524) instance. The second column represents a code generated by BYU-BNC. In the example below, they all start with BNC, which applies to all of the instances in the BNC. In the same column, immediately after that, in the first example below, the "H92" is not a unique code; therefore, I have not included this in the description of instances from the BNC, and instead rely on the unique identifier I have assigned. However, I do include the second part of the code, again, in the first instance below, "W_fict_prose". As explained above, this can provide contextual clues when analysing meaning. In the aforementioned example, the instance is taken from fictional prose. The third column contains the actual instance, including about 100 words of context.

BW524	BNC:H92 W_fict_prose	have been making all of the usual understudy agonies even worse. Charles wanted to say something to help, but all he could think of was 'Break a leg.' Oh, you think you should wish luck to people who merely feed lines, do you? People whose job <u><Lcould>could</u> be equally well -- and probably better -- done by a tape recorder." We all need luck,' said Charles gently. Alex laughed.' Yes, we do, do n't we?' Then he started trembling. His whole body shook uncontrollably. His teeth chattered and
BW525	BNC:AR0 W_non_ac_soc_science	stations where simple functionalism reflected a predominantly 'native' passenger business. A covered platform to keep off the worst excesses of the monsoon rain, a ticket office, and a large, bare waiting-room or shed with a stand-pipe outside were all that were provided. By contrast, those places which <u><Lcould>could</u> be expected to have a predominantly European clientele, particularly at the hill stations, a sort of English country style was adopted to create the right atmosphere for a cool refreshing visit to the hills. Such was the case at Simla, Darjeeling, Solan, Coonoor, and Ootacamund. They were
BW526	BNC:AA9 W_news_p_brdsh_t_nat_ar ts	. He professed to be unnerved by Wordsworth's towering self-esteem, which he judged a form of dementia because Wordsworth himself considered that nobody else was elevated enough to measure it. This sounds like a satirical whim ahead of its time, and certainly well beneath its victim's cloud-capped head. He <u><Lcould>could</u> be Proustian: 'It is better to desire than to enjoy -- to lovethan be loved.' Yet although Haydon mocked his 'passionate timidity' there was plenty of action in the amatory field -- no ambiguity there, even if his style fell short ofByronic. Hazlitt confesses a preference
BW527	BNC:ADG W_non_ac_soc_science	Since then, whenever I have any worries, I've focused on my weight. I know that's the only thing in my life that I can change and attack. Like -- I know these girls who sleep with their boyfriends to get taken out, and I know that my body <u><Lcould>could</u> be a kind of power as well, I could get what I want withit. All the time I'm either bingeing (in secret) or doing loads of exercise; I really feel desperate to lose weight because I'm going to be a bridesmaid soon, and I do n't

Figure 2: Tagged data file in Word

These files with the tagged instances were then converted into a .txt file and uploaded into the linguistic software package, WordSmith Tools 6.0 (Scott, 2015). I used the tool “Concord” to search for my selected modal auxiliary to create a concordance. “Concord” is a tool within WordSmith Tools 6.0 that shows all instances of the searched lexical item/s; this is where the tagging system was necessary as only those instances that were tagged were part of the concordance results. Once I identified the meaning for each modal instance, I used the function “set” to label these categories. These instances below have been coded as “A-P” (ability-prototypical); “C” (commissive) and “D-R” (directive-request). See Appendix 2 for the full coding system. Figure 3 is a screen shot of this file for spoken *can*.

N	Concordance	Set
1	it's one of those words where (pause) ki-- a kid ham-- (pause) anybody, any person (pause) can (pause) er, realise that something needs doing and do it without (pause) being told to do it. Er	A-P
2	the house. (SP:PS228) And left it to the butler? (SP:PS229) Mm. He'd been with him years. I can remember (SP:PS228) Yeah. (SP:PS229) re-- (pause) I can go back years when I went there.	A-P
3	gone through it so I do n't think it would work. (SP:PS427) All right let him do it. All right all right I can take cr-- I can take criticism. I won't get (crying) upset. (SP:JAAPSUNK)(laugh) (SP:PS427)	A-P
4	okay? (SP:PS0V4) Hello, yeah. (SP:PS0V6) We'll drop her back. (SP:PS0V4) Well we can, we can (SP:PS0V6) Unless you want her earlier, (SP:PS0V4) pick her up about seven. (SP:PS0V6)	C
5	a (pause) pint of lime and lemon (pause) with some i-- lots of ice? (SP:PS043) Yeah, course I can (SP:PS03W) Cheers, thanks. (SP:PS042) Aye, we were gon na go infor a Sunday dinner	C
6	doing very well although its more up market brands were slightly more sluggish. (SP:PS303) Er, can the future Chairman answer that? (SP:HYFPSUNK) I haven't got the detailed figures er, er,	D-R
7	If I were you I'd put the earphones in. (SP:PS3R9) Yes. (SP:PS3R8) If you put the earphones in can we just test first of all what's working? (SP:PS3R7) Yeah (SP:PS3R9) That's right. (SP:PS3R8)	D-R
8) So er (pause) what's for tea mum? (SP:PS1BM) Well er (SP:PS1BL) (laugh) (pause) (laughing) can I have a bit more? (SP:PS1BM) Wait a minute! I'm getting the thick stuff out of the bottle. (SP:	D-R
9	with that. (pause) Pound, five ounces, do you want a wee bit more? (SP:PS08Y) Er, erm (pause) can I see it? (SP:PS093) You can have a little bit more, here are. (SP:PS08Y) I think that's	D-R
10) Stubs in signal. It's not a trace, that those co- ordinates it's (SP:KD5PSUNK) Bib bib Sorry, can I just interrupt? Mark darling, have you Barbara's address in Felixstowe? (SP:PS0JX)	D-R

Figure 3: Excerpt example "concord" file for spoken *can*

I repeated this process for each form of my studied modal auxiliaries, in spoken and written contexts, creating a concordance file for each in WordSmith Tools 6.0. Within each modal auxiliary file, once meanings were identified, I used the total number for each meaning category to represent the count and/or percentage, though I recognise that given the sample size, the results may not be representative of the whole BNC. Because these come from a sample of 100, I marked them with a superscript “s”. All sample data sets in this thesis are marked accordingly, for example, ‘spoken BNC^s’.

3.3.2 Calculating overall frequencies within the BNC

In order to present accurate frequencies of occurrence from the BNC, certain considerations needed to be made. As discussed above, lexical items which were non-modal (e.g. *can* as a noun) were not counted towards overall frequency counts. However, instances that were most likely modal, yet unclear what the modal was, for example, false starts, were counted.

For my calculations, I calculated the error margin by examining the first 100 instances randomly retrieved and counting how many instances were non-modal. This affected

instances of written *can*, spoken and written *BE able to* and spoken and written *BE unable to*. For example, when reviewing the first 100 instances of ‘can’ from the written part of the BNC, two out of 100 were non-modal. I applied this 2% error margin to the overall frequency count, which was 192,632 tokens. Taking this total, less 2%, yielded an overall frequency count for modal auxiliary *can* of 188,779 tokens. Therefore, the frequency for modal auxiliary *can* (written) I report and use in my study is 188,779. I discuss my calculations for BE ABLE TO in Section 7.3.

The BNC played a large role in this study. It served as a strong base for how native and native-like speakers of English use CAN, COULD and BE ABLE TO. In the next section I explain how I collected data from an English language learner classroom.

3.3.3 Classroom data

Studying a grammatical item in a general English corpora, such as the BNC, can lead to insights that are useful for pedagogical purposes, yet such a study does not address directly what is taking place in the classroom. Moving my own research into a classroom proved beneficial as it allowed me to observe a “real life entity that operates in a specific time and place” (van Lier, 2005, p. 205) and also offered an opportunity to examine the range of English language that learners use and are exposed to, specifically focusing on CAN, COULD and BE ABLE TO.

3.3.3.1 Classroom data collection

I collected data from an English Proficiency Program (EPP) classroom at a New Zealand University. The students were in the highest level of the program and the majority of the students moved onto university studies at the conclusion of the course. There were 15 students in the class with a variety of nationalities present (Papua New Guinea, Myanmar, China, Iran, Japan and Brazil).

I observed a total of eight class sessions during a twelve week course. My observation schedule excluded the first two weeks of the trimester while the students were becoming familiar with their classroom environment, and also the last two weeks of the trimester when the students were preparing for and taking exams. Each observation was held on a different

day of the week, on rotation. I wanted to observe different days to ensure the data I was collecting included varying samples (e.g. avoid collecting data every vocabulary review day) and also to account for the fluctuating behaviour of the class (e.g. Mondays may start out slow as it is the beginning of the week compared to Friday when students may start to unwind intellectually in preparation for the weekend, or due to exhaustion). With regard to this rotation, for example, my first observation took place on a Friday, my second on a Monday, and so on. There was one day of the week which I did not include in my observation schedule, as the class was taught by a different instructor on that day.

I collected audio, video and written materials. Audio recorders were placed on student tables where students sat in groups of three to four and these recorders were moved among different groups and pairs throughout the collection process. The instructor wore an audio recorder around her neck and also a video recorder was placed at the back of the room, so as not to be intrusive to the students. The video data was for me to be able to better keep track of what was happening in the classroom and help me identify who was speaking on the audio recordings. I also collected all materials produced or distributed by the instructor during my observation times, along with written work from the students. The material provided by the instructor included checklists, tests, writing assignment instructions, group project instructions, speaking tasks, guest lecture abstracts and an excerpt from an academic article. The students' written work included an argument essay, in which students themselves determined the topic of their argument, and a graph essay comparing New Zealand's population in 1991 and 2006.

3.3.3.2 Classroom data transcription

Recorded data was transcribed using Express Scribe (*Express Scribe*, 2014) and entered into WordSmith Tools 6.0, along with the learners' written work and instructor's materials. This provided me with a data set to analyse overall and meaning frequencies for the selected modal auxiliaries in this study.

The information from the BNC User Reference Guide (Burnard, 2007) on how the BNC was set up was particularly useful when setting up my own data set as I tried to emulate the BNC as much as possible. These details may seem small, but when it comes to frequency counts, they can make quite a difference. Therefore, I took into account processes such as the BNC

separating contracted forms; examples relevant to my work are *can't*, *cannot* and *couldn't*. Following the BNC, I divided these lexical items into two parts, respectively, “ca n’t”, “can not” “could n’t”; therefore, each is counted as two words, or tokens, which is in line with the BNC. These examples are only a small set of lexical items that fall into this category (e.g. *don't*, *hadn't*, *won't*).

I was not able to follow the BNC in setting up a defined equal representation of data sources. Because my data set is only from a limited period of time in one classroom, it does not have equal variety of data sources, for example, an equal amount of tokens from students’ dialogue, instructor’s dialogue, student essays, and instructor handouts. However, in an effort to create balance in my spoken data set, I transcribed a variety of speaking scenarios such as pair work, group work, student presentations, and one-on-one dialogue between student and instructor. For written work, I collected all written work that was part of my observation classes, plus all student first draft essays. I collected and transcribed as much data as possible to provide a snapshot of the studied modal auxiliaries in this classroom. According to Biber (1993), “frequency counts for common linguistic features are relatively stable across 1,000 word samples” (p. 249). I believe my frequency findings are stable, as I illustrate in Section 3.3.3.3 below; the combined token count for spoken and written texts was just over 68,000.

Nesselhauf (2004) affirms that the best way to identify language learners’ areas of difficulties “is to analyse the language produced by a certain group of learners and compare it with the language produced by native speakers” (p. 126); or as I would say “native speakers and native-like speakers” as discussed previously (see Section 3.3.1.1). Applying this quote to the English language classroom in this study, I was able to compare students’ and the instructor’s overall and meaning frequencies of my selected modal auxiliaries to the BNC.

3.3.3.3 Calculating overall and meaning frequencies

For calculating overall frequencies, I used the ‘statistics’ tab in the “WordList” tool in WordSmith Tools 6.0 to calculate the total number of tokens in my data set. My classroom data set contains 68,265 tokens, broken down as follows below:

Total Spoken Classroom Tokens (running words in text) – 36,441

Student Tokens – 19,029

Instructor Tokens – 17,412

Total Written Classroom Tokens (running words in text) – 31,824

Student Tokens – 19,954

Instructor Tokens – 11,870

Once I obtained these overall token counts, I moved to Excel to calculate normalised frequencies per 10,000 words (see Section 3.4.1).

For calculating meaning frequencies from the classroom data, where more than 100 instances were available, I used the “Concord” tool in Wordsmith Tools 6.0 to randomly reduce the number of instances to 100, using the “reduce to N” function. I then analysed each instance’s meaning and categorised it using the “set” column (see Section 3.3.1.2). Where there were fewer than 100 instances, I analysed all of the instances.

An investigation of the classroom helped identify frequencies of occurrences and meaning frequencies for these selected modal auxiliaries as used by the learners and instructor.

3.3.3.4 Ethical considerations

The classroom portion of my study involved human participants; therefore, ethical approval from Victoria University of Wellington was required. Furthermore, the presence of recording equipment and myself as an observer in the classroom required careful consideration as it was imperative that the students’ learning and instructor’s teaching was not impacted as a result of my classroom data collection.

Prior to starting my classroom data collection, my study was approved by Victoria University of Wellington’s Human Ethics Committee (Appendix 7). Notice of this approval was included in the “Information for Student Participants” form (Appendix 3) and “Information for Instructor Participant” form (Appendix 4). Once approved, I worked with the EPP coordinator to find a class to observe.

An instructor, Alison (pseudonym), of a classroom containing students with a high proficiency level volunteered her classroom to be involved in my research. I met with her to review the “Information for Instructor Participant” form which gave her an opportunity to raise questions or concerns. She had none and signed the “Instructor Consent to Participate” form (Appendix 6). Next we discussed the “Information for Student Participants” form and the “Student Consent to Participate” form (Appendix 5), which I would be asking student participants to sign. Both forms were written in English, at the students’ English proficiency level. Alison offered to discuss my research with her students first and distribute the “Information for Student Participants” forms. This gave the students time to review the form and direct questions to Alison, as they would most likely be comfortable with her, having already met for several classes.

Regarding the Information and Consent forms, even though I knew in advance my research focus would be CAN, COULD and BE ABLE TO, I did not indicate this, and instead titled my study “A Study of English Grammar Use in the Classroom”. I used a vague title in an effort to avoid the students and instructor paying specific attention to their use of these modal auxiliaries and to avoid prompting the instructor making explicit mention of, or creating lessons around, these modal auxiliaries.

The day after Alison discussed my research project with the students, I went into the classroom to introduce myself and discuss my research further. I also briefly reviewed the form, which was the second time the students reviewed it aloud. I highlighted that the information I found in the classroom would be part of my PhD thesis, which upon completion would be included in Victoria University of Wellington’s Library, and my findings would also potentially be presented at academic conferences or in journals. I explained that their identities, along with the instructor’s, would be hidden by pseudonyms. Furthermore, I pointed out that if the students were interested in a summary of findings, they could include their email address for me to send a summary to when I finished my thesis; nine students (out of 15) included their email addresses. I then answered questions and discussed issues the students had. One student asked if there would be any additional written assignments requested by me which are outside the scope of their regular coursework, to which I explained that I would only be collecting written work that was currently part of the course.

This took place on a Friday and I offered for the students to take the weekend to think about whether or not they were willing to participate in my research, yet they voluntarily signed the

forms and gave them to me immediately. Though I had previously discussed their right to withdraw from the study without stating a reason by 31 March, 2015, at this point, when they started returning their signed forms, I again reminded them that they could withdraw from the study; they had about a week and a half until the withdraw date.

Any student withdrawing would have had a significant impact on my research because I would not have been able to avoid audio or video recording select students. I would have had to stop my data collection process and begin again. Due to this possibility, an alternate plan was in place for me to start the process over with another class, as another instructor had voluntarily offered his/her class as well, which was also at the same level I was interested in investigating. Had we gone through the same process with his/her class and found that not all students were willing to participate, I would have had to postpone my in-class study until the next trimester, and start again. Luckily, these alternate plans were not necessary as no student expressed interest in withdrawing from the study.

Along with attaining a classroom to be part of my study, there were other ethical implications that affected the process of collecting data, with regard to the presence of audio and video equipment, along with my own attendance, in the classroom. Though I was present in the room to observe and take field notes, I did not intervene. I only observed and collected audio/video/notes of what was happening in the course of normal activity in class. In an effort to minimise any distraction for the students, I arrived in class early to set up my equipment before the students arrived. I sat in the back corner as to not be in their direct view, and checked all audio recorders prior to starting. As my data collection progressed, I found there were times when there was a need to move audio recorders around to capture certain situations such as pair work. For example, when a table of four students broke up into pairs of two, it was impossible for me to capture both or either conversation; therefore, with the instructor's permission, I discretely walked around and repositioned the recorders, in order to capture at least one of the pair interactions.

It was not only the students I needed to be mindful of but the instructor as well. The instructor wore a lanyard around her neck with the recorder attached during teaching times, and also had a view of the video recorder and me. Some instructors may have taken these as a constant reminder that they were being recorded; however, the instructor in this classroom presented herself as if no equipment, or observer, was present. Early on in my data collection the instructor revealed that she barely noticed my equipment and my presence, which made it

possible for her to focus on her instruction. I interpreted this to mean my data collection procedures were appropriate.

Though I avoided intervening in the classroom happenings, in some instances, it was not avoidable. For example, on one occasion Alison asked me my opinion on a grammar point and sometimes during breaks the students would include me in their conversations. The instructor and students were extremely open and invited responses back, which I provided. One amusing dialogue between students that I came across when transcribing a break session is below. In a discussion around the purpose of the format of a listening test, the students said:

[S]: Who's going to be writing like this? How can you learn if you're writing like this
and oh my god

[A]: And then you write very fast, maybe you take mistake about

[J]: The chances of getting mistake is high

[A]: Yea, about the dictation of that

[J]: But like, they should have carried some study and see whether it's effective or not
because I don't think it's effective

[S]: No yea, I agree. It's not effective

[A]: Okay, your voice is recorded and later maybe Lauren can...

[J]: But that's good, at least we're saying something so we can be heard

[S]: Yes, Lauren, please do some research on this area. It's horrible test

This is a clear example of the students' awareness of the audio equipment on the table. It would be impossible to perform ethical research and not have participants aware of the research taking place. However, I did my best to keep the classroom as close to a natural learning environment as I could.

For the in-class portion of my research, I followed ethical guidelines as set out by Victoria University of Wellington and feel that I minimized my presence in the classroom when collecting my data as much as possible. If anything, I would hope that the familiarity that

developed between the students and me helped them to feel more comfortable and natural in their classroom setting. On the last day of collection, when I was saying goodbye and thank you to the class, the instructor took a moment to return a thank you to me and said that it was due to my good practice in the classroom that she felt the class had not been disrupted by my research, to which the students agreed and applauded. I was fortunate to have such a supportive classroom as part of my research.

3.3.4 *New Headway* coursebook series

Examining English as a second language coursebooks allowed for another avenue in which to investigate the language that learners are exposed to. Römer (2004b) posits, “next to analysing the language produced by learners and the language produced by more competent speakers of English it will also be helpful to look at the input pupils actually get in their English lessons” (p. 151). I used the student coursebooks from the series *New Headway* (Soars & Soars, 2002, 2003a, 2003b, 2005a, Soars, Soars, & Wheeldon, 2000, 2007) to explore how my studied modal auxiliaries are represented in English as a second language coursebooks.

According to Barnard and Scampton (2006), the *New Headway* series is “very widely used in New Zealand and internationally” (p. 2). *New Headway* is based on British English and the series consists of six student levels, from Beginner to Advanced. For my analysis, I had access to a set of text files digitised from the six student books in the series.

Using coursebook data to explore my studied modal auxiliaries’ frequencies and meaning frequencies helped to identify differences between what is presented in coursebooks to learners and how these modal auxiliaries are used by speakers of English, as evidenced from the BNC corpus. Through an investigation of the coursebook series, I was able to obtain the overall frequencies and frequencies of meanings for these selected modal auxiliaries and compare them to the BNC. Vine (2013) suggests, “Corpus frequency data should not necessarily be pedagogically prescriptive, but they should inform pedagogy” (p. 475), while Barnard and Scampton (2006) state, “frequency is one of the standard criteria [...] for a linguistic item to be included in a syllabus” (p. 5). They believe frequency findings “should inform syllabus designers and course book writers when making decisions about grading and sequencing of both modal auxiliaries and lexical modality” (p. 5).

3.3.4.1 *New Headway* data

My coursebook study was based on the student books and excluded instructor books. The reasoning behind this is that the instructor books are written for instructors while the focus for the coursebook part of my study was to look at the language the students, not the instructor, are exposed to - with focus being on the modal auxiliaries CAN, COULD and BE ABLE TO. Furthermore, cross-referenced information from the instructor to the student book is accounted for in the student series. For example, any connected audio that is played for the students is also provided in text form in the back of the coursebooks so the students have access to the content. The *New Headway* data for this study comprises 441,760 tokens, which is broken down by level in Table 5. To calculate the tokens in each level, as I did with my classroom data (see Section 3.3.3.3), I used the “WordList” tool in WordSmith Tools 6.0. For each level, I used the ‘statistics’ tab to retrieve the token count.

Table 5: NH token count per coursebook level

NH Level	Tokens in WordList
Beginner	33,165
Elementary	56,020
Pre-Intermediate	77,882
Intermediate	77,388
Upper-Intermediate	101,872
Advanced	95,433
Total	441,760

It should be noted that the frequency counts for each level are different from Vine (2013) who reported a total of 445,039 (p. 465). I can only speculate that this minimal difference may be due to a different software package calculating total tokens.

3.3.4.2 *New Headway* data collection

I conducted my data collection of these selected modal auxiliaries within *New Headway* in two phases. In the first phase, using the “find” function in Word, I performed a manual analysis to identify and tag modal uses of CAN, COULD, BE ABLE TO. In this phase I also modified my data to match the conventions used in the BNC and my classroom data (e.g.

separate “can’t” into *ca n’t*). In the second phase, I converted my file to a .txt file and imported the tagged files into WordSmith Tools 6.0 in order to locate the modal instances and analyse their meanings.

3.3.4.3 Calculating overall and meaning frequencies

For calculating frequencies for each modal auxiliary, I used the “Concord” tool in WordSmith Tools 6.0. These counts were checked by comparing them to a manual count that I had performed in Word previously. This information was collected in Excel and I was able to determine overall frequency counts and frequency per 10,000 words.

For exploring meaning frequencies, I performed the same steps as I did in the classroom (see Section 3.3.3.3).

3.4 Statistical analysis

Because I drew conclusions from my analysis of quantitative data, several statistical devices were needed for this study, which include “normalisation” and log-likelihood, used for overall frequency findings, and Fisher’s exact test, used for category frequency findings.

3.4.1 Normalisation

In my analysis I included overall frequency counts of the studied modal auxiliaries. Hoffmann et al. (2008) explain how frequency counts are of “fundamental importance when you want to compare findings from different subsections of a corpus – or in fact, from different corpora” (p. 68). In my study, I used three different data sets of different sizes to make comparisons and draw conclusions about my studied modal auxiliaries. One tool I used to compare my frequency counts accurately was “normalisation” in which “the total number of words in each text must be taken into consideration when norming frequency counts” (Biber et al., 1998, p. 263); the result of norming is a clear snapshot of frequencies for comparison. In my data, I normed to a basis per 10,000 words because the norming value needs to be under the smallest data set and using per 10,000 words is a number which is easy to work with. The equation I used for norming in this study is as follows:

$$\frac{\text{Raw Frequency Count}}{\text{Number of Words in Text}} \times 10,000$$

Frequencies per 10,000 were rounded to the nearest whole number and reported as such to increase clarity on any similarities and differences in findings.

3.4.2 Log-likelihood

With regard to working with corpus data, Hoffmann et al. (2008) claim, “before you can draw any firm conclusions from corpus frequency data, it is essential to establish the significance of your results with statistical tests” (p. 79). In order to support my overall frequency findings with statistical tests, I used a log-likelihood test which allows for two samples to be compared and indicates if there is a significance between the two. I ran this test through the “Log-likelihood and effect size calculator” from Rayson (2009).

Once the log-likelihood was calculated, I applied a critical value to determine significance, also presented by Rayson.

95th percentile; 5% level; $p < 0.05$; critical value = 3.84

99th percentile; 1% level; $p < 0.01$; critical value = 6.63

99.9th percentile; 0.1% level; $p < 0.001$; critical value = 10.83

99.99th percentile; 0.01% level; $p < 0.0001$; critical value = 15.13

If $p < 0.05$, then this is an indication that there is a relationship. If $p > 0.05$, then this indicates that the meaning and source are independent and there is no relationship.

3.4.3 Fisher’s exact test

To test the significance of my category frequency findings, I relied on IBM SPSS Statistics (version 23), commonly referred to as SPSS. Within SPSS, I was able to run a ‘chi-square’ test which was supplemented by Fisher’s exact test results. Fisher’s exact test helped determine, when comparing one corpus’ category counts to another’s, if the percentages for the categories found were significantly different. According to Hoffmann et al. (2008), exact tests aid accuracy and reliability for corpus data, especially for low-frequency data (p. 86).

Fisher's exact test is used to determine the possibility of the meaning and source being independent or not. Because I ran multiple tests, I applied a Bonferroni correction which reduces the significance level on the individual tests so that for all tests the error rate is controlled. The correction was calculated by taking 0.05 and dividing it by the number of tests run. For example, if seven tests were run when examining a data set of written COULD, one for each category, then I divided $0.05/7$ and determined there was a significant difference when the p-value was less than 0.007. In other words, using this p-value, if Fisher's exact test results were less than 0.007, this would indicate there is a significance in findings.

Conversely, if Fisher's exact test results were greater than 0.007, this would indicate the findings are not significant. A case when a test would not be successfully run would be when both sources' counts for a meaning category are zero.

Statistical support for my findings aided in making comparisons between all three data sets in this study, and helped with accuracy and reliability. The process of "normalisation" to norm to frequency per 10,000 words made it possible to make comparisons for overall frequencies, while log-likelihood and Fisher's exact test supported the significance of my frequency findings. Moving away from statistics in the next section, I discuss other considerations which contributed to my analysis and which are more qualitative in nature.

3.5 Other considerations for data analysis in this study

Two major issues arose in the course of my analysis: the function of context and the role of indeterminacy. I found within my study that the issue of context was not only reoccurring but had a significant role in many parts of my study, from analysing to reporting. I have specifically touched on it here and in Section 3.6.2, and throughout the thesis it becomes apparent how context is entwined within multiple areas of my study. Additionally, I drew on prototype theory to address the issue of indeterminacy in my analysis. This is discussed in Section 3.5.2 below.

3.5.1 Expanded surrounding context

There are two considerations around context. The first concerns the amount of context used to help understand an instance's meaning, which is discussed here. The second concerns the

amount of context provided when reporting example instances, which is discussed below in Section 3.6.2.

Context played a substantial part in my analysis and my interpretation of instances. Though I began my meaning analysis with instances which had 100 words of context, with the majority of those instances, I had to expand the context around the modal auxiliary even further. To aid this process, I used the BNCweb (*The British National Corpus, version 3 (BNC XML Edition).*, 2007) as this search engine is more user-friendly than the BYU-BNC server for adding context, pre and post item in focus. Data cited from the BNCweb has been extracted from the British National Corpus Online service, managed by Oxford University Computing Services on behalf of the BNC Consortium and all rights in the texts cited are reserved.

BNCweb also has an audio component which was available for some of the spoken instances. This means that I was able to listen to an utterance and make a more accurate meaning analysis drawing on features such as stress and intonation. Examining further context in many cases allowed me to make a more confident meaning analysis; however, there were still some cases that remained unclassifiable, or ambiguous.

An example of an instance that required me to explore a very wide context is below. In instance (7) the italicised words are those that were not included in my original search; in other words, I needed to extend the context this far to determine a reading.

(7) *Social conditions certainly affected Mrs. Daisy Sawyer's choice of furnishing. She remembers setting up her first home, right after the war. (SP:PS5TB) They were dockets that we had, after the war, to buy our furniture, because there wasn't much furniture around, we was only allowed so many per family. And once you spent those dockets, you just had to go and buy secondhand if you wanted any more. There's quite a few around us because then we was not going onto a council estate from the one room, and we were all in the same boat together. We was all having a hard time, a rough time, and doing what we **could** to make our homes look respectable and nice for people to come into. (SP:PS5T9) Helen, could you call this kind of personal recollection about furnishings a type of alternative history, perhaps like oral history? (SP:PS5TA) Yes, because this is describing, analysing how ordinary people lived, what was going (BS513) (S_brdcast_discussn)*

In the instance above, upon first reading, I questioned whether it was an instance of ‘ability’ or ‘external possibility’. In an ‘ability’ reading, are the subjects doing everything they are capable of, or everything that external circumstances allowed. In adding more context (italics), I moved towards an ‘external possibility’ reading as the dockets regulate how much furniture a family can get, but this is then supplemented with the opportunity to buy secondhand. The subjects use both avenues to make their home as nice as they possibly can; however, the part of the context that supports it as an ‘external possibility’ reading is “Social conditions certainly affected Mrs. Daisy Sawyer's choice of furnishing”.

The instance above is an example of instances which are not straightforward and require extended context in order to arrive at a reading. This need for expanded context feeds into the next section on prototype theory, as in my analysis, I view instances which require such expanded content to be less-prototypical.

3.5.2 Prototype theory

When conducting my analysis of instances from the BNC, I was not very far in when I noticed that not all instances could be packed into tidy boxes, which I realise now is the nature of the modal auxiliaries and using a corpus-based approach. Leech and Coates (1980) claim, “corpus study not only compels one to recognise indeterminacy as a serious factor in modal semantics, but is a prerequisite to its precise analysis” (p. 81). Though I agree that my corpus study did illuminate the indeterminacy of modal auxiliaries, I disagree that it led me to its precise analysis. Though I had been hoping to create clear, concise parameters for explanations of modal meanings, this proved to be impossible. In order to maintain a balance between my thesis aim of keeping my criteria and analysis realistic for instructors and learners, while also acknowledging modal meanings are not precise, I applied prototype theory to my criteria and analysis as discussed below.

As we move into my analysis of the selected modal auxiliaries in the next chapters, my analysis of my data shows that the majority of instances do not precisely meet the criteria for its meaning category; this is where I apply prototype theory to my work. Rosch (1973) explains that “categories are composed of a ‘core meaning’ which consists of the ‘clearest cases’ (best examples) of the category, ‘surrounded’ by other category members of decreasing similarity to that core meaning” (p. 112). Her later work (Rosch, Mervis, Gray,

Johnson & Boyes-Braem, 1976) notes that “Basic categories are those which carry the most information, possess the highest category cue validity, and are, thus, the most differentiated from one another” (p. 382). Therefore, just as “some colors to which English speakers apply the word ‘red’ are ‘redder’ than others,” (Rosch, 1973, p. 111), I demonstrate, for example, that some instances of ‘ability’ in this study are more ‘ability’-like than others. In the example instances below, I would consider instance (8) to be prototypical in that it clearly exemplifies ‘ability’, whereas instance (9) is less-prototypical in that it requires further thought and examination.

(8) He can’t bloody see! He's blind as a bat! (BS2636) (S_conv)

(9) And it's perhaps up to the new civilian C P O to go to the likes of Mick (-----) and say I can’t do this, I have not been trained to do it yet, until I have been trained to do it perhaps P C (-----) should continue using his skills. (BS2600) (S_meeting)

In (8), the subject does not have the internal capability to see; this is reinforced in “He’s blind as a bat!” And in (9), further consideration is required as to whether or not this is an ‘ability’ instance and whether not being able to perform “this” is due to a lack of internal capabilities, or if it is due to the external circumstances of not having been trained yet. This instance is included again in Section 4.4.2 with its analysis.

In this study, the amount of context required to arrive at an interpretation plays a part in whether an instance is prototypical or non-prototypical. Instances which can be analysed at the sentence level, such as (8) above, which also clearly meet the criteria set out for ‘ability’ (see Section 4.4), I would consider to be prototypical. However, instances such as (9) above which requires such great context, I would consider to be less-prototypical in my analysis. This is because the meaning is not evident in the context closest to the modal auxiliary and this expanded context makes its meaning less straightforward and therefore, more challenging to analyse.

Prototype theory applies to all of the modal meaning categories in my research. In Chapter 4: *Meanings for CAN, COULD and BE ABLE TO*, I set out criteria for each meaning category which represent the clearest cases for that meaning category. From there, in the subsequent chapters analysing CAN, COULD and BE ABLE TO, I call attention to instances that are prototypical and include others that are less-prototypical, where applicable. However, I do not label each one with its level of indeterminacy, as this would be an ineffective exercise as I

would be sure to be met with challenging different viewpoints about where to draw a line between the different cases. What is important is the recognition that prototypical and less-prototypical instances occur within all of the meaning categories presented in this study.

This matter of expanded context and prototype theory is applied to my analysis of CAN, COULD and BE ABLE TO in Chapters 5-7, as both underpin my investigation.

3.5.3 Subjective modality

In Section 2.8 I presented the conflicting literature on subjectivity and objectivity in modality. I believe that focusing on subjectivity and the idea that it is found in all modality, as noted in Hoyer (1997), Carter and McCarthy (2006) and Palmer (1986), is relevant to the present study.

Coates and Collins classified examples (a) – (e) below as objective; however, I consider them to be subjective modality, for the reasons below.

- (a) “*I can get a cheap kettle*” (Coates, 1995, p. 60)
- (b) “*you can hear the whistle*” (Coates, 1995, p.60)
- (c) “*You can get to the island by ferry*” (Collins, 2009, p. 22)
- (d) “*Can he speak Chinese*” (ability) (Collins, 2009, p.22)
- (e) “*if $2x = 10$, x must be 5*” (p. 21) (Collins, 2009, p.22)

I would classify instances (a) – (d) as subjective in that the speaker chose to use *can* over other modal possibilities (e.g. *may*, *might*, *could*, *will*) and this for me, indicates speaker’s choice of modal strength to represent his/her perspective and thus subjectivity. As Larsen-Freeman (2003) emphasizes in her work, “Speakers of a language will choose certain grammar structures in keeping with the meaning they wish to express” (p. 59); this choice connected to meaning is why I believe modality is subjective and it is the case that some subjectivities are given wider acceptance than others. For example, (e) would most likely be considered the least subjective above. Yet, even though I did not examine the modal auxiliary *must* in this study, I would still argue this type of instance is ‘subjective’ in that the speaker could have said: *if $2x = 10$, x is 5*; by using *must* in the original example, the speaker is signalling an element of doubt, or perhaps emphasis, in his/her utterance, for whatever reason.

Therefore, my overall framework is imbued with the idea that all instances using modal auxiliaries carry ‘subjectivity’.

3.6 Accountability in reporting

Because modal auxiliaries are subjective (see Section 3.5.3), this creates an extra burden on linguists to clearly account for how they have interpreted an instance’s meaning and also to include extended context for instances, in order to represent the instance and its meaning(s) as accurately as possible. In the following subsections, I discuss how reported criteria and reported context from linguists affects interpretation of modal auxiliaries. I then account for the present studies’ method on reporting, as well as the second and third readers used.

3.6.1 Reported criteria

When reading previous studies, what I found most striking, and often frustrating, was the lack of access I had as a reader to the decision making process behind a researcher’s assignment of meanings to selected instances. Most studies list a meaning category and the instances they have included in that category, yet provide very little, or no, explanation as to why an instance was included in that category (Biber et al., 1999; Coates, 1995; Kennedy, 2003; Klages & Römer, 2002; Römer, 2004a, 2004b). Coates (1983), Collins (2009), Ehrman (1966), Leech (2004) and Palmer (1990) provide an overall explanation about their meaning categories, with Coates including a gloss of her examples to aid in explanation of how they fit into *x* meaning category, but not regularly. Hermerén (1978) seems to me to be the only one who consistently accounts for each instance cited by applying his preferred paraphrase, which helps readers better understand his reasoning process. This problem of lack of transparency prompted me to account for each instance cited in my study, as you will see in the following chapters.

3.6.2 Reported context

The importance of context was discussed above (see Section 3.5.1) with respect to my relying on expanded context to interpret instances, yet it also needs to be included in accountability, as I have found previous studies report instances, providing only limited context. The

importance of reporting extended context for the instances I have analysed cannot be emphasised enough. Larsen-Freeman (2003) affirms:

One of the reasons that grammar appears arbitrary is that we only look at it at the sentence level. When we adopt a broader perspective we come to realize that there is a lot less arbitrariness than appeared at a narrower perspective. (p. 67)

Leech and Coates (1980) have a similar message in their work.

Ambiguities are rare in actual texts, because contextual clues generally make clear which meaning is appropriate. But it is not difficult to find instances of ambiguity if we isolate a sentence from its context: in *He must understand that we mean business*, for example, the modal may be given either an epistemic or root (obligational) interpretation. (p. 81)

What I find most remarkable regarding the above statements is that though the importance of context is unmistakeably acknowledged in literature, linguists still often present one sentence (or shorter) extracts as examples.

In Biber et al. (1999), “*He goes, I **can’t** swim*” (p. 492) is given as an example of ‘ability’. This was taken from the BNC, so I was able to search the context around it. While it is the case that the expanded context supports an ‘ability’ reading, when looking at the other instances of “can’t swim” in the BNC, not all are ‘ability’. Two out of twenty-two instances were ‘possibility’ (e.g. *you **can’t** swim freely when you get tangled up in roots*). Though I recognise this percentage is low, when presenting my analysis, I show that the percentage of instances of CAN with an external possibility meaning is higher compared to those which have an ‘ability’ meaning.

Because of the issues above, I have included an extended amount of context surrounding each instance in an effort to provide as full of an account as possible of my interpretation of each modal auxiliary meaning. In some cases I may have over-extended the context for fear that if I cut out too much, the reading would no longer be clear to anyone other than me. I imagine there are instances which analysts widen the context for their own understanding, but once they know the wider-context, the sentence level makes sense to them because they unconsciously have the information; however, this leaves the reader who does not know the background left with an unclear reading. To be consistent, I have also explained my

reasoning for an instance's inclusion in the assigned meaning category; both processes, including an ample amount of context and showing rationale for each meaning assignment, have contributed to my accountability in my analysis and overall thesis.

3.6.3 Second and third readers

Though I did not use a statistical inter-rater reliability process for my analysis of meaning(s), informally a significant amount of time in my meetings with my supervisors during my analysis phase was dedicated to discussions around interpretation of meanings of instances. In the first case, I would present my meaning analysis and from there, when there was disagreement, or interest in testing the boundaries of my meaning categories, we would discuss my analysis against my criteria. Often instances would reappear throughout my thesis as we were testing boundaries one way or another. And due to the subjectivity of modal auxiliaries and different reader interpretation there was not always unanimous agreement, yet if my supervisors felt I was able to provide strong reasoning supported by my criteria, I felt comfortable with my interpretation and would report these as such. Along with discussions with my supervisors, on occasion I would discuss instances with my family and friends, yet more in the context of trying to describe what it is that I am studying.

Within my own study, I gave due consideration to accountability in reported criteria, reported context and second and third readers, as evidenced in the following chapters when I present the analysis of instances in this study.

3.7 Summary of chapter

This chapter has provided an account of the methodology used in this corpus-based study. The data sets under analysis in this study are the BNC, classroom observations and the coursebook series *New Headway*. This chapter discussed how expanded surrounding context plays a crucial role in the following analysis, as, in order to analyse most instances in my data sets, I needed to greatly expand beyond the already included context. Prototype theory also performs a role since many instances' meanings stretched beyond the confines of a prototypical instance. I also included a discussion on the importance of accountability in regard to transparency of assigning meanings and reporting meaning instances with sufficient context, given that I feel these are two areas which have been overlooked in previous

analyses. Chapter 4 provides an overview of the meaning categories used in my analysis, along with each categories' criteria. This chapter and the next leads to the application of this methodology in Chapters 5 – 9, when examining CAN, COULD and BE ABLE TO in each of the data sets.

Chapter 4: Meanings for CAN, COULD and BE ABLE TO

Focusing on the meanings for CAN, COULD and BE ABLE TO, this chapter is a combination of examining the literature to gain an understanding of the meanings that linguists have previously identified, and my own investigation of the meanings of these modal auxiliaries using the BNC corpus. Drawing on both modes of exploration, I have created my own framework to better understand the meanings of my studied modals. I discuss the special considerations that I needed to account for in my analysis, such as the multiple meanings modal auxiliaries allow for, monosemy and polysemy, and also the subjectivity of not only the speaker and writer, but of myself as the researcher. I then present the meanings I constructed from the literature and BNC analysis, the criteria I created for each category and conclude with the ‘Possibility’ diagram that I developed to underpin this study.

4.1 Slicing the cake

Perkins (1983) notes that “the number of modalities one decides upon is to some extent a matter of different ways of slicing the same cake” (p. 10). I interpret this analogy of “slicing the same cake” as meaning that if one were to take the meaning categories of modality (e.g. ‘epistemic’, ‘deontic’, ‘ability’, ‘possibility’, ‘permission’, ‘obligation’ and ‘desire’) and ask linguists to combine these into groupings, each grouping would be different and would reflect distinct theoretical ways of approaching the modal auxiliary meanings.

I created Table 6 below (p. 67) to summarise the various views from previous linguists’ modal meaning categories. Though there are numerous views in the literature, I have chosen to summarise seven key linguists’ work. Coates (1983) and Collins (2009) are cited due to their use of corpora in their analyses. Coates provided groundbreaking work, as at her time of publishing, she was the first to conduct a study of such size using a corpus, and Collins currently has the most up-to-date comprehensive text on modals and quasi-modals using multiple corpora. For their overall grammatical contribution to the field, I have included Halliday (1985) and Quirk et al. (1985). Palmer (1990) was included due to his extensive work specifically on modality and modal auxiliaries using corpora. And also incorporated were Bybee and Pagliuca (1985), who may not be recognised as a modal ‘experts’ like Coates and Palmer, yet have numerous publications on both general and specific aspects of modality.

Lastly, Biber et al. (1999) were included as they use corpora and also take a pedagogical approach to their work, which is similar to the present study. However, they have been included with Quirk et al. as their approaches to modality are similar.

This summary in Table 6 below of these linguists' theoretical meaning classifications of modality is meant to help show the complexity of modality and the multiple ways the idea of modality is viewed.

Table 6: Summary of modality from chosen linguists in literature

Linguist/s	Modality 1	Modality 2	Modality 3
Coates (1983)	Root <ul style="list-style-type: none"> • Obligation/necessity • Ability • Permission • Volition/willingness/intension • Root Possibility 	Epistemic <ul style="list-style-type: none"> • Epistemic possibility / Logical Necessity 	
Collins (2009)	Deontic <ul style="list-style-type: none"> • Obligation (necessity) • Permission 	Epistemic <ul style="list-style-type: none"> • Necessity (logical) • Possibility 	Dynamic <ul style="list-style-type: none"> • General circumstances • Theoretical possibility • Implied directive speech act • Ability • Volition
Halliday (1970)	Modulations (process and participant conditions on...) <ul style="list-style-type: none"> • Obligation • Permission • Necessity • Volition • Ability 	Modalities (speaker's comment on probability) <ul style="list-style-type: none"> • Possible-certain 	
Quirk, Greenbaum, Leech, and Svartvik (1985); Biber, Johansson, Leech, Conrad, and Finegan (1999)	Intrinsic (human control) <ul style="list-style-type: none"> • Obligation • Permission • Volition 	Extrinsic (human judgement) <ul style="list-style-type: none"> • Possibility • Necessity (logical) • Prediction 	Ability¹
Palmer (1990)	Deontic (discourse-oriented) <ul style="list-style-type: none"> • Obligation • Permission • Command • Necessity • Promise/threat 	Epistemic (speaker opinion) <ul style="list-style-type: none"> • Necessity (logical) • Possibility 	Dynamic (subject-oriented) <ul style="list-style-type: none"> • Neutral (circumstantial) • Ability • Implication • Private • Necessity • Volition • Power • Habit
Bybee and Pagliuca (1985)	Agent-Oriented <ul style="list-style-type: none"> • Ability • Obligation • Desire/volition • Intention • Permission • Root Possibility (no agent) 	Epistemic (Non-agent oriented) <ul style="list-style-type: none"> • Possibility • Probability • Prediction/future 	

¹Biber et al., (1999) do not say in their work where they account for 'ability'; by default it is a third category but this is not formally acknowledged in their work.

Though some categories overlap with one another, in trying to summarise many of these ideas, I was faced with challenges in deciding what each linguist intended. In Table 6, the differences in the approaches to categorizing the modal meanings are located on three main levels: (a) differences in number of categories (e.g. Collins' (2009) and Palmer's (1990) tripartite scheme and Quirk et al.'s (1985) binary division); (b) differences in terminology (e.g. Coates' (1983) “root” modality and Bybee and Pagliuca's (1985) “agent-oriented” modality); and (c) differences in what is included in each category (e.g. ‘ability’ included in “dynamic” in Collins (2009) and Palmer (1990), and in “root” in Coates (1983)).

In piecing together Coates' view on modality, I had a difficult time disambiguating some of the categories she uses. For example, “prediction” is a category I left off as she notes “‘weak’ Epistemic ‘Prediction’ intervenes between ROOT (‘Willingness’/‘Intention’) and ‘strong’ Epistemic (‘Predictability’) meanings” (p. 170) and does not take a stance on whether it is epistemic or root. Also, Palmer (1990) includes many subcategory titles within ‘dynamic’ that are not included in others’ works, such as, “neutral”, “private” and “implication”. “Neutral” accounts for those that have a “sense of natural possibility, simply to indicate that an event is possible” (p. 83). He describes “neutral” with regard to *can* as, “regularly occurs with the so-called ‘private’ verbs,” verbs such as, “see” and “hear” (p. 86). And “implication” would be what Collins explains as ‘directives’ and “used in the formulation of an indirect speech act” and “more than merely statements of dynamic possibility” (p. 104). Though these meaning notions are most likely embedded in others’ main categories, they do not categorise them separately as Palmer does; therefore I feel it best to account for all of Palmer's categories.

With so many various views on modality, there is no right or wrong, just different ways of seeing the world. As we move further on into this chapter, I explain the meaning categories I found in this study and how they fit into ‘possibility’ which is the greater meaning for CAN, COULD and BE ABLE TO. In Section 4.14, I present the meaning categories established in this study within a ‘Possibility’ diagram, which I draw on for analysis in the following chapters.

4.2 Meaning analysis considerations

Before I present the meaning categories I found and use in my study, and the criteria assigned to each, I first discuss the nature of modals having multiple readings, the polysemic approach taken in this study and how subjectivity plays a role within modal auxiliaries being used and interpreted. These elements are intertwined and have an overall effect on my study.

4.2.1 Multiple readings

Modality is not about single readings, it allows for options. This was a recurring theme in my study and one that I describe in detail here. Ehrman (1966) attributes these multiple readings to different views and explains, “For all the modal auxiliaries, it is understood that the meaning of the word includes the fact that any statement it makes is dependent upon the speaker’s or writer’s view of the state of the world” (p. 16). Though I agree with her statement, I would add that it is not only the view of the speaker or writer that affects meaning, the receiver - the hearer or reader - must also be considered. Stubbs (1996) accounts for the hearer’s or reader’s perspective and claims that “the meaning of a text depends on at least three things: the language of the text itself, who produced it and who is responding to it” (p. 6). There is a saying that communication is a two-way street. With regards to my study, this saying can be interpreted as communication is two-way in that the speaker or writer conveys his or her own meaning while the hearer or reader interprets his or her own meaning from what is spoken or written. Koshik (1999) describes this as being “interactional” and “the result of co-operation between the participants” (p. 22). In this process, it may be, and probably is, the case that the meaning conveyed and the meaning understood do not match equivalently, yet each party takes his/her meaning, and responds accordingly.

4.2.2 Monosemic vs. polysemic approach

In Section 2.7, I discussed previous linguists’ approaches to monosemy and polysemy. With regard to a monosemic approach, Ehrman expounds her meaning for *can* with “the action is free to take place” (p. 12) and Perkins explains that his monosemic approach can be obtained by “postulating a core meaning for CAN which may be represented as a relationship between three variables whose values (which are specified contextually) on any given occasion

determine the way in which CAN will be interpreted” (p. 31) and includes the formula below to represent the meanings for CAN.

K (C does not preclude that e occur)

where: i. K = natural laws

ii. C = an empirical circumstance

iii. e = an event

iv. K(x) = x is the case relative to K (p. 34)

Though these approaches may work for Ehrman and Perkins, with my aim to contribute pedagogically to English language learners, I feel the meaning proposed for CAN by Ehrman would be too vague and Perkins’ formula would be incomprehensible, as it is for me. Furthermore, the equation presented above with the four ‘situations’ begs for me the question of this really being monosemy.

There is merit in using, for example, Ehrman's meaning for *can* of “the action is free to take place” (p. 12) which is evident in my initial interpretation of instance (10). This instance caused quite a bit of discussion in my supervisor meetings and took me a bit of time to finally articulate its meaning. The following excerpt is from a written newspaper review on a new biography.

- (10) Often he [William Hazlitt] seems out of his period and the more attractive for it. He professed to be unnerved by Wordsworth's towering self-esteem, which he judged a form of dementia because Wordsworth himself considered that nobody else was elevated enough to measure it. This sounds like a satirical whim ahead of its time, and certainly well beneath its victim's cloud-capped head. He **could** be Proustian: 'It is better to desire than to enjoy -- to love than be loved.' (BW526)
(W_newsp_brdsht_nat_arts)

From a first reading, I admit that I did not know who William Hazlitt was or that the ‘Proustian’ reference is to Marcel Proust, and what that would even mean if these names were familiar. However, from the use of “can”, I could make a connection that “the action is free to take place” or that indeed, it is possible for “he” to be Proustian. With this instance, though I initially missed out on understanding that the ‘Proustian’ reference is to Marcel Proust, a French novelist who lived 1871-1922, and that because William Hazlitt lived 1778-1830, the

writer is indicating that the way in which William Hazlitt was portrayed in the biography, is *like he is Proustian*; hence why his satirical whim is “ahead of its time”, my initial limited understanding, aided by the use of “can”, may have been just enough to comprehend the text and to continue reading. Even so, this basic comprehension does not allow for a full interpretation of the text.

Keeping the English language learner in mind, I believe that using only a monosemic approach would be too vague, and learners would miss out on the complexity of the modal auxiliaries. Using multiple meaning categories such as ‘ability’, ‘possibility’ and ‘directive’ / ‘commissive’, as I discuss further on, helps the learner to identify which meanings are used with which context and provides a clearer understanding of the modal meanings. Though as we will see further on, no matter how clear one tries to make these categories, there are still a lot of grey areas. In keeping in line with one of my goals in this thesis, making the material accessible to learners, or at least presented in a way for instructors to make my studied modals accessible to learners, I believe a polysemic approach for the present study is the best way forward.

4.2.3 Subjectivity

Subjectivity presents itself at many different levels, including cultural, individual and contextual and is a contributing factor to why language, and specific to this study, English modal auxiliaries, have multiple readings. Rosch, Mervis, Gray, Johnson, and Boyes-Braem (1976) state:

Since the structure of the environment differs greatly in different parts of the world, one expects the categories of different cultures to differ. In addition, interest in and knowledge of attributes and their correlation for specific domains differ among cultures, subcultures, and individuals. (pp. 434-435)

Focusing on modal auxiliaries, Quirk et al. (1985) affirm that “the use of the modals varies significantly from one part of the English-speaking world to another” (p. 220), as seen in Collins’s (2009) study where the frequencies found in his three corpora are different. Likewise, Hermerén (1978) touches on the idea of our own perspective within modality:

...it cannot be denied that it is basically our view of the world that is expressed through the modals. This is in fact what the modals are for, to express what we consider to be certain or possible as well as to express what we judge to be right and wrong. (p. 73)

Hermerén provides the following example, “you must be lazy” (p. 73) and adds a cultural understanding of this instance being most likely interpreted epistemically (*I am certain you are lazy*) and not as a command for someone to be lazy, as laziness is not a favourable behaviour. However, Hermerén invites readers to consider “you must be lazy” in an alternate context, “as a stage direction” (p. 74) in which our perspective is changed. He continues, “This circumstance in no way contradicts what was said earlier; it only means that our set of values has changed to fit the new situation: what is usually undesirable (laziness) has in the particular situation become desirable” (p. 74). Hermerén helps us recognise that modal meanings vary depending upon factors including culture, individuality and context.

In the next section I discuss the subjectivity of the researcher, or in this study, my own subjectivity and the layers of viewpoint in corpus analysis.

4.2.4 The subjectivity of the researcher

A sense that my own interpretation was subjective was inescapable throughout this study. This is unavoidable as each individual approaches modal auxiliaries with a different viewpoint. Palmer (1986) warns, “There is always a danger that the interpretation [of data] is highly subjective, so that we are presented more with the views of the investigator than with facts about the language” (pp. 8–9). I tried to mediate this subjectivity by keeping in line as best I could with the framework I created to support my analysis and also by in-depth discussions with my supervisors about specific instances.

Stubbs (1996) states that “linguists should always be prepared to state what degree of confidence they have in their analyses” (p. 121). In order to present an analysis with the highest degree of confidence that I could, in every instance analysed, I did my best to view the text from all angles and make sure that I considered each one before assigning a meaning. However, because it is not possible to get outside of my own thinking, there are most likely some angles I have missed. I am hopeful these were captured by my supervisors, but in cases where they were not, I acknowledge limitation in my analysis. In the analysis of all of my

studied instances, I have created a careful, thoughtful, and hopefully effective, framework for analysing meaning.

Instance (11) is an example which I recognise may have multiple meanings. I did not analyse this type of instance as ‘ambiguous’, as I can support my reasoning for inclusion in one meaning category over another, but recognise the need to acknowledge that multiple viewpoints, and readings, exist.

- (11) easily go and live somewhere else. But he doesn't, and my mother won't tell him to go, because she's never in her life told anyone to go, it isn't in her, but he's grinding her into the ground, she can't work, she can't concentrate, he keeps talking to her all the time, and the baby cries, and it upsets her... (BW264) (W_fict_prose)

One explanation of why the mother cannot concentrate is the external circumstances, which are “he keeps talking to her all the time” and “baby cries”. However, another explanation may be that a stronger person would be able to concentrate through this and not concentrating reflects a lack of ‘ability’ of the subject. In considering both perspectives and allowing for the writer’s perspective – the way the writer has explicitly included the reasons why it is not possible for the mother to concentrate – I classified this as ‘external possibility’.

Subjectivity from culture, individuality and context plays a large part in modal meanings and affects modal readings since concepts shift from one culture, individual and context to another. Therefore, what two speakers may agree on, could in fact be different interpretations of the message. These differences are why I found it so imperative to provide in-depth support for my reasoning during my analysis of instances (see Section 3.6.1).

4.2.5 Layers of viewpoints in corpus analysis

Performing a corpus analysis study comes with its own set of challenges, including the many layers of viewpoints which may lead to different interpretations from the meaning(s) or intention(s) of the speaker or writer of the original text. These challenges are further complicated when speakers and/or writers are intentionally ambiguous.

In written corpora, the writer of each text expresses his/her own viewpoint, yet during interpretation, the reader/researcher adds his/her own viewpoint as well. And in spoken

corpora, there are even more layers. The first layer begins the same as for writing, in that the speaker expresses his/her own viewpoint. Then another layer is added, which is that of the hearer who interprets the utterance his/her own way and responds accordingly; this response may in turn steer the first speaker in this interaction in a different direction. The next layer is that of the transcriber, though trying to be as objective as he/she can, adds his/her own viewpoint in transcribing. This includes the potential transcription of words that were unintended by speaker and also tones and pauses could be interpreted differently than meant, both causing alteration from the original message. All these layers are invisible to the researcher. And the final layer is the reader/researcher, again, adding his/her own viewpoint in interpreting what was said. By the time the utterance is analysed by a researcher, there could be up to four layers of viewpoints underneath.

Because meaning making usually happens invisibly, I can only offer an example, instance (12) below, in which the hearer shows evidence of interpreting “can’t” differently than how the speaker meant. The instance being analysed is “can’t”, which is underlined and bolded.

(12) Speaker A: She doesn't do a (pause) a great deal.

Speaker B: Well I don't suppose she can do a great deal now, I mean she **can't**

Speaker C: This is the one thing with these

Speaker A: No, but she can!

Speaker C: homes isn't it?

Speaker B: No but she ca--, I mean she's not that

Speaker C: O--, as good as they are (unclear).

Speaker B: active now, I mean

(BS2587) (S_conv)

In listening to this instance, I have interpreted the situation as such that Speaker A and B are in a discussion about the mum. Speaker B says “she” (mum) can’t do a great deal now, with a meaning of ‘ability’. While Speaker A counters that she “can” (‘ability’), Speaker C interjects his own opinion that the reason she can’t do a great deal now because she is living in a home and the home is limiting her (‘external possibility’). Though he continues on his digression to another hearer and no communication issues arise from Speaker C’s change in meaning of

“can’t”, this serves as an example for not only the different viewpoints, but how speakers and hearers build upon them.

Multiple readings, subjectivity and the layers of viewpoints in corpus analysis all have a part to play in this study. Therefore, though I recognise that my criteria, categories and analysis are not absolute, as discussed in Section 3.5.2, I have done my best to account for each step and decision I have made in determining meaning categories and analysing individual instances of CAN, COULD and BE ABLE TO. Next I discuss the framework of meaning categories and the criteria I developed for identifying them in this study.

4.3 Meaning categories for CAN, COULD and BE ABLE TO

In this section I present the meaning categories for CAN, COULD and BE ABLE TO. The categories below are the result of previous literature and the investigation of the BNC, with the BNC being the heavier influence. The order in which the categories are presented in this chapter follows the traditional approach to the modal meanings of ‘ability’, ‘permission’, ‘possibility’, ‘epistemic possibility’ and from there includes the additional categories I found. However, in the following analysis chapters, the meaning categories are presented in frequency order.

4.3.1 Linguistic substitution checks

When presenting the meaning categories, each includes a criterion ‘linguistic substitution check’. This substitution check serves multiple purposes; it: (a) aids me as the researcher in assigning meaning to instances while helping to maintain consistency; (b) bridges the gap between me the researcher and you the reader in facilitating a mutual understanding of meaning categories; and (c) provides alternative language to explain these studied modal auxiliaries to English language learners.

Yin (2014) discusses the value of “linguistic substitution tests” whereby these tests, “help them [students] decide which meaning category should be used in a particular context” (p. 91). Applying Yin’s idea, I also use “substitution tests” in my study, but prefer to call them “checks” to eliminate the inference that a test holds absolute accuracy.

Similarly, Hermerén (1978) utilizes paraphrasing in his work with modals and discusses at length the issues with paraphrasing and that, particularly with the English modals, faultless paraphrasing cannot be achieved since “it is a well-known fact that total synonymy is very rare in language” and the meanings conveyed by paraphrasing are “more or less close approximation between the meanings compared” (p. 83). With my linguistic substitution checks, like Hermerén’s paraphrasing, my aim is that they “will result in the distinction of certain meanings” (p. 53). These meanings are outlined below.

4.4 ‘Ability’

For ‘ability’, and my subsequent explanations of meaning categories, I first list the criteria I have included and then I examine each criterion individually.

Leech (2004) discusses how there is no clear-cut distinction between ‘ability’ and ‘possibility’ because “if someone has the ability to do X, then X is possible” (p. 75). That being said, for many of these instances, though they may be closely related to an ‘ability’ or ‘possibility’ interpretation, I believe my current criteria for ‘ability’ have made this a more clear-cut distinction.

The criteria I use for analysing ‘ability’ are:

- (a) Subject is animate (or indirectly animate)
- (b) The possibility of the action is determined by the internal competence of the subject (at the moment of action)
- (c) Active voice
- (d) Linguistic substitution check: *BE capable of*

4.4.1 (a) Subject is animate (or indirectly animate)

This first criterion is adopted from Coates (1983) who states, “subject is animate” (p. 89). The way I describe an “animate” subject in this study is “has life” (Sinclair, 2006, p. 48), and conversely view an “inanimate” subject as “one that has no life” (Sinclair, 2006, p. 731). Many (e.g. Coates, 1983; Collins, 2009; Ehrman, 1966; Facchinetti, 2002; Palmer, 1990) include instances with inanimate subjects in ‘ability’, and I do not. In her work, Coates (1983) analyses, “*the plane has a built-in stereo tape recorder which can play for the whole four hours*” (p. 92), as an ‘ability’ instance. She recognises the inanimacy of a tape recorder

by stating, “although the subject is inanimate, CAN clearly refers to inherent properties of the subject” (p. 90). Similarly, Collins (2009) includes the following instance from his data in ‘ability’, “The two types of paper these printers *can* handle are cut sheet and/or continuous forms” (p. 103). He explains that usually animate subjects are present in ‘ability’ but inanimate can be present as well (p. 103). Palmer (1990) also includes inanimate subjects in his ‘ability’ category on the basis that “subject orientation is possible with inanimates, where it indicates that they have the necessary qualities or ‘power’ [...] to cause the event to take place” (p. 85). Though I acknowledge this kind of personification, I found that in my analysis, if I were to include inanimates in ‘ability’, this would be a very difficult process as the range of inanimacy to animacy varies with points of view. Determining whether or not an inanimate subject should be included in ‘ability’ would be extremely subjective; therefore instances as such were analysed as ‘external possibility’ (see Section 4.6). Excluding inanimate subjects from this meaning category helped reduce the subjectivity related to animate/inanimate subjects.

The above explains my position on animate and inanimate subjects but does not account for “indirectly animate” which I have included in my (a) criterion. Unsurprisingly, there seems to be a grey area between animate (has life) and inanimate (has no life) for subjects such as “ego” and “intellect”, which rely on animacy. Instance (13) below is an example of what I consider to be an “indirectly animate subject” and one that I have analysed as an ‘ability’ reading. (See Appendix 1 for the convention of *can not* within a BNC instance.)

- (13) Freud theory (unclear) group behaviour is correct, then that does seem to happen (unclear) some extent that the (pause) leader as it were takes (unclear) and presumably this is why some people erm (pause) presumably er feel better in groups, perhaps that they get something out of a group that their own ego can not provide, but other people are uncomfortable in groups because they feel that their ego is being alienated and they're losing some of their (pause) some of their power. (BS358)
(S_lect_soc_science)

This instance focuses on one’s ego not having the capability to provide that missing “something”. My view is that the ego is something internal to a human and therefore has its own sense of animacy and cannot be separated from having life.

“Ego” as a subject with an ‘ability’ meaning leads me to the second part of Coates’ explanation, “agentive function”, which I have not included in my criteria, based on Biber et al. (1999) who describe an agent as being “the wilful initiator of the action” (p. 123), the key words being “wilful initiator” which in this case, I believe “ego” is not wilful. Removing “agentive function” from my criterion helps to account for indirectly animate subjects which are non-volitional.

4.4.2 (b) The possibility of the action is determined by the internal competence of the subject (at the moment of action)

For my second criterion for ‘ability’ meaning, I employed another one of Coates' (1983) characteristics with slight modifications. She states, “the possibility of the action is determined by the inherent properties of the subject (this includes what the subject has learnt)” (p. 89). I believe the above works better by substituting “internal competence” for “inherent properties” and removing “this includes what the subject has learnt” as “internal competence” subsumes both qualities of the subject that are “inherent” and “learned”. Instance (14) is an example of the subjects (policeman and policemen) having capabilities which were “learned”.

- (14) But the Home Secretary benefits from the objective advice of HMCIC, a distinguished policeman, and of his colleagues, who are all serving policemen and who can therefore speak from both sides of the fence. (BW447) (W_hansard)

The term “internal competence” gives a broader scope to the idea of ‘ability’ and accounts for any way a subject may be internally capable, including inherent, learned or through experience.

The following instance focuses on the speaker not being capable of a skill that can be learned and was also included in Section 3.5.2.

- (15) And it's perhaps up to the new civilian C P O to go to the likes of Mick (-----) and say I can't do this, I have not been trained to do it yet, until I have been trained to do it perhaps P C (-----) should continue using his skills. (BS2600) (S_meeting)

In an ‘ability’ reading, the impossibility of “doing this” is determined by the lack of the subject’s internal capability, as he has not been trained to do it yet.

4.4.2.1 (at the moment of action)

It was further on in my analysis that I realised a need to add “at the moment of action” to (b). This ended up playing a significant role in my analysis and affecting mostly instances assigned to ‘ability’ that would have otherwise been analysed as ‘external possibility’.

- (16) (SP:PS6TE) and er, she said he's a bit a (pause) she said he's suffering from Alzheimer's disease (SP:PS6RG) mm (SP:PS6TE) and half way through a composition he can't remember who he's talking to and things like that (SP:PS6RG) mm (SP:PS6TE) (BS2645) (S_conv)

Without including “at the moment of action” in the criterion, instances such as the above could be interpreted as “external possibility” with support being that “Alzheimer’s” is the external circumstance affecting the subject. However, taking “at the moment of the action” into consideration allows readers to interpret this as *in this particular instance the subject is not able to remember, but there are other times when the subject does remember*. This prompts us to focus on the internal competence of the subject at the time of speaking or writing, and allows for abilities to change.

4.4.3 (c) Active voice

Of the instances I analysed as ‘ability’, all were active voice. This correlates to ‘ability’ in that the subjects are “animate” and therefore is the “doer” of action, as opposed to passive voice in which the agent is either “unknown”, “obvious” or “unimportant” (Johnstone, 2008, p. 55). For example, in (17) the subject is “she”, and “she” is “unable to do any particular part of her job”:

- (17) Got ya. (SP:PS4SX) Okay, definition of disability, what they've actually got to be, to be able to claim (pause) is unable to perform any part of their normal occupation. That's why we had the foris-- the florist claiming (SP:JT3PSUNK) Mm. (SP:PS4SX) for the finger amputated. She was unable to do any particular part of her job. (SP:JT3PSUNK) (laugh) (SP:PS4SX) No (-----) shewas the one, that put her finger on the bows, when they tied the bows, you know. (SP:JT3PSUNK) (laugh) (SP:PS4SX) And, okay, unable to perform any part of her normal occupation and they're (BS191) (S_unclassified)

The focus is on her incapability to do the job. If this utterance had been in passive voice: *Her job was unable to be done by her*, the focus would move to the job not being done, instead of “she” being the reason why the job is unable to be done and her capabilities.

4.4.4 (d) Linguistic substitution check: *BE capable of*

Some linguists (e.g. Facchinetti, 2000; Hermerén, 1978) connect *be able to/able* to ‘ability’. However, when I examine the meanings for BE ABLE TO in Chapter 7, I demonstrate that BE ABLE TO is not restricted to ability; it has other meanings as well. Therefore, I think the linguistic substitution check of *be capable of*, which came to me originally from Leech (2004, p. 74) and can also be found in Quirk et al. (1985, p. 222) encapsulates ‘ability’ better than *be able to*.

- (18) From the start she was something quite exceptional, they all say that. They never saw a child who **could** read and ride so early. I mean ride, not write. Horses. Constanza was mad about horses during her first twenty years. She had complete physical courage. I have not. She says it is only because she knows when it's not in her stars to be killed in (BW567) (W_fict_prose)

Instance (18) can be read as, *They never saw a child who was capable of reading and riding so early*. These capabilities are internal and learned by the subject.

4.4.5 The relationship between ‘ability’ and ‘possibility’ in modality

In the beginning phases of my research, one question that encouraged me to want to explore the modal auxiliaries that have ‘ability’ as a meaning was, why do we account for a person’s ‘ability’ by using modal auxiliaries? Fitting this into the overall idea of modality, we could say, it is the speaker’s (or writer’s) own perspective, or point of view, about the possible capabilities of a subject referent. Quirk et al. (1985) account for this by claiming, “the ‘ability’ meaning of *can/could* can be considered a special case of the ‘possibility’ meaning, viz one in which the possibility of an action is due to some skill or capability on the part of the subject referent” (p. 222). Similar to Quirk et al., but using my own criteria, I consider ‘ability’ as a part of ‘possibility’ with the possibility of the action being determined by the internal competence of the subject.

‘Ability’ linked to ‘possibility’ is not only found in English. As noted in Bybee and Pagliuca (1985), “double use” of marking for ability and possibility (ie. English *can*) is also found in Basque, Haitian, Khmer and Luiseño” (p. 65). Also, they note that *can* and *could* in English were first used only for mental ability, but have developed into use for possibility (p. 67). From this we can conclude that modal auxiliaries *can* and *could* expressing ‘ability’ preceded their ‘possibility’ meaning. While I show later in this study (Chapters 5, 6 and 7) that the ‘possibility’ meaning has grown in frequency and overshadows the ‘ability’ meaning, the ‘ability’ meaning also plays a major role in the meanings for all three modals.

4.5 ‘Permission’

Of the meaning categories I apply in this thesis, ‘permission’ seems to be the most straightforward. The criteria I use for analysing ‘permission’ are as follows:

- (a) Subject is animate
- (b) *x* receives (or has) permission from human authority/rules and regulations to perform *y*
- (c) Linguistic substitution check: *BE permitted*

4.5.1 (a) Subject is animate

“Animate” in this first criterion is the same as discussed above in Section 4.4.1, “has life”. In instances of ‘permission’ the subject seeking or giving permission is ‘animate’. Coates (1983) also found that the instances in her permission category contained animate subjects (p. 88).

Instances (19) and (20) both have animate subjects, which are “I” and “governments” respectively.

- (19) Well we're just I'm just we might have to ask for some money for it. (unclear) (SP:PS3XF) No the money I want to spend, I've partly already written back and said, can I use this money as we don't need it (unclear) can I buy chairs, I was specific. Cos that was a big amount, and they said yes. (BS353) (S_meeting)

- (20) A WRITTEN CONSTITUTION FOR THE UNITED KINGDOM # This will define and secure the rights of the individual and set out what governments, both in Parliament and locally, can and can not do. It will prevent the government pushing

thro' policies (such as the poll tax) which are contrary to the wishes of the majority of the citizens. (BW503) (W_institut_doc)

In instance (19), the speaker, who is human and therefore animate, is retelling a written exchange in which he/she specifically asked permission to buy chairs. And in (20), the government, a collective body of animate subjects, has parameters set up by the written constitution for what they can and cannot do.

4.5.2 (b) *x* receives (or has) permission from human authority / rules and regulations to perform *y*

The first part of this explanation, “*x* receives (or has) permission from human authority/rules and regulations” was influenced by Coates (1983, pp. 87–88). I added the second part “to perform *y*”. Instance (21) is an example of permission coming from human authority, and in (22), from rules/regulations.

(21) he remembered.' Games teachers would say,' There's a meeting at such and such a place on Wednesday afternoon; would you ask your teacher if you **could** miss your lessons?' And I'd get the afternoon off. It was quite nice.' (BW523)
(W_non_ac_soc_science)

In instance (21), the subject is being asked to ask his/her teacher for permission to miss lessons. The teacher in this instance is the human authority.

(22) Dependant's pension no no. No you're entitled to that you know that's the (unclear) If you have actually nominated somebody and that nomination has been accepted by the Teachers' Pensions Agency. (pause) But you you wouldn't **be able to** nominate your wife as a dependant. They would automatically say forget it. Erm it's a they talk here about nominating a parent, a brother or sister, or a widow's step-parents. Unless the benefits would actually automatically pass to your parents. Erm (BS95)
(S_speech_unscripted)

In instance (22) permission to nominate your wife as a dependant would not be granted because of the rules/regulations of the Teacher's Pensions Agency.

4.5.3 (c) Linguistic substitution check: *BE permitted*

The linguistic substitution check of “permitted” comes from Coates (1983, p. 87) who uses the paraphrase “permitted” or “allowed”; I prefer the first to keep consistency with criterion (b) “*x receives (or has) permission*”. Hermerén (1978) also uses “permitted” (p. 129).

Instances (23) and (24) are examples of permission seeking:

- (23) The question posed by motion forty six is this. When a regional secretary, acting on the advice of the solicitor, indicates that a case can not be won, and terminates legal assistance under rule twenty seven, should the member **be able to** appeal against that decision? The C E C thinks not. Decisions to terminate legal assistance under rule twenty seven are different from other decisions made within the union, because they are invariably made on the express written recommendation of a specialist in law. (BS12) (S_speech_scripted)

The above has the linguistic substitution check of: *...should the member be permitted to appeal against that decision?* Rules/regulations are the authority in this case.

In instance (24), prior to the instance “can’t”, one speaker says, “Mummy, he’s gonna run me over”. This is not included below as it is far away from the instance at hand, but indicates that the speaker is addressing the mother directly.

- (24) you'll be going to bed in that soon and if you mess it up (pause) then you'll never sleep. (pause) Come on, it's all very well in the mornings but not now I don't think. (SP:PS089) Why isn't it very well in the night? But why **can't** we play it in the bedroom? (SP:PS087) Because when you get into bed it will be all out. (BS2595) (S_conv)

The above has the linguistic substitution check of: *But why are we not permitted to play it in the bedroom?* In this instance, the mother is the authority.

4.6 ‘External possibility’

Often referred to as simply ‘possibility’ in literature, in my study I found a need to clarify and add ‘external’ as reasons for ‘possibility’ can be restricted to ‘capability’, ‘permission’ or the focus of this section, ‘external circumstances’. We will see in Section 4.7 that using this term also helps distinguish this meaning category from the ‘epistemic possibility’ category. Coates

(1983) and Leech and Coates (1980) discuss the idea of ‘possibility’ as being the unmarked meaning when ‘ability’ and ‘permission’ do not apply (p. 93, p. 85). In other words, the ‘possibility’ of the action is dependent upon external circumstances and NOT upon the internal capability of the subject (‘ability’) and NOT upon permission from “human authority/rules and regulations” (‘permission’). Though I can see Coates’ and Leech’s position, I think that ‘external possibility’ has a more substantial meaning which makes it identifiable in itself.

The criteria I use for analysing ‘external possibility’ are as follows:

- (a) The ‘possibility’ of the action is dependent upon external circumstances
- (b) Linguistic substitution check: *Due to external circumstances, it is possible for x to...*

4.6.1 (a) The ‘possibility’ of the action is dependent upon external circumstances

Collins (2009) uses the category title “theoretical possibility” for what I term ‘external possibility’, and found in his data that in his prototypical instances the “enabling circumstances” (p. 101) were clearly mentioned. Though the term “theoretical possibility” encapsulates the idea of ‘external possibility’, for the purposes of this study, I feel that “theoretical” is too vague and would not work well within a linguistic substitution check (e.g. *the ‘possibility’ of the action is dependent upon theoretical possibility*). With regard to “enabling circumstances” in Collins’ explanation, I interpret these to be circumstances that are present and allow for the possibility of the action. When presenting an instance that I have analysed as ‘external possibility’, I account for these circumstances. In the instances below, I include a written, (25), and spoken instance, (26), both with clear enabling circumstances.

- (25) For a while he thought he must be dying, that his nanny had managed to poison him after all. He **could** see his reflection, turned gaunt and ashen, in the fragment of mirror propped against the lavatory window. (BW560) (W_fict_prose)

The circumstance above that allows for the possibility of the subject seeing his reflection is the “fragment of mirror”.

- (26) Speaker A: Who gave you that?
 Speaker B: Who gave me what?
 Speaker A: That?
 Speaker B: What?

Speaker A: That?

Speaker C: The cassette

...

Speaker B: He's only just lent it to me to (pause) to use during this week. Oh I don't suppose it's his but

Speaker D: Well (pause) so in last week and this week?

Speaker B: Just this week. Well Friday to Friday. One week.

Speaker C: So they'll **be able to** record the excitement that might happen tomorrow.

(BS28) (S_conv)

The circumstance above that allows for the possibility of the subject recording the excitement is the cassette.

4.6.2 (b) Linguistic substitution check: *Due to external circumstances, it is possible for x to...*

It is not uncommon in the literature to see the second half of this linguistic substitution check (*it is possible for*), or variants of it, in connection to ‘possibility’. It was when reading Collins (2009) that I first included this in my own criteria, but there are many other linguists who apply it as well (e.g. Hermerén, 1978; Leech, 2004). However, later in my work, I added *due to external circumstances* to make this linguistic substitution check clearer and help further distinguish it from the linguistic substitution check for ‘epistemic possibility’ (see Section 4.7). Additional support for adding “external” to possibility comes from Coates (1983) who glossed her invented instance of “*I can do it*” as “external circumstances allow me to do it” (p. 93).

Instance (27) is an example of ‘external possibility’ and emphasises the difference of an ‘external possibility’ meaning from an ‘ability’ or ‘permission’ meaning.

- (27) It says video or a maximum 640 by 480 pixel rectangular region of the screen can be sent in near real time. Users **can** adjust frame speed, image quality and window size, giving control over how much data is sent over the network. (BW436) (W_non_ac_tech_engin)

The linguistic substitution check, *due to external circumstances, users can adjust frame speed, image quality and window size...* fits the instance as the external circumstances are the features of the video conferencing program. ‘Be capable of’ (‘ability’) is a less likely interpretation as this instance is not focusing on the internal competence of the subject to operate the program. And ‘permitted’ (‘permission’) is not plausible because this instance is not focusing on the subject being allowed to operate the program. It is clear in this instance that it is not the case that the writer is referring to users being capable of adjusting, or being allowed to, it is the case that the program facilitates the adjustments being made.

4.6.3 Passive voice

Instances of ‘external possibility’ use both active and passive voice, but passive voice is a useful tool when analysing meaning, because it often occurs with ‘external possibility’ and is not found in ‘ability’ or ‘permission’ meanings. For my analysis of instances of ‘external possibility’ that contain passive voice, I have made mention of the use of passive voice in my commentary.

Below are example instances using active voice in (28) and passive voice in (29):

- (28) Suzy suggested that I tried applying for a grant. This was news to me. I didn't think you could get grants for your hobby; I thought they were for businesses and things like that. But Suzy said there were all kinds of awards young people **could** get, particularly if what they were doing was connected with conservation -- I was really surprised. (BW558) (W_biography)

In the instance above, the possibility of getting an award is not dependent upon ‘ability’ or ‘permission’, it is dependent upon the external circumstances of the numerous awards that exist for young people and also if the work being done was connected with conservation.

- (29) Map 33 # WIGEON Anas penelope. Drake at rest distinctive with shortish bill, chestnut head, buff crown, grey underparts and white line on wing; in flight **can** be picked out at some distance by conspicuous white forewing. (BW510) (W_misc)

In the instance above, the possibility of picking out an Anas Penelope (a duck) is not dependent upon one’s capability or permission, it is dependent upon external circumstances

which are the unique identifying features of the Anas Penelope. Passive voice signals this. However, passive voice indicating ‘external possibility’ can be confused with the meaning category ‘epistemic possibility’ (see Section 4.7).

4.7 ‘Epistemic possibility’

As noted in Section 2.5.3, epistemic modality, or what I term ‘epistemic possibility’, proved to be the most difficult meaning category to understand, and establish criteria for. To be frank, it has been the bugbear of my research. Searle (1979) says the following related to indirect speech acts, but I think he summarises the issues related to identifying epistemic modality as well – “How do I know it was a car when all I perceived was a flash going past me on the highway?” (p. 57). In this section, I spare my readers the bumpy, circular ride that led me to my understanding of ‘epistemic possibility’ and instead focus on how I created my criteria for these instances.

For convenience, I have first included the overall explanation of ‘epistemic possibility’ that I have based my work on, as discussed in Section 2.5.3: “Speaker’s (or writer’s) conclusion of certainty concerning the factuality of a past, present or future situation based on logical probability. This degree of certainty ranges from ‘certain’ to ‘possible’”.

The criteria I use for analysing ‘epistemic possibility’ are as follows:

- (a) Speaker’s (or writer’s) level of certainty towards a situation
- (b) Linguistic substitution check(s):
 - i. *it is possible that [verb in relevant form]*
 - ii. *it is certain that* (when *can’t* supplies the negative form of *must*)

4.7.1 (a) Speaker’s (or writer’s) level of certainty towards a situation

This criterion is based on the explanation that I posit for ‘epistemic possibility’ in Section 2.5.3. Furthermore, it draws on Holmes (1983) who discusses three categories of epistemic certainty, “certain,” “probable” and “possible,” in which, respectively, “the speaker asserts with certainty that the proposition [...] is true”, “the speaker asserts that the proposition [...] is probably true” or “the speaker asserts that the proposition [...] is possibly true” (p. 102).

Relevant to the modals in this study, from Holmes' analysis of her data in her work in 1988, she includes *can't/cannot* and *couldn't/could not* in the "certain" category and *could* in the "possibility" category; *can* was not included. In the below subsections (see Sections 4.7.2 and 4.7.3), I examine closer the levels of certainty of "certain" and "possible", as "probable" does not apply to the modals in this study.

4.7.2 Certainty level of 'possible'

Instance (30) is an example of 'epistemic possibility' with a level of certainty of 'possible' using *could*:

- (30) least. I think that the points that I want to make here, because people come from different positions, is one, this is a long term strategy. Right, in other words, within four to eight years. Oay[sic], so there could be (SP:J9DPSUNK) (unclear) (SP:PS3V9) So there **could** be a number of chartered engineer vacancies come up, during those four to eight years, but during the next four years, hopefully, we will be able to recruit one female chartered engineer. (BS475) (S_meeting)

I analysed (30) as 'epistemic possibility' in that the speaker is stating his/her level of certainty, which is 'possible' (as opposed to 'probable' or 'certain') that "a number of chartered engineer vacancies come up". The linguistic substitution check for this is: *So, it is possible that there is a number of chartered engineer vacancies [that will] come up*. The reason why I ascribed an 'epistemic possibility' reading is because the speaker is not only stating the possibility of the situation but signalling that he/she thinks it is possible it will occur, which indicates a level of certainty which is that of 'possible'.

4.7.3 Certainty level of 'certain'

In my own analysis I adopt the same approach as Holmes in including *could* in the level of certainty of "possible". I also adopt Holmes' and Coates' approach of including *can't/cannot* in the level of certainty of "certain" as I believe *can't/cannot* supplies "the missing negative for Epistemic MUST" (Coates, 1983, p. 101), which is also posited in Facchinetti (2002) and Palmer (1995). Further support for *can't* indicating epistemic certainty comes from Sinclair (2006) who states in the *Collins Cobuild Advanced Learner's English Dictionary*, "you use

cannot and **can't** to state that you are certain that something is not the case or will not happen" (p. 197). Sinclair even includes "*= mustn't*" next to his explanation. And Westney (1995) admits there is a "claimed lack of an epistemic sense" for *can*, and that "this ignores the use of *can't*" (p. 206). However, where my analysis deviates from Holmes', and some others (e.g. Halliday, 1970), is their inclusion of *couldn't/could not* in the "certain" category.

My preference is to include these negative forms of COULD in the "possible" category. This is because, for one, I have not yet found any linguist who describes *couldn't/could not* as part of the negative form of *must*, as described for *can't* above. Second, of the explanations I have read, many linguists' explanations are contradictory. For example, when using 'epistemic' examples, Hermerén (1978) and Leech (2004) include *can't/cannot/couldn't* and *can't*, respectively, with a paraphrase which uses "possible" (p. 170, p. 93), while as shown above, others use "certain". These differences stem from the different paraphrases used (e.g. "certain" or "possible") and whether a "scale" is included in an analysis (e.g. Leech (2004) does not include a scale; therefore, one cannot ascertain whether "not possible" indicates a level of certainty or possibility).

If I had infinite time for my thesis, I would enjoy investigating the issue of *couldn't/could not* further and using a corpus-based approach to consider whether *couldn't/could not*, when used as 'epistemic possibility', is best classified as projecting a certainty level of "possible" or "certain"; however, my timeframe does not allow for me to extend my research in this direction. In my own set of data from the BNC, I only have one instance of *couldn't* used epistemically (see Section 6.4.2) which is not enough to support my speculation. Therefore, I can only admit for now that my wanting to include *couldn't/could not* when used epistemically as the speaker stating a level of certainty of "possible" (as opposed to "certain") is my own inference.

4.7.4 (b) Linguistic substitution check: *it is possible that...*[verb in relevant form]

Bybee and Pagliuca (1985) assert, "*May, might, or could* can be substituted [...] with only small changes in meaning" (p. 77). However, the paraphrase, or linguistic substitution check, most used by linguists (Coates, 1983; Collins, 2009; Hermerén, 1978; Leech, 2004; Palmer, 1990; Sweetser, 1982) for CAN and COULD to convey 'epistemic possibility' is *it is*

possible that. This is the linguistic substitution check I use for ‘epistemic possibility’ when examining CAN, COULD and BE ABLE TO in the present study.

- (31) It seems likely that our dreams are attempts to make sense of experiences which are vivid but inconsequential (as suggested by John Hughlings Jackson in his Perceptual Release Theory) and this will be dealt with later in the chapter. Maury's dream **could** be a good example of this sort of attempt at comprehension of a series of striking but unconnected images and sensations, a form of the "effort after meaning " that the Cambridge psychologist Sir Frederick Bartlett ascribed to normal waking memory processes in the first half of this century. (BW592) (W_non_ac_soc_science)

In (31) the linguistic substitution check is: *It is possible that Maury's dream is a good example of this sort of attempt at comprehension*. In this instance the speaker is stating his/her certainty, at a level of ‘possible’, that Maury’s dream is a good example.

Instance (32) is an example of how *it is possible that* works for ‘epistemic possibility’, and instance (33) shows how it does not work for ‘external possibility’.

- (32) Strengthen # Rosenthal signed for Liverpool three years ago but is reluctant to spend another season at Anfield with no guarantee of first team football. Selling him would help strengthen Souness's financial hand. The fall of Terry Venables as chief executive at Spurs will not have missed his attention -- and it **could** strengthen the Liverpool manager's bid to persuade 2m defender Neil Ruddock to come to Anfield. (BW614) (W_newsp_other_social)

In (32) we can use the linguistic substitution check of: *and it is possible that it will strengthen the Liverpool manager's bid to persuade 2m defender Neil Rudock to come to Ansfield*.

- (33) He fainted when they moved him, it was such an upheaval thought we'd lost him then, and then on a beautiful air bed and he looked (SP:KCPPSUNK) (unclear) (SP:PS0GS) it was too late came Saturday night he was on morphine tablets, I stayed with him all day Sunday, and I **could** see he was dying then, I stayed with him all night, all day, and then, gone Saturday night (BS476) (S_conv)

Using “it is possible that” in (33), *...and it was possible that I saw he was dying then...* does not convey ‘epistemic’ modality as the speaker is not projecting his/her certainty of whether

or not he/she saw “he” was dying; the speaker is describing a general possibility of seeing that he was dying due to the external circumstances, for example, “he fainted when they moved him”.

The second linguistic substitution check, “it is certain that”, is relevant only for CAN in non-affirmative contexts. Therefore, I explain this in the Chapter on CAN in Section 5.3.8.

4.7.5 Time factor in ‘epistemic possibility’

I believe that for ‘epistemic possibility’ the time in which the situation takes/took place is relevant to its meaning. Focusing on the timing of the situation, those which are in the past/present focus on the speaker’s certainty about the factuality of a situation, compared to instances that are in the future, which focus on a speaker’s certainty towards a situation occurring. In prototypical instances of ‘epistemic possibility’, the situation is in the past or present, as one would be able to find evidence to support the utterance’s validity. For example, in *So it **could** have been he who slipped over the side and did it, ’ Arabella Buckley had promptly declared* (BNC, W_fict_prose), there is an actuality to the utterance. In less-prototypical instances, the situation is in the future and the factuality of the situation does not exist, yet. In the following example, *So there **could** be a number of chartered engineer vacancies come up, during those four to eight years...* (BS475), the speaker is stating his/her certainty, at a level of possible, of the situation occurring in the future.

As evidenced from the above sections on ‘epistemic possibility’, it is not a category that is straightforward to classify. In Guo’s (1995) paper, he recognises the impreciseness of epistemicity and refers to the meaning as “epistemic-like” for the reason that “this is not a robust or well-established category” (p. 209). Therefore, for each instance included in the following chapters as ‘epistemic possibility’, I have included detailed reasoning for classifying it as such in an attempt to make my analysis, and thinking, as transparent as possible.

4.8 ‘Directive’ / ‘commissive’

In my analysis of modals in the BNC, I came across instances where the modals were not expressing judgement, certainty or stance; they were performing another sort of job, which

led me to speech act theory. J. L. Austin (1962) is recognised as pioneering the field of speech act theory, with others, such as Searle (1976, 1979) following. In my analysis, I used Searle's work as a starting point. Searle (1979) creates five main categories of speech acts, which are, using Palmer's (1986) succinct descriptions: (a) assertives ("where we tell our hearers (truly or falsely) how things are"), (b) directives ("where we get them to do things"), (c) commissives ("where we commit ourselves to doing things"), (d) expressives ("where we express our feelings and attitudes") and (e) declarations ("where we bring about changes in the world with our utterances") (p. 13). Some linguists (e.g. Høye, 1997; Palmer, 1986) have situated their modality framework in speech act theory with varying models. Høye (1997) uses the categories assertives, directives and commissives in his study (excluding declarations and expressives), which I think is a good beginning for my own framework.

Putting speech act theory into my own framework, it appears to me that most modal instances, 'epistemic possibility' and 'possibility (real-world)', fit mostly in the assertives category. This leaves us with the categories of directives and commissives. In his work, Searle (1979) uses the verbs "*ask, order, command, request*" as example directive verbs (p. 14). However, directives do not always contain directive verbs, and utterances doing this kind of work sometimes contain modal verbs. Instances (34) and (35) below are examples of 'directives', and (36) is an example of a 'commissive'.

(34) Is it too hot? (SP:PS0H8) Yeah. (SP:PS129) Yeah. (SP:PS0H8) **Could** you bring me a drink please Susan? (BS477) (S_conv)

(35) **Can** we have four groups. Get into four groups (SP:KPVPSUNK) (BS373) (S_conv)

(36) Hello Tony, was Christine okay? (SP:PS0V4) Hello, yeah. (SP:PS0V6) We'll drop her back. (SP:PS0V4) Well we can, we **can** (SP:PS0V6) Unless you want her earlier, (SP:PS0V4) pick her up about seven. (SP:PS0V6) yeah that's fine. (SP:PS0V4) (BS357) (S_conv)

In instance (34), it is not simply the case that the speaker is enquiring about the possibility of the situation, it is a request for a drink. Instance (35) is a polite command to make four groups and (36) is a commissive in which the speaker commits to "pick her up". Yule (1996) states, "Indeed, there is a typical pattern in English whereby asking a question about the hearer's

assumed ability ('Can you?', 'Could you?') [...] normally counts as a request to actually do that something" (p. 56). In the instances above, the "can" and "could" are used to create indirect speech acts and "'soften' directives or make them more polite" (Kennedy, 2003, p. 318). Searle (1979) applies the idea of the "sincerity condition" which is "the psychological state expressed in the performance of the illocutionary act" (p. 5) and concludes that the sincerity condition for directives is "want" and for commissives is "intention".

The criterion I use for analysing a 'directive' or 'commissive' is:

- (a) Linguistic substitution check: *I want you to* (directive) and *I intend to* (commissive)

Applying "want" and "intention" to (34) – (36), a more accurate paraphrase connected to a 'directive' is *I want you* and to a 'commissive', *I intend to*.

I want you to bring me a drink... (34)

I want you to make four groups... (35)

We intend to pick her up... (36)

According to Searle (1979) "the illocutionary point of these [directives] consists in the fact that they are attempts [...] by the speaker to get the hearer to do something" (p. 13). He continues to explain that these "attempts" range from suggesting to insisting. Commissives are "those illocutionary acts whose point is to commit the speaker [...] to some future course of action" (Searle, 1979, p. 14). Searle adds that since the "direction of fit" (world-to-word) is the same for 'directives' and 'commissives', it would be more convenient to put these into the same category (p. 14); in both cases, the speaker is attempting to get the world to match the words spoken. For this study, I have followed Searle's idea and have grouped 'directives' and 'commissives' together. Further support for this grouping is that both of these speech acts are less associated with modality than the other categories, for example 'external possibility' and 'permission'. Moreover, it is convenient to group these together for my frequency data since the frequency of these are lower than those in other categories.

Because my study has a focus on modal auxiliaries, when I found a 'directive' or 'commissive', I placed it in a 'directive' / 'commissive' category (for lack of a single term that captures both). I believe using 'directives' / 'commissives' as a main category within my study and not adding additional categories (e.g. suggestion, request, command) is sufficient

as this would require a level of analysis within speech act theory that is not relevant to this thesis topic. Therefore, for my frequency analysis I include instances in the overall ‘commissive or directive’ category, and explain the function of each instance individually when presenting my analysis.

Some linguists recognise directive speech acts using modals, yet incorporate them into other main categories of meaning. Collins (2009) and Palmer (1990) use the term ‘dynamic implication’ and include these in their ‘dynamic’ category. Palmer (1990) provides, in interrogative form, examples such as, “Can you hold on?” and explains, “This (expecting the answer ‘Yes’) implies that we can, and therefore that we should” (p. 92). I would take this one step further and say that by saying “yes”, we not only say that we “can” and we “should” but that we “will”. Facchinetti (2002) also puts these types of instances into her ‘dynamic’ category, identifying them using their functions (e.g. suggestion, request). And Coates (1983) includes a section titled “pragmatic considerations” where she discusses “covert imperative[s]”, with explicit mention of CAN and COULD, and how they “implicitly [make] clear the speaker’s desire for the addressee to act” (p. 98). Though she recognises “covert imperatives”, she does not have a separate category for them and instead includes them in her ‘root possibility’ category. Again, because of the different behaviour that occurs in these instances, I think they are best analysed separately for clarity, as they require a different kind of response than modal auxiliaries do.

Conventional directives are not often given enough attention in meaning analyses of modal auxiliaries. These types of meanings are indeed found in corpus studies and included in English as a second language coursebooks, yet they are usually glossed over as pragmatics, leaving readers and students not clear about how these modals function as ‘directives’ and ‘commissives’. With the focus of my study being on English language learners, I think a separate category helps students to better understand these various meanings and uses.

4.9 ‘Phrase’

This section focuses on the ‘phrase’ category in my meaning analysis. In the process of my analysis, I came across various instances that included the modal auxiliaries in this study, but similarly to ‘directives’ / ‘commissives’, they did not reflect speaker’s judgement, certainty or stance towards a situation. Furthermore, these instances did not fit the linguistic

substitution checks meaningfully, and seemed to have different meanings altogether. Sometimes referred to as idioms or ‘idiomatic expressions’, I prefer the term ‘phrase’ which comes from Sinclair (2006) who describes “phrases” as “groups of words which are used together with little variation and which have a meaning of their own” (p. xviii).

My criteria for classifying an instance in the category ‘phrase’ are:

- (a) The modal auxiliary + verb create a new meaning (e.g. “can’t say” = *don’t know*)
- (b) The verb meaning does not occur without the relevant modal. (e.g. the meaning *don’t think* from “can’t see” is not conveyed with “see” only)

Though I recognise these ‘phrases’ do not represent one united meaning, as, for example, ‘permission’ does, because they are being used in the same manner, used together with a meaning of their own, I have classified them together within the same category.

4.9.1 (a) The modal auxiliary + verb creates a new meaning

In this first criterion, the meaning of the modal auxiliary + verb has to be paraphrased with something other than the meaning of the lexical verb, as in instance (37).

- (37) It's just (pause) and it's so, it's like it was raining the other day when we went to go out (pause) and just **could** not be bothered. It was really (SP:PS527) Mm. (SP:PS527) pelting down. Oh it was when we were gonna go to the cinema and I phoned Marion and I said no, I really cannot be bothered, it's just pouring down with rain, had to (SP:PS527) Yeah. (SP:PS527) (BS480) (S_conv)

In (37), “could not be bothered” can be paraphrased as *I did not want to*. Sinclair (2006) explains, “If you say that you **can’t be bothered to** do something, you mean that you are not going to do it because you think it is unnecessary or because you are too lazy” (p. 155).

This new meaning is not always easily paraphrased by a few words, as is the case in instance (38):

- (38) are, are evil, not all of them are, it's only some who are but I think every sixty thousand more than likely are gon na look at theirs as being the evil one, that they are going to want to, to overthrow. (SP:PS46J) Yeah. Or er (SP:KGNPSUNK) **can** can I just say that I think it's interesting that Mao's sort of targeting the local tyrants and the

erm the evil gentry I mean because you could, you could ar-- argue that basically the landlords are only trying to get a return erm which is, which is equal to what (BS400) (S_tutorial)

Instance (38) fits the ‘possibility’ linguistic substitution check of: *is it possible for me to just say that I think...*, yet it does not carry a ‘possibility’ meaning. In this instance, the speaker is using *can* as a polite way to interject his or her opinion. The speaker is not actually asking ‘permission’ to say as he or she is in the process of saying it, but has used *can* as a way of interjecting and sharing his or her opinion. Sinclair (2006) supports this by explaining, “you use **say** in expressions [...] to indicate that you are expressing an opinion” (p. 1282).

4.9.2 (b) The verb meaning does not occur without the relevant modal

In the instances where the verb meaning does not occur without the relevant modal, usually if we remove the modal, we get a different meaning, as in instance (39):

- (39) (SP:PS0X8) Right I'll get us some fags, we'll have a couple of cakes. Well I do n't see the point, I mean we're staying in every bloody daft day are n't we? You know? And I really think (SP:PS0X9) (unclear) (SP:PS0X8) Eh? (SP:PS0X9) I said I **can't** see it coming off. (SP:PS0X8) I think it's bloody (SP:PS0X9) I mustbe honest. (SP:PS0X8) peculiar in n it? (SP:PS0X9) Who wants to do that travelling every day anyway? (SP:PS0X8) Well (pause) this is what she said ju-- just now, yeah well not just now, earlier on (BS2586) (S_conv)

Looking at “can’t see” above, the new meaning created by this is something to the effect of “I don’t think it will happen”. Using “see” without *can’t* would change it to the speaker or writer talking about physically seeing or understanding.

Specific to CAN, some linguists such as Quirk et al. (1985) include these instances that I would describe as ‘phrase’ in their ‘ability’ meaning category and note that CAN “occurs in certain informal negative verb phrases, such as *cannot/can’t help*, *cannot/can’t stand*, and *cannot/can’t bear*. The negative orientation of these phrases means that their positive counterparts cannot be used” (p. 222). Hermerén (1978) takes a similar approach in his analysis and puts the following utterance in the category of ‘ability’: “The beehive voices, for no one could bear silence, drowned out the sounds of Mrs. Lincoln’s weeping” (p. 103). I

would analyse this example as ‘phrase’ because the meaning of *no one could bear* is similar to *no one liked* and there are no instances with, for example, “I bear”, with the same meaning; it is the *could* + “bear” that makes up the phrase.

4.10 ‘Volition’

In my data, there are instances that though they fit the linguistic substitution check of *it is possible for*, the meaning is not focused on possibility but rather on volition. The speaker/writer is stating what he/she wants. Though it is common for linguists to include a ‘volition’ category connected to modal auxiliary meanings, it is usually in association with *will*, *would* and *shall*, not CAN, COULD and BE ABLE TO as I have found in my study. My criterion for classifying an instance with a meaning of ‘volition’ is:

- (a) Linguistic substitution check: *want to...*

The following instances, (40) and (41), are examples of ‘volition’. Instance (40) is a form of social hedging. The speaker is an adult male and the hearer is a young girl.

- (40) , wag your tail. Who's a good doggy? Ah! Wag your tail, yeah see
 (SP:KD4PSUGP) (unclear) (laugh) (SP:PS13C) He said yes. (SP:KD4PSUGP)
 (unclear) (dog-barking) (SP:PS0JW) I'll provide the biscuits every week.
 (SP:KD4PSUGP) (unclear) (SP:PS13B) Hold me up. (SP:PS13C) Oh no I can't Katie,
 I **can't**, you're too heavy. Up you get, ooh you're a big lump now, you are getting a
 big girl. (SP:PS13B) I like (unclear) (SP:PS13C) Well I don't (unclear) (SP:PS13B)
 (laugh) (SP:PS138) What time did people start coming round this morning? I mean I
 looked out and (BS2592) (S_conv)

In (40) the young girl is requesting to be picked up and the speaker says, “I can’t, you’re too heavy” followed immediately by “up you get”. The “up you get” is the speaker picking the girl up, which is audible on the recording. This “can’t” is volitional in the sense that the speaker really doesn’t want to pick the girl up and not a question of the speaker’s ‘ability’ or ‘external possibility’ constraints. The linguistic substitution check for this instance is: *I don’t want to [pick you up]*. By using the form “can’t”, the speaker saves himself from a face-threatening act of saying “I don’t want to”. Fraser (1980) refers to this as “conversational

mitigation” and describes it as an “attempt at reducing the harshness or hostility of the force of one’s actions” (p. 342).

- (41) (SP:KBCPSUNK) Hello. (SP:PS1AD) little schoolgirls play football.
(SP:PS1AA) Mm. (SP:PS1AD) Rugby league's the harder game of the three.
(SP:KBCPSUNK) (unclear) (SP:PS1AA) Is it? (SP:PS1AD) Yeah. (SP:PS1A9) It's
no use (laughing) trying to smarm me. (SP:PS1AG) I **could** watch a game of rugby, I
couldn't watch (SP:KBCPSUNK) A biscuit. (SP:PS1AG)a game of football.
(SP:PS1A9) No! (SP:PS1AD) Yeah. (SP:PS1AA) I wonder what is, what is the basic
difference between rugby league (SP:KBCPSUNK) Not me. (SP:PS1AA) and rugby
union then? (SP:PS1AD) Rugby union players have got (BS471) (S_conv)

In the instance above, the speaker is expressing that he/she would *want to* watch a game of rugby, but not a game of football. It is not the case that it is possible, and even less the case that the subject has the ‘ability’ or ‘permission’ to do so.

This demonstrates a way in which speakers and writers can use modals to their advantage to indicate what they would or would not like without outwardly saying it.

4.11 ‘Ambiguous’ and ‘indeterminate’

Palmer (1990) makes a case for the terms ‘ambiguous’ and ‘indeterminate’ not being synonymous. He claims that ambiguity occurs when, “it is not possible to decide in a particular context between two possible meanings of a form” and only one applies to the situation, compared to ‘indeterminacy’ which, “implies that no firm decision could, even in principle, be made” (p. 22). His discussion is prompted by Coates (1983) who uses these terms synonymously. Others use the terms ‘indeterminate’ (Collins, 2009; Römer, 2004a) and ‘unclear’ (Römer, 2004a) when analysing meaning, yet do not expound on what their interpretation of each is.

4.11.1 ‘Ambiguous’

From my own data, an instance that I assigned as ‘ambiguous’ is discussed below and an instance I assigned as ‘indeterminate’ is in Section 4.11.2.

- (42) # Body found: # The body of a man was found in a fume filled car on the isolated North Yorkshire moorland road between Stape and Goathland yesterday. Police said they had **not** yet **been able to** identify the man but he is not believed to be local. (BW98) (W_newsp_other_report)

I analysed instance (42) as ambiguous between ‘ability’ and ‘external possibility’ as the police may not have been able to identify the man because of ‘ability’, as in they have not yet successfully succeeded in using their internal capabilities to identify the man, or ‘external possibility’, due to external circumstance, they have not had an opportunity to try to identify the man, or they have made an attempt but external circumstances stopped them. As with the other instances I have assigned as ‘ambiguous’ in this study, this instance does have enough context to create multiple meaningful readings, and more context or outside information would be required to determine specifically which meaning category it belongs to.

4.11.2 ‘Indeterminate’

‘Indeterminate’ instances are those that do not provide enough context to result in any meaningful reading. Instance (43) is provided as an example below.

- (43) (SP:KDAPSUNK) Its not worth it for you is it, you might have to hang on till after Christmas and try and (unclear) (SP:PS1GF) I might phone them up and just, ask them if there's any jobs going after Christmas sort of thing (pause) (SP:KDAPSUNK) **Can** use the good (unclear) the things, I mean, for a, for us who haven't got permanent jobs yet (SP:KDAPSUNK) (unclear) (SP:KDAPSUNK) (unclear) not working. (SP:PS1GF) That's right, its a job (unclear) (pause) Has he got the flight out there and everything, they pay for it? (SP:KDAPSUNK) (BS362) (S_conv)

The instance above does not convey any meaningful reading. It is natural for humans to want to understand the messages others are conveying. Halliday and Hasan (2014) discuss how a hearer or reader “will go to enormous lengths to interpret” a text and that “this is an aspect of the very general human tendency to assume in the other person an intention to communicate” (p. 54). Koshik (1999) found that the readers in her study were intent on creating meaning and commented on “how strong a reader’s expectation is of finding coherence in a passage, so strong, in fact, that readers may create coherence where it is absent” (p. 20). In (43) we could add our own context and assume that the speaker is permitting the hearer to use the

“good” *x*, or in another scenario that it’s possible to use the “good” *x*, but these are just fabricated scenarios as there is not enough context around this utterance to analyse its meaning.

In the next chapters which provide a detailed examination of instances of CAN, COULD and BE ABLE TO, I include example instances that are ‘ambiguous’ but I do not include any further example instances of ‘indeterminate’. They are represented in frequency counts, but do not hold meaning, so do not require further analysis.

4.12 Tag questions

According to Holmes (1984), “The most general function of tag questions, whether rising or falling, canonical or invariant, accompanying declarative or imperative main clauses, is to attenuate or soften the illocutionary force of the speech act they occur in” (p. 358). And perhaps a bit more accessible for a learner, Biber et al. (1999) explain, “the main function of the tags is to elicit confirmation or agreement (thus involving the addressee in the conversation) rather than to elicit information” (p. 208).

My approach to analysing tag questions is to use the modal auxiliary + main verb in the main clause for analysis, which is the meaning the tag refers back to. For example in instance (44), my meaning analysis is based on “could do” in the utterance. When I listened to the audio file for this instance, I heard “he” instead of “they” which I noted in the instance.

- (44) Well I did see him, he seemed alright (pause) but you see you can't tell what people are like, yo-- you may think they have (pause) ni-- (SP:PS0FS) I know. (SP:PS0FP) nice personalities (pause) but he could (pause) now do a runner with our van **couldn't** [he] they? (SP:PS0FS) Yeah. (SP:PS0FP) I reckon that's what honky tonk was on the other night though. (BS428) (S_conv)

I classified (44) as ‘external possibility’: (a) the possibility of someone doing a runner is dependent upon external circumstance, such as not knowing what people will do; and (b) linguistic substitution check: *due to (e.g. not knowing what people will do), it would be possible for him to do a runner with our van, would it not possible for him to do?*

What is interesting to note is that Perkins (1983) considers questions to be a form of epistemic modality and Coates (1987) also applies epistemic modality to tag questions in her

work. Coates says “tag questions can be used to express both the speaker’s lack of confidence in the proposition expressed (e.g. tentativeness) and also the speaker’s commitment to the proposition” (p. 117). However, because grammatically the tag question connects with the modal auxiliary + main verb in the main clause, I think a better approach is to analyse the modal auxiliary + main verb, which in this case, is focusing on ‘external possibility’ and not ‘epistemic possibility’. With regard to frequency counts reported in this study, counts include only the instances which are part of the data set. In other words, if the tag was one of the instances included in the random sample data set, it was included in the category count.

Having described the meaning categories associated with CAN, COULD and BE ABLE TO as used in the BNC, the next section shows how these categories are organised. Though I often use the term “meaning categories” to represent the above categories found, I recognise that ‘phrase’, ‘ambiguous’ and ‘indeterminate’ do not actually represent meaning in the way that the others do. This term is used mostly for convenience to talk about all the categories, yet, where appropriate, I do my best to differentiate “meaning category” from “category”.

4.13 My own modality cake

This section focuses on how I have organised the meaning categories I have identified into a larger framework. First I discuss how previous linguists have ‘sliced’ the modality cake as described in Table 6, Section 4.1, which provides background to the reasons I have sliced the cake the way I have. Then I discuss two major categories within my framework, ‘possibility (real-world)’ and ‘epistemic possibility’ (reasoning). In the next section, Section 4.14, I present my ‘Possibility’ diagram, which is the framework for this study.

4.13.1 Previous linguists’ slices of the modality cake

Developing my overall ‘Possibility’ framework was challenging as it forced me to make theoretical decisions for how I would set up my main and subcategories for modal meanings in my study. When creating categories and looking at the key differences in Table 6, three significant decisions I needed to make were to consider: (a) how many main divisions to have, two or three; (b) how to account for ‘general possibility’ given its inclusion in ‘epistemic possibility’ and ‘possibility (real-world)’ by other linguists; and (c) where to put

the category of ‘ability’, due to the lack of consistency among linguists with respect to where to place it. These small, but big, differences show just how complex the modal system of ‘Possibility’ is. There exists such an overlap between the categories that to divide those which have *x* characteristics from those which have *y* characteristics and, even if you extend it to a third grouping, those which have *z* characteristics (like Collins and Palmer has), there are still characteristics which are shared across some categories.

Biber et al. (1999) and Quirk et al. (1985) use an ‘intrinsic’ and ‘extrinsic’ approach to modality with Quirk et al. describing ‘intrinsic’ as “‘permission’, ‘obligation’, and ‘volition’ which involve some kind of intrinsic human control over events” and ‘extrinsic’ which includes “‘possibility’, ‘necessity’, and ‘prediction’, which do not primarily involve human control of events, but do typically involve human judgement of what is or is not likely to happen” (p. 219). Had I followed this type of model, ‘ability’ would have been included under ‘extrinsic’ (‘epistemic possibility’) as Quirk et al. (1985) consider ‘ability’ to be a special case of ‘possibility’ (p. 222). This would have been problematic as I would have ignored the strong connection of ‘ability’, ‘permission’ and ‘external possibility’ (sharing the same underlying linguistic substitution check of *it is possible for x*) and would have connected ‘external possibility’ and ‘ability’ to ‘epistemic’ modality, which I believe are separate in meaning.

As discussed before, there are those (e.g. Collins, 2009; Palmer, 2001), who use a three category system which includes ‘deontic’, ‘epistemic’ and ‘dynamic’. If I were to have followed their model, I would have put ‘permission’ into the deontic category, ‘ability’ and ‘external possibility’ into ‘dynamic’, and maintained my ‘epistemic’ category. I think applying the two categories, those equivalent to ‘epistemic’ and ‘deontic’, work well; however, I believe including a third category, ‘dynamic’, would be too abstract when keeping English language learners in mind as ‘dynamic’ is mainly for the purpose of separating instances that have a deontic source or authority from those that do not. With regard to ‘dynamic’ modality, Collins (2009) states, “not all cases of root modality are deontic: a possibility or necessity may arise not from an authority, or ‘deontic source’, but rather from general circumstances [...] or from properties intrinsic to the subject-referent” (p. 22). From my view, the connection between general circumstances and ‘ability’ does not lend itself to a clear category which should be separate from other meanings, and I believe ‘ability’ still overlaps greatly with ‘deontic’ modality with respect to ‘Possibility’, the main focus of my

research. Moreover, I view this categorisation as problematic as it does not recognise the *it is possible for* connection of ‘permission’, ‘ability’ and ‘external possibility’.

Knowing how linguists’ views vary on these categories, and how hard I found it to organise the modal meanings in my study, shows how closely knit they are. I recognise that there is no one way to organise these meanings and it is a matter of how those with varying views (including now, mine) slice the same modality cake.

4.13.2 ‘Possibility (real-world)’ or ‘agent-oriented’

When deciding on the best umbrella category term for ‘ability’, ‘permission’ and ‘external possibility’, I considered using the term ‘agent-oriented’ (Bybee, 1985; Bybee & Pagliuca, 1985). Bybee (1985) considers ‘agent-oriented’ modality to be “restricted to clauses with an animate agent – someone with whom conditions of obligation, permission, ability or volition may be associated” (p. 168). Bybee and Fleischman (1995) include “root possibility” in their description of ‘agent-oriented’ modality (p. 6), and refer to Bybee (1985), yet she does not actually include “root possibility” in her explanation, as reflected above. Furthermore, Bybee and Pagliuca (1985) explain they use the term “agent-oriented” for what they say Coates calls “Root Modality”. They continue:

...there are two types of possibility, an epistemic and a non-epistemic. We will use Coates’ term, Root Possibility, for the non-epistemic type. The classification that results is one in which Root Modality is a large class including all non-epistemic uses, and is further divisible into agent-oriented and non-agent-oriented modalities. (p. 77)

I find these explanations contradict themselves with respect to where root possibility fits and by including non-agent-oriented in their overall ‘agent-oriented’ category. The way I interpret Bybee and Pagliuca's (1985) intent is a system in which there are two categories. The first is ‘agent-oriented’, which includes ‘obligation’, ‘permission’, ‘ability’ and ‘volition’, and the second is ‘epistemic’, which has no agent. The way I understand their quote above is that under the umbrella of “Root Modality”, there exists both ‘agent-oriented’ and ‘non-agent-oriented’, which is the main contradiction, as previously there was no association of “Root Modality” with a ‘non-agent’.

Contradictions aside, the main reason why I do not use the term ‘agent-oriented’ for the umbrella category for ‘external possibility’, ‘ability’ and ‘permission’ is because whether directly, or indirectly stated, some form of an agent would be required. Looking at the instances below, I don’t believe I can build a strong case for an agent connection, and these are only a few of the many that I came across. Coates (1983) takes the same approach to her analysis as well and says “there is no necessary association of ‘Possibility’ with an agentive subject function” (p. 93). I use instances from my data set to explain further.

- (45) The drawing of graphs and diagrams are obvious examples, but simpler possibilities such as the creation of large characters and simple block diagrams may have an even greater psychological impact in the classroom. Not only Cartesian graphs but contour plots and maps can also be effective. (BW465)
(W_ac_polit_law_edu)

I analysed (45) as ‘external possibility’ (see Section 4.6), which is similar to ‘root possibility’ above. I would argue that in this instance there is no agent present and therefore it should not be included in a category titled ‘agent-oriented’.

- (46) # DOORS # Unfortunately, doors can be as bad as windows in letting unwanted noises into your home. A flimsy flush door with a hollow core needs to be replaced by a door of more solid construction. Draught-stripping around the frame will help prevent sound entering through the joint of the door and frame. A close-fitting threshold makes (BW456) (W_instructional)

In instance (46) above, I would argue there is also no agent; there are only natural/general/external circumstances at play that allow unwanted noises in. From examining these two instances, which are not anomalies in my data, I think it is better for my framework for ‘ability’, ‘permission’ and ‘external possibility’ to use the term ‘possibility (real-world)’, as opposed to ‘agent-oriented’. As stated previously, the most meaningful connection for all of these categories in ‘possibility (real-world)’ is the linguistic substitution check: *it is possible for*, which I demonstrate further below in Section 4.14.

4.13.3 From ‘possibility (real-world)’ to ‘epistemic possibility’

My possibility diagram (see Figure 4 below) is laid out so that ‘possibility (real-world)’ is on the left and ‘epistemic possibility’ is on the right. This is done to reflect the ‘real-world’ meanings coming before ‘epistemic’ meanings. In her paper, Sweetser (1982) puts forth the idea that epistemic modals are an extension of root modals, or what I term ‘possibility (real-world)’ modals. Sweetser sets out to prove that “root modal meanings are extended to the epistemic domain precisely because we view our reasoning processes as being subject to compulsions, obligations, and other modalities, just as our real-world actions are subject to modalities of the same sort” (p. 484). Similarly, the idea that modals were once main verbs and ‘epistemic’ meanings followed ‘possibility (real-world)’ meanings is also noted in Bybee and Pagliuca (1985). While Traugott (1989) also believes ‘epistemic’ meanings followed ‘real-world’ meanings, she includes in her footnotes that the permission meaning of *can* came after its epistemic meaning (p. 36). Traugott accounts for this claim by citing Bybee (1988) and Bybee and Pagliuca (1985) and explaining that permission *can* came from ‘ability’ and not from its epistemic sense and that the development was “parallel” (p. 36).

4.14 Possibility diagram

The way in which I have ‘sliced’ the modality cake is shown in Figure 4 below. I have situated CAN, COULD and BE ABLE TO in a large domain of ‘possibility’.

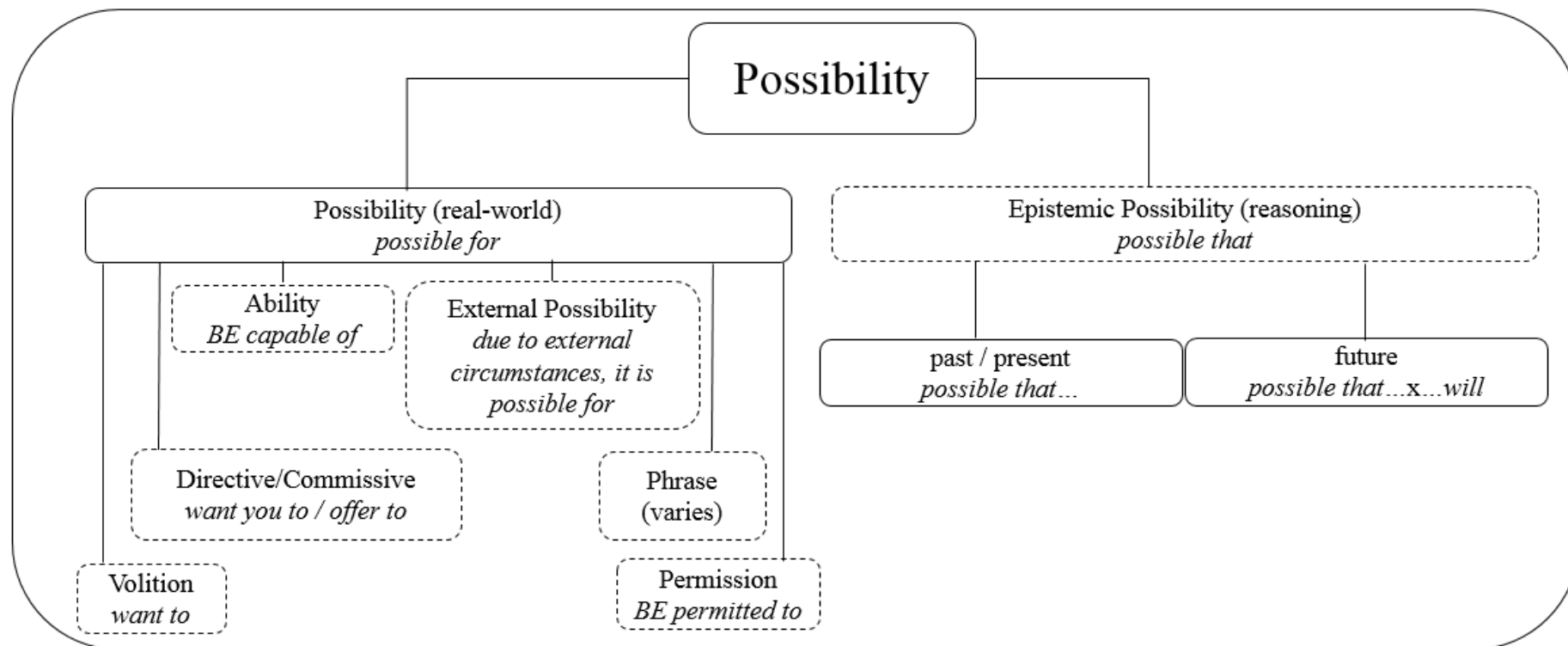


Figure 4: Possibility diagram

Within the ‘Possibility’ domain, I have two main categories, ‘possibility (real-world)’ and ‘epistemic possibility (reasoning)’, with ‘possibility (real-world)’ containing multiple subcategories. The dotted lines represent the seven meaning categories I use in this study for analysis and I chose dotted lines to reflect that there are prototypical instances and non-prototypical instances that sit somewhere on the periphery of the tidy category boxes shown.

The driving force that lead me to ‘possibility (real world)’ as one main umbrella is that ‘*it is possible for x*’ can be substituted into all six meaning categories as demonstrated below.

(a) (ability)

the finger amputated. She **was unable to** do any particular part of her job. (BS106)

(S_unclassified)

- i. *It was not **possible for** her to do any particular part of her job.*

(b) (permission)

There is discrimination however against people working part time, for instance, in the universities; and only since April 1986 have part-timers in local government **been able to** join. (BW38) (W_non_ac_soc_science)

- i. *...and only since April 1986 has it been **possible for** part-timers in local government to join*

(c) (external possibility)

You **can’t** see Andrew Stavanger, because he’s away at the moment. (BW2626)

(W_fict_prose)

- i. *It is not **possible for** you to see Andrew Stavanger, because he’s away at the moment.*

(d) (volition)

“I **can’t** look!’ said Etty Moorhen, hiding her head under her wing.’ It’s too horrible.

(BW2617) (W_fict_prose)

- i. *It is not **possible for** me to look!*

(e) ('directive' / 'commissive')

(directive)

okay **could** you all please just draw a house (BS460) (S_speech_unscripted)

- i. *okay, is it **possible for** you all to please just draw a house*

(commissive)

Can you bring me a (pause) pint of lime and lemon (pause) with some i-- lots of ice?

(SP:PS043) Yeah, course I **can**. (BS334) (S_conv)

- i. *Yea, course it is **possible for** me to bring you a pint of...*

(f) (phrase)

I think it's special to have the largest number of bells of all churches in Oxford. I

can't wait to hear them. (BW2676) (W_news_script)

- i. *it is not **possible for** me to wait to hear them*

Though the linguistic substitution check fits in to the instances above, it does not specifically capture their meanings. To understand their meanings, one needs to rely on further substitution checks for each of 'external possibility', 'permission', 'directive', and so on. However, it is the main distinguishing factor between these meanings and 'epistemic possibility', which uses *it is possible that* as a linguistic substitution check. The 'epistemic possibility' instance below shows how the linguistic substitution check of how *it is possible that* works to convey a certainty level of 'possible' and that the linguistic substitution check of *it is possible for* does not fit here.

(g) (epistemic possibility)

- i. The pound also hit a new low against the mark at DM2.40. Shares were just as jittery. John Major's fate is now in the balance and if he loses the vote on Europe and resigns, dealers reckon we **could** see shares in freefall with at least 15bn to 20bn wiped off. But FT-SE shook off the blues and notched up a 29.5-point leap to 2687.8. (BW607) (W_newsp_other_commerce)

- ✓ *dealers reckon **it is possible that** we will see shares in freefall with at least...*

X *dealers reckon it is possible for us to see shares in freefall with at least...*

As discussed Section 4.7.3, there are cases in ‘epistemic possibility’ when the level of certainty is ‘certain’, as opposed to ‘possible’. However, this only occurs with *can’t/cannot*, and minimally in my data (see Section 5.3.8). Therefore, ‘epistemic certainty’ does not appear on my ‘Possibility’ diagram.

Returning to my explanation of modality in Section 2.1, “The grammaticalisation of a speaker’s (or writer’s) subjective attitude and opinion, relative to *x*, ...”, with consideration to the meaning categories found in the BNC, “*x*” can be described as “personal beliefs” (Perkins, 1983) in cases of ‘epistemic possibility’, as well as the internal competence of the subject in cases of ‘ability’, human authority/rules and regulations in cases of ‘permission’, external circumstances in cases of ‘external possibility’, wants/intentions in cases of ‘directives’ and ‘commissives’ and wants in cases of ‘volition’.

Figure 4 represents the framework for analysis used in the present study. Next I discuss the relationship of the meaning categories ‘external possibility’, ‘ability’ and ‘permission’ presented by previous linguists compared to this study.

4.15 Framework for ‘external possibility’, ‘ability’ and ‘permission’

This section focuses specifically on the meaning categories ‘external possibility’, ‘ability’ and ‘permission’ as they have been dealt with in the past, and how I have handled them in the present study. Though reference is made mostly to CAN and COULD, as these are the more standard modal auxiliaries, the framework extends to BE ABLE TO as well.

Though I have seven meaning categories associated with CAN, COULD and BE ABLE TO (‘external possibility’, ‘ability’, ‘directive’ / ‘commissive’, ‘phrase’, ‘permission’, ‘epistemic possibility’ and ‘volition’), I recognise Guo’s (1995) statement that, “The meanings of can [...] are traditionally incorporated under the three conventional modal rubrics: ability, permission, and possibility” (p. 206). Because of this, historically, a great deal of discussion has been around these three, though their relationship and meanings have been treated differently throughout the literature, which I outline below. Figure 5 shows Quirk et al.’s (1985) ‘intrinsic’ and ‘extrinsic’ approach and separation of ‘permission’ (intrinsic) from ‘possibility’ and ‘ability’ (extrinsic). Coates (1983) uses fuzzy set theory to help describe

their relationship which is shown in Figure 6 below, and Leech (2004) views ‘possibility’ as being on a level above ‘ability’ and ‘permission’, which is presented in Figure 7 below. Following Leech’s diagram is the diagram he presents with Coates (Leech & Coates, 1980), Figure 8. This figure is closer to my own which is presented in Figure 9.

First I discuss Quirk et al. (1985, p. 221) who use the following diagram to represent the meanings of the modal CAN/COULD.

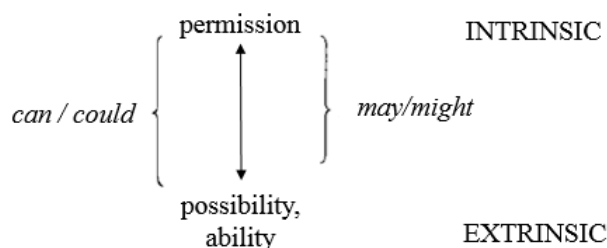


Figure 5: Quirk, Greenbaum, Leech, and Svartvik's (1985) diagram for *can/could* (reproduction)

With ‘intrinsic’ referring to “human control” and extrinsic referring to “human judgement”, Quirk et al. (1985) explain, “The arrows separate intrinsic from corresponding extrinsic meaning, and are a reminder that the distinctions between these two are gradual rather than absolute” (p. 221). They also add in their footnotes that they consider ‘ability’ to be extrinsic, noting, “even though ability typically involves human control over an action” and that it is, “best considered a special case of possibility” (p. 221). The reason why I have not chosen to adopt Quirk et al.’s model is because I do not agree that ‘possibility’ and ‘ability’ should be so closely linked and so far away from ‘permission’. I think that ‘permission’ should be closer to ‘possibility’ and on the same level as ‘ability’, which is what Coates' (1983) model shows below.

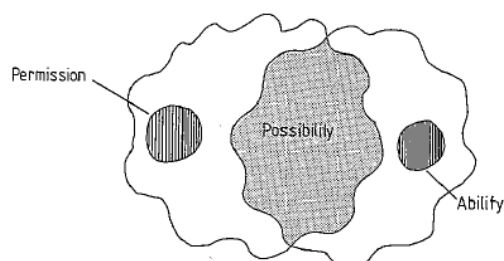


Figure 6: Coates' (1983) diagram for CAN

Coates' (1983) diagram (p. 86) exemplifies her use of the fuzzy set theory in analysing her data. In brief, her illustration represents the three different categories of 'permission', 'possibility' and 'ability'. Coates' (1983) diagram illustrates strong (prototypical) 'permission' and strong 'ability' instances, which I also apply to my framework by using prototype theory; however, my analysis diverges from Coates' as I also maintain there are clear 'external possibility' instances as well.

Leech's (2004) model shown below comes closer to my thinking as he recognises 'possibility' as its own clear category, yet the reason why I chose not to adopt Leech's diagram (p. 73) is because of the two-way arrows between 'possibility' and 'ability' and 'possibility' and 'permission'. Leech (2004) accounts for these by explaining:

The reason for representing the difference between *can* = 'possibility' and *can* = 'ability' (for example) as a scale is that we often find it difficult to decide whether a given instance of *can* belongs to one category or the other. For example, *No one can see us here* could be paraphrased 'It isn't *possible* for anyone to see us here' or 'No one is *able to* see us here'. (p. 73)

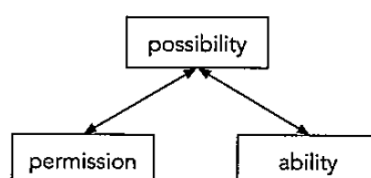


Figure 7: Leech's (2004) diagram for CAN

While I agree there are some cases that are ambiguous, the example instance above lack context. Context could easily be added to *No one can see us here* to decipher whether the situation is that of 'possibility' or 'ability'. For example, a 'possibility' reason may be that they are hiding and an 'ability' reason, though admittedly far-fetched, could be that the subjects all have poor eyesight.

As discussed previously in Section 3.5.1, context would assist in assigning a reading and in most cases eliminate the need for an 'ambiguous' reading and in the diagram above, a two-way arrow. Ironically, Leech's model is similar to the one in Leech and Coates (1980), which

excludes the two way arrows I criticised. Figure 8 below is a reproduction of the model proposed by Leech and Coates.

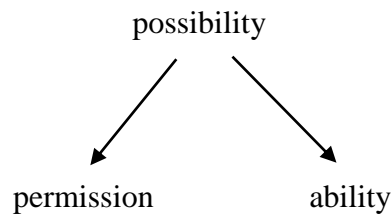


Figure 8: Leech and Coates' (1980) diagram for CAN (reproduction)

Though this is closer to my own (Figure 9), Figure 8 fails to take into account 'possibility', or what I term 'external possibility', as its own category with 'possibility' as the underlying meaning for all three - 'external possibility', 'permission' and 'ability'. Extracted from Figure 4, I have focused only here on the relationship between 'ability', 'permission' and 'external possibility'.

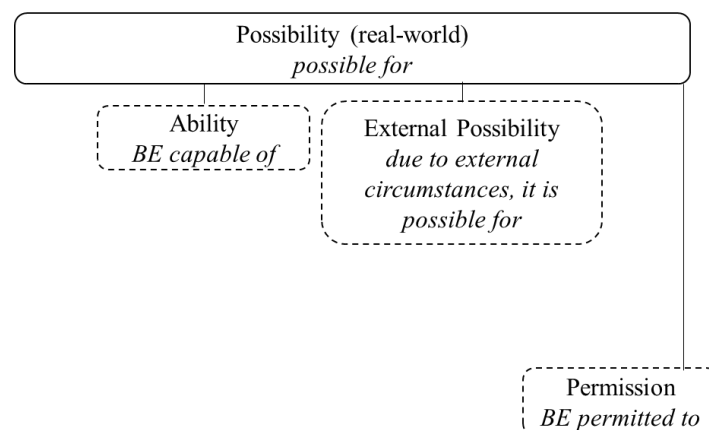


Figure 9: Whitty's diagram for CAN as it relates to 'ability', 'permission' and 'external possibility'

My diagram recognises 'possibility' as the essential meaning which can be divided into subcategories, which include 'ability', 'permission' and 'external possibility'. In an 'ability' reading, *x* is possible due to the subject's internal competence. In a 'permission' reading, *x* is possible due to human authority or rules/regulations, and in an 'external possibility' reading, *x* is possible due to external circumstances. Within my data analysis, for 'possibility (real-world)', I use the umbrella linguistic substitution check of *it is possible for* to show the

likeness between instances, here ‘external possibility’, ‘permission’ and ‘ability’, but then have an additional linguistic substitution check for each subcategory to illustrate the stronger meaning reading associated with each instance.

4.16 Summary of chapter

Chapter 4 presents the foundation of my framework for my thesis and provides explanations and examples throughout to support my reasoning. I first began with Table 6, which provided a ‘Summary of Modality from Chosen Linguists in Literature’ and revealed how previous studies on modality have lacked uniformity in terminology and criteria for classification. I then discussed important issues within general analysis of language such as multiple readings, monosemy and polysemy and subjectivity and layers of viewpoints involved in corpus-based analyses, including that of the speaker/hearer/writer, transcriber (for spoken corpora) and finally the reader/researcher. From there, I presented my categories of meaning – ‘ability’, ‘permission’, ‘external possibility’, ‘epistemic possibility’, ‘directive’ / commissive’, ‘phrase’, ‘volition’ - which are greater in number than found by previous linguists. After examining each individual meaning category, I presented my approach for dividing, or slicing, the various meaning categories for CAN, COULD and BE ABLE TO and my ‘Possibility’ diagram which shows ‘Possibility’ as the underlying meaning for all three modal auxiliaries. In the next chapters, 5-7, I present the meanings found for CAN, COULD and BE ABLE TO in the BNC using the meaning categories and framework in this chapter. As once described by one of my supervisors, the present chapter may well serve as a “how-to” assign meaning manual for my thesis.

Chapter 5: Frequency and meanings for CAN in the BNC

This chapter examines CAN in the BNC. I begin with a discussion of previous corpus-based investigations of CAN and then provide an overview of the frequency counts and category percentages I found in my own study. Each category is then presented with example instances, with each instance followed by a detailed analysis for its inclusion in its assigned category. At the end of each category section, I have included a brief discussion comparing findings of other corpus-based studies on CAN to my own.

5.1 Previous corpus-based investigations of CAN

While most corpus-driven investigations of CAN (e.g. Coates, 1983; Collins, 2009; Hermerén, 1978; Leech, Cruickshank, & Ivanic, 2001) found the ‘external possibility’ meaning to be the most frequent, not all linguists (e.g. Bald, 1990; Biber et al., 1999; Facchinetti, 2002; Römer, 2004a) have found the same. When examining the London-Lund corpus of spoken English (also known as the Survey in Coates’ work), Bald included CAN in those modal auxiliaries that “dominantly occur as epistemic” (p. 354). Biber et al. found equal use between what they call “extrinsic-possibility” and ‘ability’ in conversation and CAN used more for ‘ability’ than ‘extrinsic-possibility’ in academic contexts in the LSWE corpus. Facchinetti found ‘ability’ to be the most frequent in her study of the ICE-GB, which is inconsistent with Collins’ findings. This may be because Facchinetti used a 10% random sample to analyse instances of ICE-GB, while Collins analysed each instance. And Römer examined the spoken portion of the BNC and found ‘ability’ used more than ‘possibility’, which is contradictory to my findings (see Section 5.3).

With consideration to the studies above which did not find CAN used as ‘external possibility’ most frequently, one reason which may account for these differences is that I would not have necessarily classified the sample instances exemplified in these studies in the same way as the each study classified them. One instance comes from Biber et al. (1999) in which they analyse “*These observations **can** be explained biochemically*” (p. 492) as ambiguous between ‘ability’ and ‘logical probability’. Taking my meaning categories and their criteria into consideration, without further context it is difficult for me to make an assessment of this being ‘epistemic possibility’, ‘external possibility’ or ambiguous between the two. But I do feel that I can state with confidence that I would not assign this an ‘ability’ reading as the

subject is not animate and the possibility of the action is not determined by the internal competence of the subject; it is determined by external circumstances of what outcomes are occurring in the observations, or alternatively, the speaker's assessment of the situation.

Another example comes from Klages and Römer (2002). They provide an example that they classified as 'ability', "*Oh I know she's on the bus because I can see her there*" (p. 206). I was especially curious about this instance and looked into the BNC and found the original with its extended context:

You know there was (cough) when we used to go to Deerness I had very long hair and we And Kirkwall wasn't just the cleanest of place at places at that time. And my hair was (pause) gingery, more or less the colour of the map you know, or a little darker than the colour of the map. And when I When it was opened out for me going to Deerness, well that was a great event. Grandma used to always say, Oh I know she's on the bus because I can see her [t]here. And er when I went to school, Miss (-----) the old teacher, she used to take me out, er I used to go to the school ready to go to Deerness, we had to ask out a quarter of an hour early. And erm when Because we went the first day of our holidays, right away, to Deerness to my mother's people. And er (pause) I had to ask out this quarter of an hour early, well I got me hair all combed out all ready to go you see? But Miss (-----) used to take me out into here, to the teachers cloak room and and er er plait my hair up again and s-- say to me, I'll take it out before you go away Isa, because there was It wasn't a clean place in (laughing) Kirkwall.

It took me the above amount of extended context to confirm my initial thinking that this instance is better analysed as 'external possibility', rather than 'ability'. An 'external possibility' reading comes from the speaker's hair colour contributing to what makes her stand out on the bus and why it is possible for her grandmother to see her; the "seeing" is not because of her grandmother's capability to see. There is mention of the ginger hair colour once before the analysed "can", and her hair is mentioned again afterwards, thus confirming this is indeed about her hair, and specifically about the colour.

I emphasise the instance above to demonstrate how important context is and to show how essential it is for linguists to articulate their own reasoning for including an instance in a meaning category. In my own analysis, these are two things I strove to do with each example

instance. Because linguists' decisions about what meaning category to put an example in differs from framework to framework, these decisions can contribute to the variances in reported frequencies.

Another reason that may account for these differences is the categories associated with each modal. For example, for *can* (spoken) in the BNC, Römer (2004a) includes only three categories of meaning: 'ability', 'possibility' and 'permission'. Römer offers no criterial information or descriptions of her meaning categories, so it is not clear, for example, which category she included 'directives' and 'commissives' in or how she accounted for 'phrases'. Mindt does not use the term 'epistemic' but uses the following categories/terms: "possibility/high probability", "certainty/prediction", "necessity" and "inference/deduction" (pp. 75-76), with no explanation of the differences in his classification. Biber et al. (1999) describe their category "extrinsic-possibility" as "epistemic" with three meanings within – possibility, necessity, or prediction (p. 485). These differences in meaning categories make it difficult to relate previous studies' findings to my own.

In this next section, I present the overall frequency and category percentages for CAN from the BNC. These categories are related to those established in my 'Possibility' diagram (see Figure 4, p. 106). After each category, I provide example instances.

5.2 Overall frequency and category frequency percentages for CAN

In my study on CAN in the BNC, I found overall frequency counts and analysed a sample of the occurrences according to the categories outlined in Chapter 4. As discussed in 3.3.2, frequency calculations for written *can* were adjusted to account for instances of non-modality (e.g. *can* as a noun).

Table 7 below shows the frequency counts for spoken and written CAN in the BNC. Using the raw frequencies, I calculated the frequencies per 10,000 words, which are reported as rounded to the nearest whole number, and also the log-likelihoods (LL), comparing the spoken and written frequencies for the different forms.

Table 7: Frequency counts for CAN in the BNC

BNC	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)	Log-Likelihood (LL)
CAN	49,828	50	205,813	24	LL=18808.78 p<0.0001
<i>can</i>	37,105	37	188,779	22	LL=7777.48 p<0.0001
<i>can't</i>	12,723	13	17,034	2	LL=20812.29 p<0.0001
BNC Spoken - 9,963,663 BNC Written - 86,299,736					

When comparing the spoken and written data for CAN (including *can't* and *cannot*) from the BNC, the difference is shown by the LL calculation of 18808.78 which is significant at the level of $p<0.0001$. Furthermore, if examining only *can*, the LL calculation is 7777.48, and only *can't*, the LL calculation is 20812.29; both have a significance at the level of $p<0.0001$.

Collins (2009) also found in his study of the ICE-GB that CAN was used more frequently in spoken register than in written.

As discussed in Section 3.3.1.2, I used sampling in order to determine category percentages for the modals in this study. I took 100 random instances each for: *can* (spoken), *can* (written), *can't* (spoken) and *can't* (written), 400 tokens total. I uploaded these instances into Wordsmith Tools 6.0 and assigned a meaning category to each. Figure 10 below offers a snapshot of the category percentages associated with CAN. From this, it is evident that 'external possibility' was the most frequent meaning found.

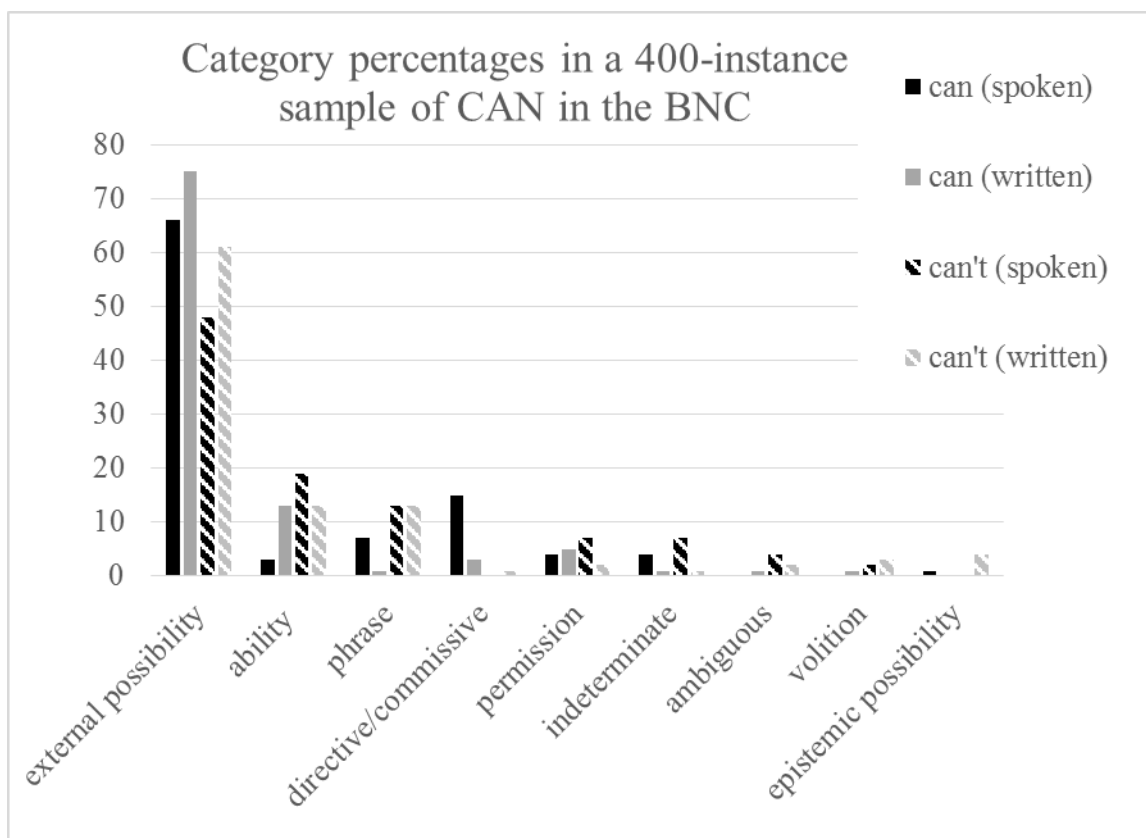


Figure 10: Category percentages in a 400-instance sample of CAN in the BNC

Table 8 matches Figure 10 above in that it provides the numerical value for the percentages.

Table 8: Frequency percentages per category for CAN in the BNC

Categories \ BNC ^s				
	<i>can</i> (spoken)	<i>can</i> (written)	<i>can't</i> (spoken)	<i>can't</i> (written)
external possibility	66%	75%	48%	61%
ability	3%	13%	19%	13%
directive/commissive	15%	3%	0	1%
phrase	7%	1%	13%	13%
permission	4%	5%	7%	2%
indeterminate	4%	1%	7%	1%
ambiguous	0	1%	4%	2%
volition	0	1%	2%	3%
epistemic possibility	1%	0	0	4%
total	100%	100%	100%	100%

The numbers in Table 8 are reported as percentages because the counts were samples of 100. In what follows I combine spoken *can* and spoken *can't* into spoken CAN, and written *can* and written *can't* into written CAN. I do this for the following reasons: (a) other corpus-based studies (Bald, 1990; Coates, 1983; Collins, 2009; Römer, 2004a) that I reference in comparison to my own combine *can* and *can't* into the modal category of CAN; and (b) *could* and *couldn't* are combined already as per the search parameters in the BNC which make a search for *could* which includes *couldn't* unavoidable.

The first step in combining *can* (spoken) + *can't* (spoken) was to find the percentage of spoken forms within CAN in the BNC. This is reflected in Table 9.

Table 9: Percentage of spoken forms within CAN (BNC)

Form of CAN (spoken)	Frequency	Percentage within CAN (spoken)
<i>can</i> (spoken)	37,105	74.47%
<i>can't</i> (spoken)	12,723	25.53%

Next, using the frequencies from *can* (written) and *can't* (written), I found the percentage of written forms within CAN (BNC) which is shown in Table 10.

Table 10: Percentage of written forms within CAN BNC)

Form of CAN (written)	Frequency	Percentage within CAN (written)
<i>can</i> (written)	188,779	91.72%
<i>can't</i> (written)	17,034	8.28%

These percentages contributed to the weighting of the sample data in Table 11 below. For spoken instances, the sample data in Table 11 has been weighted to reflect the much higher frequency of *can* (spoken raw frequency = 37,105; 74.47% of spoken instances) and lower frequency of *can't* (spoken raw frequency = 12,723; 25.53% of spoken instances) in the

BNC. Similarly, for written instances, the sample data in Table 11 has been weighted to reflect the much higher frequency of can (written raw frequency = 188,779; 91.72% of written instances) and lower frequency of can't (written raw frequency = 17,034; 8.28% of written instances) in the BNC. The weighted sample data sets from the BNC are denoted with a superscript “w”, BNC^w. This superscript “w” applies to all weighted sample data sets in this study.

Table 11 includes the weighted percentages and counts for spoken and written BE ABLE TO in the BNC.

Table 11: BNC category weighted percentages and counts for spoken and written CAN

BNC^w Categories	BNC^w CAN (spoken)		BNC^w CAN (written)	
	Percent	Count	Percent	Count
external possibility	61.4%	123	73.8%	148
ability	7.1%	14	13.0%	26
directive/commissive	11.2%	22	2.8%	6
phrase	8.5%	17	2.0%	4
permission	4.8%	10	4.8%	10
indeterminate	4.8%	10	1.0%	2
ambiguous	1.0%	2	1.1%	2
volition	0.5%	1	1.2%	2
epistemic possibility	0.7%	1	0.3%	1
total	100%	200	100%	201

Table 12 below provides an example for how I calculated the percentages above, using CAN (spoken), and the category ‘external possibility’.

Table 12: Example calculation for weighted CAN (spoken), ‘external possibility’

	Percentage within CAN (spoken)	Frequency of ‘external possibility’	Weighted percentage
<i>can</i> (spoken)	74.47%	66	49.150
<i>can’t</i> (spoken)	25.53%	48	12.254
CAN (spoken) (‘external possibility’)			61.404 61.4%

I calculated 74.47% (percentage of instances of spoken *can*, excluding spoken *can’t*), of 66 (frequency count of ‘external possibility’ in sample of spoken *can* in Table 8). The calculations used were: $.7447 \times 66$, which resulted in 49.150. Following the same for instances of spoken *BE unable to*, I calculated 25.53% (percentage of instances of spoken *can’t*, excluding *can*), of 48 (frequency count of ‘external possibility’ in sample of spoken *can’t* in Table 8). The calculations used were: $.2553 \times 48$, which resulted in 12.254. Thus, combining the percentage of instances of spoken *can* (49.150) and the percentage of instances of spoken *can’t* (12.254), the total is 61.404, rounded to 61.4%, as shown above. This was done for all categories for spoken and written CAN.

For counts, using the meaning category ‘external possibility’ for CAN (spoken) as an example, because we have an original sample of 200 instances for each form and register (200 spoken CAN and 200 written CAN), we multiply the total percentage found above (61.404) by 2, which equals 122.808, and is rounded to 123. If we were to take a sample of the same size directly from the BNC, we would expect 61.4% of these instances (122.808 out of 200) of spoken CAN, and 73.8% of these instances (147.6 out of 200) of written CAN, to be used with an ‘external possibility’ meaning. Counts have been rounded to the nearest whole number as SPSS only recognises whole numbers which denote how many instances one target/word represents.

In the next section I report analyses of example instances from the BNC, per category, presented in combined count frequency order for spoken and written CAN, as in Table 11.

5.3 Meanings found for CAN

The most difficult part of this thesis was choosing which instances to include, as I feel each one I wrote up during my research has a story and played a large role in shaping my thesis. As much as I would love to include all of the instances that I carefully analysed, found expanded context for and discussed with my supervisors, I would never meet the thesis word count limit, and I imagine my readers would grow bored as these are not their “friends” as they are mine. I have therefore limited myself to including as many instances as I feel provide a comprehensive picture of the ranges for each category and are inclusive of spoken and written *can*, as well as *can* in positive and negative form.

5.3.1 ‘External possibility’ CAN

In the literature, ‘external possibility’ tends to get mentioned after ‘ability’ and ‘permission’, as it is seen for many to be the catch all when an instance is neither of the two. However, in my analysis, I have chosen to discuss it first as it is the meaning most used. Within my data, I analysed 250 instances (out of 400) as ‘external possibility’. The instances were analysed using the criteria I established for ‘external possibility’ (see Section 4.6).

The following example instances contain both forms and registers, spoken *can* (47) and written *can’t* (48).

In instance (47) “can” is used twice and very closely in the utterance, but with two different meanings. I analysed the first “can” as ‘ability’ and the second, which is the focus of this section, as ‘external possibility’.

- (47) not as hard as you thought W I T H with. How about without? (SP:PS1SX) Oh W I T H O U T spells out. (SP:PS1SW) T spells out (laugh) okay so there's some connection between a lot of the words isn't there and if you can spell one you can have a very good guess at another one that's got that word in as part of it. (BS369) (S_classroom)

I analysed (47) as ‘external possibility’ as: (a) the possibility of “you” having a very good guess at another is dependent upon the external circumstances of you being capable of spelling one; and (b) linguistic substitution check: *Due to you being capable of spelling one, it is possible for you to have a very good guess at another one that's got that word in as part*

of it. Even though this instance relates to the capability of the subject, the possibility of having a “very good guess” is directly related to whether or not the subject has the capability to spell the first one. If so, then that in turn becomes the external circumstance needed to have a good guess at another one. Furthermore, this instance uses an impersonal “you” which Coates (1995) found, “In everyday discourse, *can* expressing root possibility is most commonly found in [...] general statements of possibilities with impersonal subjects” (p. 57).

Though the majority of instances required a great amount of expanded context, there were also some which proved to be clear-cut instances of ‘external possibility’, especially when using *can’t* or *cannot*. Coates (1983) noticed, “there seems to be a tendency to supply reasons when some action is said to be not possible” (p. 97). In instance (48), which is also used as an example in Section 4.14, the context and the reason supplied explicitly support an ‘external possibility’ reading.

- (48) I should like to discuss one or two things with the managing director of the shipping company. " " You can’t see Andrew Stavanger, because he's away at the moment. (BW2626) (W_fict_prose)

I analysed the instance above as ‘external possibility’ as: (a) the impossibility of seeing Andrew Stavanger is dependent upon the external circumstances of him being away; and (b) linguistic substitution check: *Due to him being away, it is not possible for you to see Andrew Stavanger...* It is explicit in the dialogue that the reason why the hearer is not able to see Andrew Stavanger is because he is away.

The next instance (49) is an example of “rational” possibility, a term borrowed from Palmer (1990). In most circumstances when speakers use “can” for ‘external possibility’, they are stating that something is theoretically possible. Conversely, when they use it in the negated form, speakers are communicating that something is not possible. However, it can be the case that it is an imposed non-possibility; this is reflected in the instance below.

Instance (49) contains an action that is theoretically possible, but one in which the speaker “finds quite unacceptable, and that [is], in that sense, not possible” (Palmer, 1990, p. 105). These types of instances use the forms *can’t*, *cannot*, and *can not*, with *can’t* used most commonly. Palmer adds that in his examples, “the subject is either (a) in the first person, (b) the impersonal *you* or (c) something with which the speaker identifies himself” (p. 105). For

the examples of “rational” modality found in my study, all have one of the three aforementioned characteristics, though the impersonal *you* is found most frequently.

- (49) buses running around all over the shop as well so. (SP:PS0NB) Aha. (pause)
 See I mean look at that. All those tru-- trucks are just parked up. Even hire trucks
 there. (SP:PS0NE) (unclear) (SP:PS0NB) Yeah . (SP:PS0NE) (unclear) (SP:PS0NB)
 But I mean it's, it's money. You **can't** have, I mean you can't have all this stuff
 (unclear). Crazy. (pause) (SP:PS0NE) (unclear) (pause) (unclear) (SP:PS0NB) That's
 a fire station. (SP:PS0NE) (unclear) (SP:PS0NB) It's all (unclear) half the trip. Yeah
 it's offices, car parking. There's no er (pause) it's no (BS2641) (S_conv)

I analysed this instance as ‘external possibility’: (a) the impossibility of having all this stuff [parked up] is dependent upon external circumstances (rationally motivated); and (b) linguistic substitution check: *Due to the money [high cost], it is not possible for you to have all this stuff parked up*. In this particular instance, it is theoretically possible for the stuff to be parked up, and it actually is “parked up” as the speaker is looking at it while he speaks. However, the message being communicated is that the speaker does not condone the situation; the speaker is imposing his rational view that it is a waste of money.

‘External possibility’ was not only the most frequent meaning category, it was significantly more frequent compared to the other meaning categories. Though Coates (1983), Collins (2009) and Mindt (1995) also found this to be the most frequently used meaning category in their respective corpora and categories, more accurate data comparisons are not possible due to the varying classifications and criteria for categories. For example, Collins includes, “And now I *can* see the Prime Minister, John Major” (p. 104) as an example of ‘ability’ when I would have analysed such an instance as ‘external possibility’ with the assumption that the person did not undergo extreme circumstances (e.g. blindness to sight in only a moment).

A direct data comparison can be made to Römer who analysed the BNC spoken corpus and found ‘possibility’ to be the second most frequent category, and provides a figure of 31.5% (p. 188). In the spoken part of my data set, I found a weighted frequency use of 61.4%, which is nearly double that of Römer’s figure. This may be due to the criteria used, as explained using an example instance from Römer in Section 5.1.

5.3.2 ‘Ability’ CAN

With combined spoken and written data, I analysed a total of 48 instances (out of 400) as an ‘ability’ meaning (see Section 4.4).

Instances (50) and (51) below are prototypical examples of ‘ability’ CAN. The first is from written data using *can*, and the second from spoken data using *can’t*.

- (50) A solid object, whether it is a rock, a fish or even a plant stem distorts this field and the fish can immediately sense the change. It is as aware of objects behind it as in front of it, and when alarmed it **can** reverse backwards into its hole with a speed and accuracy that any motorist would envy. (BW428) (W_non_ac_nat_science)

I analysed instance (50) as ‘ability’: (a) “fish” is animate and has agentive function; (b) the possibility of reversing is determined by the internal competence of the subject; (c) active voice; and (d) linguistic substitution check: *...and when alarmed [the fish] is capable of reversing backwards into its hole with a speed and accuracy that...* It is the fish’s physical and inherent competencies that make this reversing action possible.

- (51) you read through it, she's not covered for anything. (SP:PS5VR) Right. (SP:PS5VP) So it's a bit of a sales gimmick, is n't it? (SP:PS5VR) erm no I would n't agree with that, put it (pause) has your wife received the letter from us? (SP:PS5VP) erm I **can't** remember now, she bought the car two or three ago. (SP:PS5VR) Oh, if it was bought two or three years ago, well I (pause) well obviously I could n't say, but obviously they have the option to read the policy at that point. If your wife is unhappy (BS2630) (S_brdcast_discussn)

I analysed instance (51) as ‘ability’ as: (a) “I” is animate and has agentive function; (b) the possibility of remembering is determined by the internal competence of the subject (at the moment of action); (c) active voice; and (d) linguistic substitution check: *I am not capable of remembering now*. Further contextual support for ‘ability’ and “at the moment of action” comes from the speaker adding “now” to his utterance.

The instance above uses what Biber et al. (1999) would consider a “mental verb”, *remember*. They found that “the verbs that show the strongest association with modal verbs (rather than tense) are mostly mental verbs” which “usually express various emotions, attitudes, or

cognitive states that are intrinsically personal, and thus they commonly co-occur with modals expressing a personal stance” (p. 491).

For written CAN, Table 11 shows that the second most frequent meaning category used is ‘ability’, and for spoken CAN it is the fourth most frequent. In Section 5.1 I discussed linguists who have had different findings than mine and have found ‘ability’ to be at a higher frequency than found in my investigation. Römer (2004a) found ‘ability’ to be the most frequent meaning category in her study on the spoken part of the BNC, at 36% (p. 188). I found the BNC spoken portion of my data to have a weighted frequency use of 7.1% meaning percentage for ‘ability’, which is a striking difference. Without having further insight to other linguists’ criteria, the only way I can contribute to helping readers better understand my own analysis to support my category classifications with explanations of reasoning so that readers can understand my justification for instances included in my ‘ability’ meaning category, and for cases that were not.

5.3.3 ‘Directive’ and ‘commissive’ CAN

Connecting the ‘directive’ / ‘commissive’ meaning category (see Section 4.8) to the overall idea of ‘possibility’, Palmer explains, “CAN is often used not simply to say what one can do or what is possible, but actually to suggest, by implication, that what is possible will, or should, be implemented” (p. 86). Celce-Murcia and Larsen-Freeman (1999) assert, “there seems to be a subtle difference between *can/could* versus *will/would* in making requests” in that *can/could* “seems to ask ‘is this possible?’” and *will/would* “query the willingness of the addressee” (p. 145). They add that their statement requires more research. In each of the example instances below the speaker is either trying to get the hearer to do something, or committing him/herself to a particular action. Collins (2009) in his analysis of CAN includes examples of an offer, request, suggestion and instruction (p. 60). In my study on CAN, I found 17 ‘directives’ and two ‘commissives’, with the majority, 15 instances, coming from spoken *can*. Each utterance included below can be less-politely paraphrased with *I want you to x*, or with no politeness as a bare imperative verb form, *do x*. I have included ‘directive’ instances which function as a request in (52), a command in (53), a suggestion in (54), and a ‘commissive’ in (55).

Sinclair (2006) explains, “you can use **can** in questions in order to make polite requests” (p. 197). Instance (52) is an example of this.

(52) [A] You mentioned in the annual report and accounts that Expressions was meant to be doing very well although its more up market brands were slightly more sluggish.

[B] Er, can the future Chairman answer that?

[C] I haven't got the detailed figures er, er, with me but er, I believe that still is the case, that er, er, people's eating habits are er, that dining habits as it were er, are changing somewhat and (BS418) (S_meeting)

I analysed instance (52) as a 'directive' functioning as a request. Speaker [A] is asking the future Chairman to answer, as opposed to asking if it is 'possible' or if he has the 'ability'. The future Chairman, speaker [C] responds accordingly with an answer to the question.

Instance (53) is a 'directive' functioning as a command.

(53) And er I remember going to the doctor's with me Mother and where as we sat in the surgery which was packed, eventually the old doctor come out of the door old (- ---). He says, There, he says, You can all go home and die now, all I've got left is Epsom Salts. (laugh) (SP:PS25D) (BS386) (S_interview_oral_history)

Though this instance is sarcastically dark, the speaker is not proposing a real life possibility of dying, but is telling the patients that they must leave as he has nothing left to treat them with.

Another type of 'directive' is a suggestion. Leech (1971, 2004) identifies CAN as being used for future suggestions and speculates that, "it is as though the speaker does not like to exert authority openly" so a suggestion "that a certain plan of action is POSSIBLE" (2004, p.74) is made.

(54) (SP:PS1US) (unclear). Can I suggest we er (SP:PS1UU) Perhaps he might be better off in the works office? (SP:PS1UT) Yeah well he comes to work (SP:PS1US) (unclear) (SP:PS1UT) from nine till five (SP:PS1UV) I suggest you turn the tape recorder off. (SP:PS1UT) and that's it. (SP:PS1US) (sigh) Ca-- can we move on? (SP:PS1UW) Terry (SP:PS1US) Because w-- we're actually stuck on one person (unclear) (SP:PS1UU) Yeah. Yeah. We-- we are. (BS397) (S_meeting)

In this instance the speaker is politely saying "let's move on", followed by an explanation for the reasoning for this suggestion.

The ‘directive’ instances above using *can* have in common the fact that the speaker/writer is being polite by asking indirectly for *x*. This category in this thesis also includes ‘commissives’ as discussed in Section 4.8. The example in instance (55), which is also included as an example in Section 4.14, is an indirect commissive (Searle, 1979) and is also in response to an indirect directive, which provides further support for categorically grouping these together.

- (55) (SP:PS03W) Are you coming back down? (SP:PS043) Yeah. (SP:PS03W)
Can you bring me a (pause) pint of lime and lemon (pause) with some i-- lots of ice?
(SP:PS043) Yeah, course I can. (SP:PS03W) Cheers, thanks. (BS334) (S_conv)

In his work, Searle uses the example instance of “I can do that for you” (p. 54). This is regarded as commissive in that “*S* is able to perform the act” (p. 54), “*S*” meaning the speaker. In (55), the speaker is able to perform the act, and commits to doing so.

Table 11 shows that in spoken texts for CAN, the ‘directive’ / ‘commissive’ category is the second most frequent, weighted at 11.2%, while for written CAN it is the fifth most frequent, weighted at 2.8%. While Biber et al. (1999), Coates (1983) Mindt (1995) and Römer (2004a) do not have a separate category for ‘directives’ / ‘commissives’, Collins (2009) and Facchinetti use the category “dynamic implication” to describe “the formulation of an indirect speech act” (Collins, 2009, p. 104). Though they recognise these types of speech acts, they are subsumed into other larger meaning categories and not featured as a prominent meaning for CAN (or COULD), as I have done.

5.3.4 ‘Phrases’ with CAN

CAN sometimes occurs in contexts where the modal auxiliary + main verb create a new meaning (see Section 4.9). In my data for CAN, the form *can’t* was favoured to convey ‘phrases’ at 26 (out of 400) analysed as such, compared to the form *can* with eight instances.

The examples below are of ‘phrase’ instances using *can’t* in a spoken context in (56) and in a written context in (57):

- (56) (SP:PS5XX) I can't imagine I can only say that from my knowledge of Herefordshire as a Herefordian myself, I can't imagine for the life of me that there are seven thousand people locally who could remotely afford a thousand pounds per

share. So I **can't** see very many of them coming to local people. (SP:PS5XU) Will you be getting your cheque book out? (SP:KRMP5UNK) (laugh) No I shan't be getting my cheque book out on that basis (BS2584) (S_brdcast_news)

Sinclair (2006) describes one meaning of “see” as, “If you see something happening in the future, you imagine it, or predict that it will happen” (p. 1303) or in this case predict that it will not happen. I interpreted this meaning to be “don’t think” and not modal in that it is not the case that the speaker is not capable of “seeing”, or that it is not possible to “see”. The speaker is saying that he/she doesn’t think that *x* will occur. This instance can be paraphrased: *So, I don’t think very many of them will come to the local people.*

Instance (57) is an example of a ‘phrase’ using *can’t* in written data.

- (57) That guy back there wasn't human,' I observed with more perspicacity than a panty-girdle pedlar at a Tupperware party.' What do you make of that, Barry?" **can't** say, chief. But that voice. At the end when he froze up. I know that voice, or knew it. (BW2633) (W_fict_prose)

In this instance, the speaker is not indicating that he/she is not ‘permitted’ or that ‘external circumstances’ are preventing him/her from explaining, but that he doesn’t know. There is also an element of ‘ability’ to this instance; however, I analysed this as ‘phrase’ as “say” without “can’t” would not express the same meaning.

In instance (58) the new meaning created signals stance, rather than a new lexical meaning.

- (58) (SP:PS0EJ) Ow! It could have been. That ninety pound bill was painful, I **can** tell you that much. (SP:PS0EJ) What ninety pound bill for what? (SP:KCEPSUNK) I hit my car on the kerb. (BS376) (S_conv)

The speaker is ‘telling’ but the new meaning involves the addition of emphasis. Sinclair (2006) describes using, “‘I can tell you’...” to add emphasis to what you are saying” (p. 1490) as an informal convention.

When examining the category ‘phrase’ in Table 11, we see that ‘phrase’ in spoken CAN has a weighted percent of 8.5%, while its written counterpart is reported at 2.0%. Interestingly, there seems to be a pattern whereby the resulting meaning of joining *can/can’t* + main verb falls into the category of “mental verbs” (see Section 5.3.2). Over half of my instances fell

into this category. Furthermore, many of the same lexical verbs were repeatedly used in the phrases for *can/can't* (e.g. *bear, imagine, say, help*).

Previous linguists have not included 'phrase' among their categories. It is not that 'phrases' do not occur in their data, but that they are treated differently. Examples of this comes from Mindt who analyses, "*I **can't** bear it*" (p. 76) as an 'ability' reading and Biber et al. (1999), who include "*I **can't** believe it*" as "ambiguously marking logical possibility or ability (or permission)" (p. 492). Similarly, Coates (1983) discusses the expressions "*can't face, can't stand*" in her 'ability' category (p. 90). I would analyse all of these as 'phrases'.

5.3.5 'Permission' CAN

Coates (1983) highlights how close the 'permission' and 'possibility' meanings are for CAN. She states, "there is no non-arbitrary way to draw the line between 'Permission' and 'Possibility'" (p. 88). Leech (2004) agrees and conveys this in his diagram, Figure 7 (p. 111), by including a two-way arrow from 'possibility' to 'permission'. For my own analysis, I have created distinct sets of criteria for 'permission' (see Section 4.5) and 'external possibility' (see Section 4.6), which help to disambiguate these meanings, yet I still found instances which were 'ambiguous' between the two (see Section 5.3.6 below). I analysed a total of 18 (out of 400) instances as having a 'permission' readings.

One criterion for 'permission' is "x receives (or has) permission from human authority / rules and regulations to perform y" (see Section 4.5.2). Instance (59) is an example using human authority, and is also included as an example in Section 4.5.3, and (60) is an example using rules and regulations.

- (59) Listen, I don't think that's too good an idea cos of the duvet. I think you'll be going to bed in that soon and if you mess it up (pause) then you'll never sleep. (pause) Come on, it's all very well in the mornings but not now I don't think. (SP:PS089) Why isn't it very well in the night? But why **can't** we play it in the bedroom? (SP:PS087) Because when you get into bed it will be all out. Cos I have to erm (pause) change your sheets and things. (SP:PS089) Why can't we play it in the (pause)? (SP:PS087) (BS2595) (S_conv)

The instance comes from a mum and two children; the children want to play aeroplane and are bringing it down the stairs to their bedroom for bed time and the mum indirectly protests. I classified instance (59) as ‘permission’ as: (a) “we” is animate; (b) active voice; (c) ‘we’ do not have permission from human authority (mum) to play in the bedroom; (d) linguistic substitution check: *But why are we not permitted to play it in the bedroom?* The context previous to this request, when the mum says, “I don’t think that’s a good idea” and “not now” shows her disapproval of the children of playing in the bedroom.

(60) the rules will remain unchanged. Relief is now given on the first sale of BES holdings. Likewise, to reduce the amount of year end bunching, an individual who invests in a BES scheme during the first half of the year, can claim part of the relief against his/her previous year's income. (BW473) (W_misc)

I analysed (60) as a permission reading as: (a) “individual” is animate; (b) active voice; (c) “individual” has permission from the rules to claim; and (d) *...an individual who invests in a BES scheme during the first half of the year, is permitted to claim part of the relief...* This permission reading is supported by the context “rules” shown in the first line of the text.

In this study, ‘permission’ for spoken and written CAN was reported as having a weighted frequency use of 4.8%. In both parts of their corpus, conversation and academic, Biber et al. (1999) found ‘permission’ used less frequently than “extrinsic-possibility” and ‘ability’, by about half in the conversation part of their corpus, and “rarely expressed in academic writing” (p. 491). Given that ‘permission’ frequencies are generally reported as being low, or at least lower than other meanings, it is surprising that it continues to be described as one of the central meanings for CAN, along with ‘possibility’ and ‘ability’ (see Section 4.15).

5.3.6 ‘Ambiguous’ CAN

I analysed seven instances (out of 400) as ‘ambiguous’ (see Section 4.11) in my data for CAN. Of these seven, five were ambiguous between ‘external possibility’ and ‘permission’, as shown in (61), and the other two between ‘ability’ and ‘external possibility’, as shown in (62).

Instance (61) below is ambiguous between ‘external possibility’ and ‘permission’, meanings which Leech and Coates (1980) also found difficult to disambiguate (see Section 5.3.5).

(61) it's just that it's the (pause) (SP:PS1S1) (whispering) It looks sort of (SP:PS1S4) Erm (pause) what we really need er (unclear). Erm (pause) (SP:PS1S3) But there there's no (SP:PS1S4) The problem is we **can't** use the can't use the CompServe one. (pause) (SP:PS1S3) Er you could(pause) you could print one off. (SP:PS1S4) Erm (pause) (SP:PS1S1) We'd only need one. (SP:PS1S4) For a start erm the typeface we wanted (SP:PS1S1) It looks something like that. (SP:PS1S4) The type face we wanted is (BS2605) (S_meeting)

I analysed instance (61) the above as 'ambiguous' as there is no other mention of CompServe in the immediate and expanded context. The two readings I see are 'external possibility' and 'permission'. In an 'external possibility' reading: (a) the impossibility of using the CompServe one is dependent upon the external circumstances (e.g. it does not load onto the computer); and (b) linguistic substitution check: *Due to x, it is not possible for us to use the CompServe one*. In a 'permission' reading, (a) "we" is animate; (b) active voice; (c) we did not receive permission from human authority/rules or regulations to use the CompServe one (e.g. licencing regulations do not permit it); (d) linguistic substitution check: *...we do not have permission from x to use the CompServe one*. Though this instance is 'ambiguous' to me, the researcher, it is most likely the case that the persons in this meeting are aware of the reason why they "can't use the CompServe one"; further knowledge would resolve this ambiguity.

Instance (62) is from a conversation between a mother and daughter. The daughter is the speaker who asks the question "Why can't you?" of the mother.

(62) it seems awful if you've had a week off and then your not well. (SP:PS0EA) Yeah. (SP:PS0E8) This was all a bit sudden, I though [sic] you were better. (SP:PS0EA) Hm (pause) Have you finished yet? (SP:PS0E8) Well I need daddy to a (pause) start along there (yawn)2. (SP:PS0EA) Why **can't** you? (SP:PS0E8) Well the light has got to come off and you've got to drop a perpendicular so that you know, cut the paper straight, it helps if you put it up straight instead of wonky. (BS2579) (S_conv)

Her question is ambiguous between 'ability' and 'external possibility' as she does not know why the mother cannot "start". In an 'ability' reading: (a) you is animate; (b) the impossibility of starting is determined by the internal competence of the subject (e.g. lack of

skills); (c) active voice; and (d) linguistic substitution check: *Why aren't you capable of starting along there?* In an 'external possibility' reading: (a) the possibility of "starting along there" is dependent upon external circumstances (e.g. missing tools); and (b) linguistic substitution check: *Due to x, it is not possible for me to start along there.* Interestingly, the mother's response still leaves this instance ambiguous as we do not know why she is not able to get the light off or cut the paper straight. To us, the readers, these two tasks remain either 'ability' or 'external possibility' related.

Of the studies examined in comparison to my own for CAN, there is no mention of an 'ambiguous' category explicitly. Facchinetti uses the category 'borderline' which she describes instances as such occur when the "types of modality merge to the point that it is difficult to discriminate which is prominent" (pp. 238-239). This is not the way I view instances of 'ambiguous' as I think both meanings are possible but from the available context, we are not able to get a clear picture of which one is relevant. Römer (2004a) uses the category "unclear" for instances that were "indeterminate or unclear [...] either because the sentence was fragmentary or because there simply was not enough context" (p. 188), but does not separate these two as I have in the present study. Collins (2009) uses the category 'indeterminate' yet does not explain exactly what this includes. Others (Coates, 1983; Mindt, 1995) do not mention an 'ambiguous' or 'indeterminate' category, yet Biber et al., (1999) do account for an 'ambiguous' category when analysing "volition/prediction modals" (p. 496).

5.3.7 'Volition' CAN

In my BNC data for CAN, I found instances where the meaning was more than possibility, the speaker or writer was stating personal desire, or 'volition' (see Section 4.10). For these instances, I used the linguistic substitution check *want to*. In the instances below, the speakers are taking advantage of the impreciseness of CAN to communicate their preferences. There were six instances that I analysed as 'volition' from CAN, two of which are included below, one from my spoken data using *can't* in (63) and one from my written data using *can* in (64).

- (63) (SP:KPVPS000) is anybody sort of falling over hungry, desperate for something to eat, and they **can't** wait till dinner? (SP:KPVPSUNK) No, I can, I can wait. (SP:KPVPSUNK) No, I can wait. (SP:KPVPS000) Must just be me, then.

(SP:KPVPSUNK) I'm speaking for my-- myself here, so if anybody else is, is dying (unclear) (BS2667) (S_conv)

Instance (63) can be paraphrased using the linguistic substitution check: *Is anybody sort of falling over hungry...and they don't want to wait till dinner?*

(64) A spokesman for the Civil Aviation Authority said: 'We can confirm the centre is under offer, but that's as much as we can say at this stage.' (BW511) (W_newsp_other_report)

Instance (64), which was also used as an example in Section 2.3, can be paraphrased using the linguistic substitution check: *We can confirm the centre is under offer, but that's as much as we are willing to say at this stage.* In this instance, the speaker is only sharing the information he/she (or his/her company) want to share. Using “can” offers a vague way of saying “this is all we want to say about this right now”. If pushed for more information, the speaker may use ‘external possibility’ or ‘permission’ as justification for the limited information provided.

In the instances above, the speakers are using “can/can’t” to express their desires/wishes and by doing so, they are being polite. The percentages and counts in Table 11 do not show a substantial difference for meaning category of ‘volition’ in spoken or written texts. The reported weighted frequency for spoken CAN is 0.5%, and for written it is 1.2%. The ‘volition’ category is often included in linguists’ meaning categories, but not in association with CAN. Though I did not find any instances of CAN from other linguists that I would classify as ‘volition’ meaning, it is possible that there are such instances but, like ‘phrases’, they are included in other meaning categories.

5.3.8 ‘Epistemic’ CAN

While linguists have different views on epistemic CAN, it seems that the use of CAN epistemically has changed over the past few decades. Huddleston and Pullum (2002) assert that CAN can be used epistemically but “restricted to non-affirmative contexts” (p. 180). In contrast, Coates (1995) and Collins (2009) provide examples in their work where CAN is used in epistemically in affirmative contexts. Collins (2009) provides an example of

affirmative epistemic *can* from his ICE-GB data set, and notes that though Coates believes this use is found only in American English, he has found otherwise.

In my BNC data, I found only one instance of CAN used in affirmative and four instances used in non-affirmative contexts. The examples below were analysed using the criteria I established for ‘epistemic possibility’, which are explained in Section 4.7.

Instance (65) is the only one from CAN that I analysed as ‘epistemic possibility’ in an affirmative context.

- (65) (SP:PS1GE) Cos every time Jerry'd walk round that corner he'd give it all that. (laugh) He's fucking got a terrible twitch, a real nervous twitch hasn't he? ... (SP:PS1GF) It can be the sign of a nervous breakdown. (pause) Somebody s-- somebody does a (pause) er develops a nervous twitch and stuff. (SP:PS1GE) No, he's had it for a long time. (SP:PS1GF) Yeah . I'm not (pause) saying he hasn't, but you know (pause) that can be the sign. (SP:KDAPSUGP) (unclear) (SP:PS1GE) You don't say. # (SP:PS1GE) (BS344) (S_conv)

I classified instance (65) as ‘epistemic possibility’: (a) the speaker is expressing his/her level of certainty (‘possible’) that it is the sign of a nervous breakdown; and (b) linguistic substitution check: *...but you know, it is possible that that is the sign [of a nervous breakdown]*. Contextual support for an ‘epistemic possibility’ reading comes the speaker using the article “the” instead of “a” in “that can be the sign”. The speaker is applying his/her certainty of ‘possible’ that this particular situation applies to Jerry. Logical support for an ‘epistemic possibility’ reading comes from the evidence of Jerry having a terrible twitch. Coates (1995) “predict[s] that initially examples of epistemic *can* will co-occur with syntactic features such as inanimate subject and stative verb, and in contexts where accompanying words support an epistemic reading” (p. 64); these features are found in instance (65).

Instance (66) is an example of ‘epistemic’ *can* in a non-affirmative context, which in this form takes on a different meaning from ‘epistemic possibility’; it conveys ‘epistemic certainty’ (see Section 4.7.3). All four instances that I analysed as ‘epistemic’ in non-affirmative contexts come from my written data.

- (66) I don't think you could afford to do so. You told me you have to manage on what you earn -- dashed bad luck, I know -- but for your own sake, you need to face

facts. However well they pay chaps like you to look after horses, it **can't** be all that much! Do you have any idea how extravagant that sister of mine is? The pater gives her fifty pounds a year as a dress allowance and she has nearly always spent it by the end of the first month. From then on, she just buys what she (BW2672)
(W_fict_prose)

I classified instance (66) as 'epistemic certainty': (a) the speaker in the written story is expressing his/her level of certainty ('certain') that the hearer does not get paid that much; and (b) linguistic substitution check: *it is certain that it [pay]is not all that much...* Contextual support comes from "I don't think you could afford to do so" and though not shown in the BYU-BNC, in BNCweb, "afford" is italicised for emphasis, "I don't think you could *afford* to do so". Further support for an 'epistemic' reading comes from "you told me you have to manage on what you earn", which from the overall context, readers can assume, is not very much.

Römer (2004a) does not include an 'epistemic' category for CAN but others do (e.g. Collins, 2009; Facchinetti, 2002). Though Coates (1983) does not include an epistemic meaning category for CAN, which I assume is due to the scarceness of examples found, only one in all her data, she does claim that, "the meaning of examples with Epistemic *can't* corresponds to that of Epistemic MUST – it expresses the speaker's confidence in the truth of the proposition [...] and that confidence is the result of a process of inference which is often overt" (p. 102). In Coates' (1995) later work, she includes an example of 'epistemic' *can*, but does not include the modal auxiliary CAN in her 'epistemic' category.

Though linguists vary in their views, there is agreement that the non-affirmative form of *can* is used epistemically and some agreement that the affirmative form is starting to show epistemicity. With regard to the affirmative form of epistemic *can*, unfortunately, it will not be for many years to come that we can find out how it develops.

5.4 Summary of chapter

This chapter examined CAN in the BNC and the meaning categories associated with it. This study confirms, in line with the majority of other studies, that 'external possibility' is the most frequent meaning used. Where my meaning findings diverged for CAN is that most

often ‘ability’ is the second most frequent meaning reported; however, in the spoken context for CAN I found the ‘directive’ / ‘commissive’ category to be the second most frequent, which is different from the written context, in which it was the fourth most frequent. Also, where other studies have found ‘permission’ to be the third most frequent meaning used with CAN, I found it to be the third most frequent in written context but not spoken, where it was fifth. This shows that in these higher frequency meaning categories, the spoken and written registers play a major role. Furthermore, this study identifies the additional categories of ‘directive’ / ‘commissive’, ‘phrase’, and ‘volition’ to account for the uses of CAN. I next examine COULD in the BNC.

Chapter 6: Frequency and meanings for COULD in the BNC

Chapter 6 examines COULD in the BNC. I begin with a discussion around the extra framework requirements for COULD, which are connected to its additional meanings and linked linguistic substitution checks. Next, I make general comments about previous corpus studies for COULD. I then present the overall frequency and category percentages I found in this investigation of COULD in the BNC. The categories are presented with example instances, with each instance followed by a detailed description for its inclusion in its category. At the end of each category section, I have included comparisons to other corpus-based studies on COULD.

6.1 Framework considerations for COULD

Beyond the common understanding that modal auxiliaries are naturally complex, COULD has a further complexity in that half of its ‘possibility (real-world)’ meanings relate to the past of CAN and the other half have an “unreal conditions” meaning, a term that is borrowed from Coates (1983, p. 107). These include situations that are hypothetical and conditional. Coates separates COULD into three categories, ‘epistemic possibility’, ‘past of CAN’ and ‘remote of CAN (conditional)’. Figure 11 below is a representation of COULD, combining her framework of meanings (p. 107) with mine (see Figure 4, p. 106).

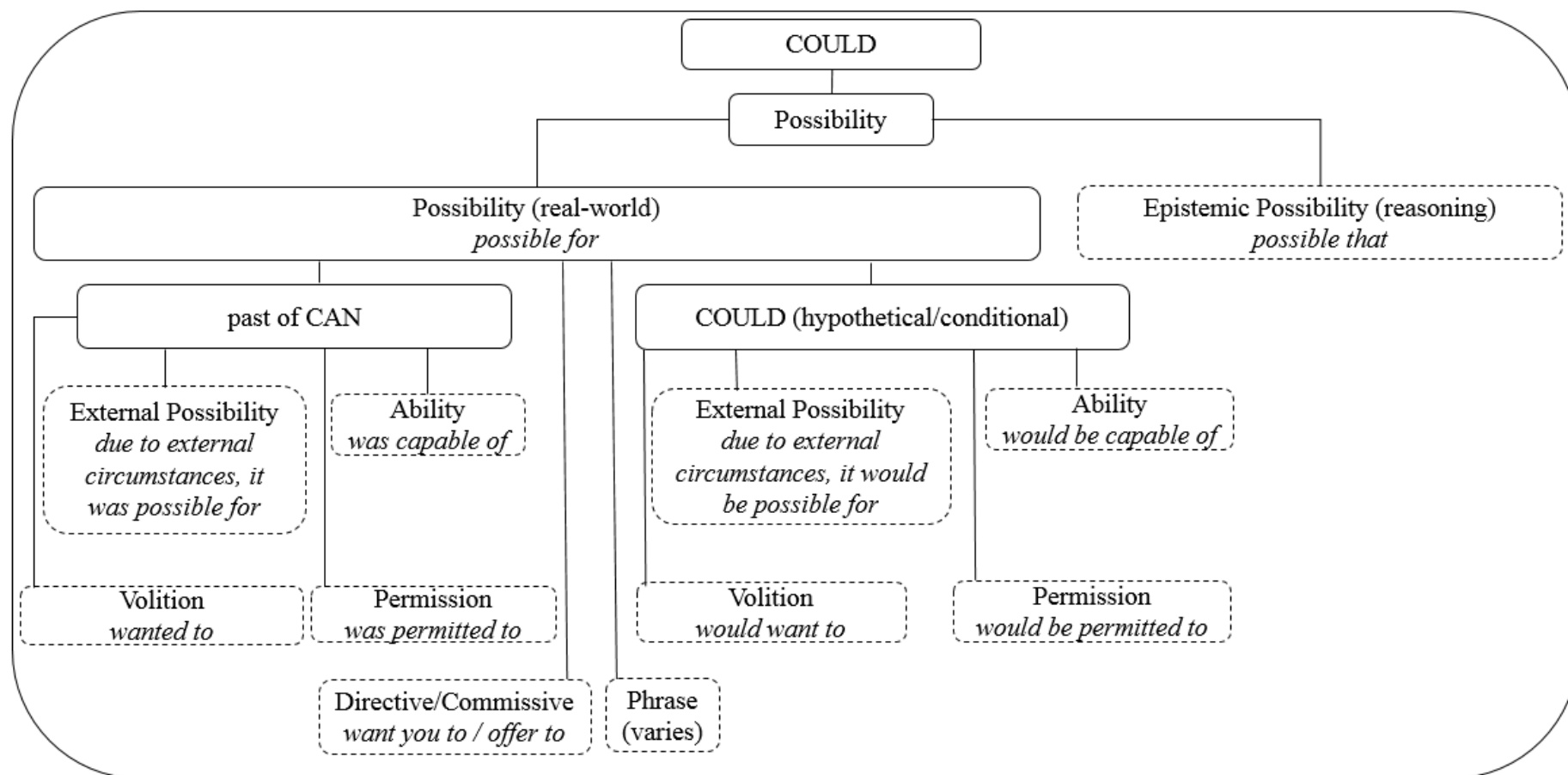


Figure 11: Categories for COULD

Figure 11 above is an attempt to reflect both the past of CAN and hypothetical and conditional uses of COULD. These affect the categories of ‘external possibility’, ‘ability’, ‘volition’, and ‘permission’ but not ‘directive’ / ‘commissive’ and ‘phrase’. ‘Directive’ / ‘commissive’ does not occur in the past because as Searle (1979) confirms, these are confined to “future actions” (p. 14). And ‘phrases’ are not included as these are their own grouping of words with little variation. Therefore, both of these categories are not subject to past time or unreal conditions. Throughout my following account for the meanings found for COULD, I point out the differences in use of the past of CAN and unreal conditions for the applicable meaning categories, and further elaborate on the use of COULD epistemically.

6.2 Previous corpus-based investigations on COULD

With the exception of Bald (1990) and Facchinetti (2002) who found ‘epistemic possibility’ to be the most frequent meaning associated with COULD, other corpus-based studies of COULD have found ‘possibility’, a term I am using broadly, to be the most frequent use (Biber et al., 1999; Coates, 1983; Collins, 2009; Mindt, 1995; Römer, 2004a). Though the present study found the same, in comparison to other studies, there are differences in the category percentages, which I believe can be linked to linguists’ differing criteria for each meaning category and the different corpora used.

6.3 Overall frequency and category frequency percentages for COULD

In this section, I provide overall frequency counts and category frequency counts for the modal auxiliary COULD as investigated in the present study.

Table 13 below shows the frequency counts for COULD in the BNC.

Table 13: Frequency counts for COULD in the BNC

BNC	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)	Log-Likelihood (LL)
COULD	20,116	20	138,163	16	LL=891.81 p<0.0001
<i>could</i>	16,194	16	126,107	15	LL=158.06 p<0.0001
<i>couldn't</i>	3,922	4	12,056	1	LL=2616.91 p<0.0001
BNC Spoken - 9,963,663 BNC Written - 86,299,736					

Using the raw frequencies, I calculated the frequencies per 10,000 words, which are reported as rounded to the nearest whole number, and also the log-likelihoods (LL). Though a search which includes instances of *could* and excludes instances of *couldn't* was not possible, a search for *couldn't*, excluding *could* was possible. Therefore, the figures above have been calculated by subtracting, for example, instances of spoken *couldn't* (3,922) from instances of spoken COULD (20,116), resulting in 16,194 instances of spoken *could*. When comparing the spoken and written data for COULD (combining *could* and *couldn't*) from the BNC, there is a difference as shown by the LL calculation of 891.81, which is significant at the level of $p<0.0001$. Furthermore, the frequencies of spoken and written *could* are also significantly different at the level of $p<0.0001$, as are the frequencies of spoken and written *couldn't*.

Collins (2009) and Facchinetti (2002) found in their studies of the ICE-GB that COULD was used more frequently in a spoken register than in written. This study shows that the form *couldn't* has a greater difference between spoken and written texts when comparing the frequency per 10,000 words, compared to the form *could*.

As discussed in Section 3.3.1.2, I used sampling in order to determine category percentages for the modals in this study. For COULD, I took 100 random instances each for: *could* (spoken) and *could* (written). When searching for *could* in the BNC, by design of the search function of the BNC, results include instances of *couldn't*, which means there was no need to perform a separate search for *couldn't*. This differs from searches for *can* which do not automatically include *can't*. However, this raises the issue of how many instances of *could* and *couldn't* occurred in my sample sets compared to the overall BNC. Table 14 below shows that these were very similar. To support this, I used Fisher's Exact test to test for significance.

In all four cases I found that $p > 0.0005$, which is an indication of there being no significant differences.

Table 14: Comparison of BNC and sample data for COULD

	Spoken		Fisher's Exact test results	Written		Fisher's Exact test results
	Sample	BNC		Sample	BNC	
<i>could</i>	82%	80%	FE=1.00, N.S.	93%	91%	FE=0.795, N.S.
<i>couldn't</i>	18%	20%	FE=1.00, N.S.	7%	9%	FE=0.795, N.S.

Next I uploaded the 200 instances of spoken and written COULD into Wordsmith Tools 6.0 and assigned a category to each. Figure 12 offers a snapshot of the category percentages associated with COULD.

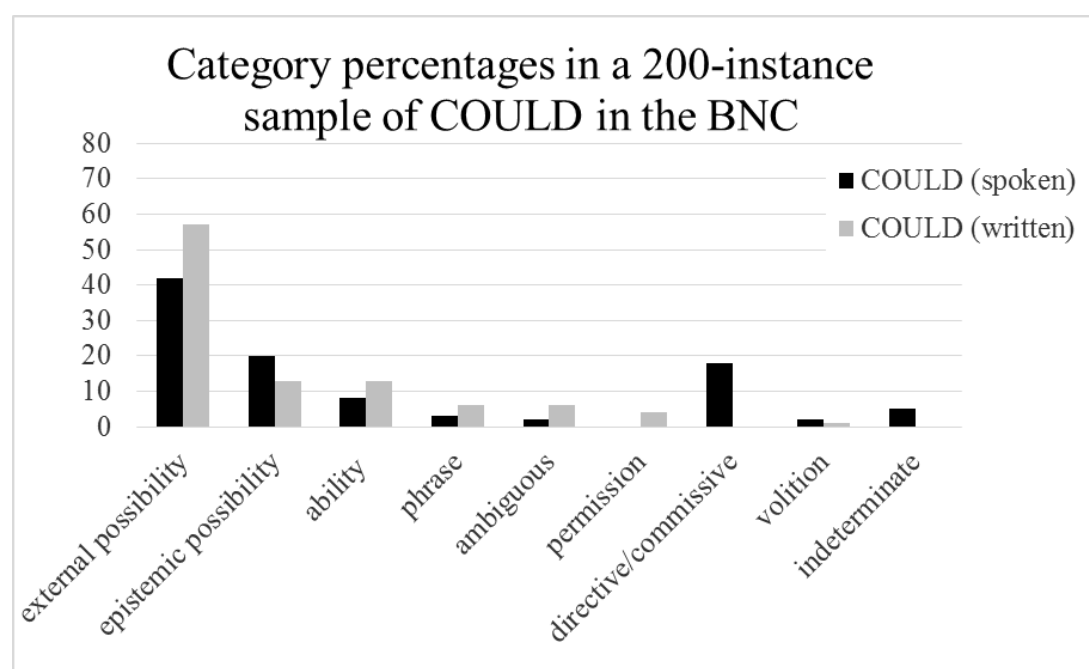


Figure 12: Category percentages in a 200-instance sample of COULD in the BNC

From this snapshot, it is evident that 'external possibility' was the most frequent meaning found, 'epistemic possibility' the next most frequent, with 'ability' close behind. We can also

see how the frequencies differ depending upon whether *could* is spoken or written, especially in the ‘directive’ / ‘commissive’ meaning category, where there are 18% found in spoken data and no instances found in written data.

Table 15 matches Figure 12 above in that it provides the numerical value for the percentages.

Table 15: Frequency percentages per category for COULD in the BNC

BNC^s Categories	COULD (spoken)	COULD (written)
external possibility	42%	57%
epistemic possibility	20%	13%
ability	8%	13%
directive/commissive	18%	0
phrase	3%	6%
ambiguous	2%	6%
indeterminate	5%	0
permission	0	4%
volition	2%	1%
total	100%	100%

The numbers in the table above are reported as percentages because the counts were samples of 100. In the next section, I provide example instances for COULD from the BNC, per category, as presented in combined percentage frequency order for spoken and written COULD, per Table 15.

6.4 Meanings found for COULD

Similar to the previous chapter, I have included a diverse range of example instances, inclusive of spoken and written contexts, using the forms *could* and *couldn't*.

6.4.1 ‘External possibility’ COULD

In my data for COULD from the BNC, out of 200 instances, I classified 99 instances as ‘external possibility’ (see Section 4.6), 42 spoken and 57 written; this was the most frequent

meaning used. In this section, I first show two prototypical instances of COULD which include the external circumstances immediately before the analysed “could” in (67) and immediately after in (68), and one less-prototypical instance (69).

Instance (67) is from my spoken data using *could*.

- (67) was just something stuck on (pause) the (SP:PS1BT) It's te-- I'll pick it up, i--
if it (unclear) it was rust on the (unclear)2. (SP:PS1BS) No, no. It, it, it (SP:PS1BT)
No, now that I've seen it. (SP:PS1BS) while I was sitting from here I **could** erm
(pause) see it had something stuck on it. (BS490) (S_conv)

I classified instance (67) as ‘external possibility’: (a) the possibility of seeing was dependent upon the position where the speaker was sitting; and (b) linguistic substitution check: *Due to where I was sitting, it was possible for me to see it had something stuck on it*. Support for analysing this as ‘external possibility’ comes from within the context, “while I was sitting from here”. The positioning and/or angle of the subject made it possible to see something stuck. This instance uses the past of CAN (Coates, 1983).

Instance (68) also uses the past of CAN and is prototypical as the context makes the reading clear. It differs from (67) in that it is from my written data and uses the form *couldn't*.

- (68) So she was very cross when she found that there were no flowers to pick."
Why weren't there any flowers?" Because the pigs had eaten them all, ' said the
bachelor immediately.' The gardeners had told the king that he **couldn't** have pigs and
flowers, because pigs eat flowers. So the king decided to have pigs, and no flowers.'
(BW577) (W_fict_prose)

I classified the above as ‘external possibility’: (a) the impossibility of having pigs and flowers is due to the fact that pigs eat flowers; and (b) linguistic substitution check: *Due to pigs eating flowers, it was not possible for the king to have pigs and flowers*. Contextual support for this impossibility comes from the king having to make a decision between the two and deciding to have pigs.

Instance (69) is less-prototypical due to its hypothetical nature and lack of inclusion of explicit external circumstances. It uses the “remote of CAN” (Coates, 1983) to reflect unreal

conditions and requires an adjusted ‘external possibility’ linguistic substitution check of *it would be possible for* (see Figure 11) because of the unreal condition.

- (69) Now let's imagine you are the noisy neighbour: you **could** turn the TV or radio volume down; you could stop slamming doors; and you could stop the children chasing around the house and shouting to each other: but that's asking you to change your life-style completely, and it's not really feasible. (BW570) (W_instructional)

I classified the instance above as ‘external possibility’: (a) the possibility of turning the TV or radio volume down is dependent upon external circumstances, such as the neighbour choosing to change his/her lifestyle and keep the volume lowered; and (b) linguistic substitution check: *Due to you, the noisy neighbour, choosing to change your lifestyle, it would be possible for you to turn the TV or radio volume down.*

As stated above in Section 6.2, most other studies have also found ‘external possibility’ to be the most frequently used meaning for COULD. It is not possible to make quantitative comparisons to others’ findings as the meaning categories used are so varied. For example, Mindt (1995) uses “possibility/high probability” and Collins’ (2009) findings are based on his ‘dynamic’ category, which includes, ‘external possibility’, ‘ability’ and ‘directive/‘commissive’.

Next we move to the instances I analysed as ‘epistemic possibility’. Though the instances in this next section are distinct from the ones in the present section, I show in Section 6.4.6, ‘ambiguous’ instances of COULD, how closely these can align in some cases.

6.4.2 ‘Epistemic possibility’ COULD

In my findings, the ‘epistemic possibility’ meaning (Section 4.7) associated with COULD is the second most frequent. This contrasts with my analysis of CAN, where the ‘epistemic possibility’ meaning was the least frequent. I analysed 33 instances of COULD as ‘epistemic possibility’ (out of 200), 20 from my spoken data and 13 from written.

As discussed in Section 4.7.4, for many linguists, “possible that” makes up the main part of the linguistic substitution check for CAN and COULD for ‘epistemic possibility’; however, the context around “possible that” varies, especially for COULD. While Coates (1983)

associates “it is possible that” (p. 107) with ‘epistemic possibility’ COULD, Collins (2009) connects several paraphrases for COULD used epistemically, most starting with past time “was” (e.g. “it was possible that it had been”) and also hypothetical (“it is possible that NP would...”) (pp. 109-110). Within my own data, I found no instances of ‘epistemic possibility’ CAN in a past time situation. I found: (a) present time with a present situation (*it is possible that...*); (b) present time with a future situation (*it is possible that....will/would*); and (c) hypothetical (*it is possible that x would...*).

Three of the instances discussed below are examples of the three time situations stated above, (a)-(c), starting with instance (70) which uses present time with a present situation. Following those examples, instance (73) includes *could + be*, which is elaborated on below.

- (70) (SP:PS50T) No, no I'll give you one with a three letter one, first letter R, clue, rank (pause) could it be row, rank, row (SP:PS50U) Oh what's that (SP:KP1PSUNK) (unclear) (SP:PS50T) I was thinking of rank like, officer's and things like that (SP:PS50U) Yeah (SP:PS50T) **couldn't** be a row could it? (SP:PS50U) Couldn't be what? (SP:PS50T) A row (SP:KP1PSUNK) (unclear) (SP:PS50T) (spelling) R O W ranks, the rank of something (spelling) R O W ain't it, row? (SP:PS50U) No not (spelling) R O W is it? (SP:PS50T) Yeah it is now, (BS453) (S_conv)

I analysed instance (70) as ‘epistemic possibility’: (a) the speaker is expressing his/her level of certainty (‘possible’), or in this case doubt, that the answer is “row”; and (b) linguistic substitution check: *it is not possible that it is a row...* In a positive instance, the form “might” would be used, which according to Hermerén (1978), “might” expressing “not possible” is expressed through the forms “can’t”, “cannot” and “couldn’t” (p. 170). By adding “could” to the utterance, the speaker is adding a level of doubt. If the speaker were certain, he or she would omit the modal and say, *It isn't a row*. Coates (1983) shares this view as well, explaining that, “COULD conveys the speaker’s lack of confidence in the proposition expressed” (p. 165). The addition of the tag question “could it?” also adds support for the speaker’s doubt.

Instance (71) is an example of present time with future situation and uses *could* in spoken text.

- (71) [Richard Branson] don't live my life erm er just with a profit motive in everything I do. As I said at the beginning I love a challenge and I would put pretty well everything into making sure that Virgin Atlantic is here in twenty years' time.

[Interviewer] But the future of this airline **could** be decided much sooner than that, and with it the levels of service and fares we can all expect on long haul flights. In the end it may all depend on the depth of Richard Branson's pocket, in moments of nostalgia even he may wonder if he sold the wrong business (BS443) (S_brdcast_documentary)

I analysed instance (71) as 'epistemic possibility': (a) the speaker is expressing his/her level of certainty ('possible') that the future of the airline will be decided much sooner than that; and (b) linguistic substitution check: *But it is possible that the future of this airline will be decided much sooner than that...* Supporting context for an 'epistemic possibility' reading comes from Richard Branson referring to "making sure that Virgin Atlantic airlines is here in twenty years' time" and the interviewer then adding her level of certainty, at a level of 'possible', that it may be decided before then and that it "may all depend on the depth of Richard Branson's pockets".

Instances (72) refers to a hypothetical situation, with the linguistic substitution check, *it is possible that x would*.

- (72) confide in and stuff like that and obviously, having met various psychiatrists and clinical psychologists, er quite a number of them are not people I'd particularly like to talk about about being abused as a child. Erm I think one of the one of the exceptions is (-----) actually. I **could** I could really er enjoy being counselled or or having some sort of therapeutic relationship with him er strangely enough but er y'know. Erm but not everybody's quite so erm y'know not everybody gets on with everybody and um this kind of what you might call personal chemistry, to lapse for a (BS520) (S_lect_soc_science)

I analysed instance (72) as 'epistemic possibility': (a) the speaker is expressing his/her level of certainty ('possible') that he/she would enjoy being counselled or having some sort of...; and (b) linguistic substitution check: *It is possible that I would really enjoy being counselled or having some sort of therapeutic relationship with him...* Contextual support indicating doubt comes from "I think" and "strangely enough".

Coates (1983) found that ‘epistemic’ *could* was “most commonly associated with the verb *to be*” (p. 166). I also found a high instance of ‘epistemic possibility’ meanings using the form *could + be* as in instance (73). The next instance of *could* is from the written data; there were no instances of negative *could* in my written data. Instance (73) uses *could well*, which Coates (1983) and Høye (1997) link to epistemicity. Coates (1983) claims that this “seems to express greater confidence in the proposition” and uses the paraphrase “it’s highly likely that...” (p. 166).

- (73) This statement contains a central concept of modern experimental and clinical pharmacology and toxicology -- namely, the dose-effect relationship, a principle of relevance not only to theoreticians but also to clinicians. It appears to be the most durable consequence of, and **could** well be considered to be a 'surviving paradigm' of, Paracelsus. (BW586) (W_ac_medicine)

I analysed instance (73) as ‘epistemic possibility’: (a) the speaker is expressing his/her level of certainty (‘possible’) that the dose-effect relationship is a ‘surviving paradigm’ of Paracelsus; and (b) linguistic substitution check: *and it is well possible that it is considered to be a 'surviving paradigm' of Paracelsus*. Support for an ‘epistemic possibility’ reading comes from the context “considered”, which shows the speaker’s expression of doubt in his/her statement.

Other linguists have found the meaning category ‘epistemic possibility’ used with COULD (Coates, 1983; Collins, 2009; Facchinetti, 2002); however, for others, the category titles remain an issue. For example, Mindt (1995) uses the category “inference/deduction” and though Römer (2004a) does not have an ‘epistemic’ category, she does have a category, similar to Mindt, titled “inference/deduction” which has a zero count for spoken COULD. This makes it not possible to compare my study to others’ studies.

6.4.3 ‘Ability’ COULD

I analysed a total of 21 instances of COULD (out of 200) as having an ‘ability’ reading (see Section 4.4), eight from the spoken data and 13 from the written. As indicated in Figure 11 (p. 140), ‘ability’ COULD is used either as the past of CAN or conditionally; instances (74) - (76) use the past of CAN, while (77) uses CAN conditionally.

Instance (74) is a prototypical example from my written data and was also used in my discussion on the linguistic substitution check being “be capable of” for instances of “ability” (see Section 4.4.4).

- (74) Yes, Constanza was born in the nineteenth century.' From the start she was something quite exceptional, they all say that. They never saw a child who could read and ride so early. I mean ride, not write. Horses. Constanza was mad about horses during her first twenty years. She had complete physical courage. (BW567)
(W_fict_prose)

I analysed (74) as ‘ability’: (a) child is animate; (b) possibility of reading and riding was determined by the subject’s internal capability; (c) active voice; and (d) linguistic substitution check: *They never saw a child who was capable of reading and riding so early*. Support for an ‘ability’ reading comes from the context, “from the start she was something quite exceptional” and the description of her having “complete physical courage”. The speaker is referring to the internal qualities, or in this instance, capabilities, of the child.

Instance (75) is from the spoken data and it requires readers to make some inferences, so I regard it as less prototypical than instance (74).

- (75) electronics factory up there doing (pause) micro-chips, and one of the big coal mines up there had just been closed down and they said well, there's no doubt about it, you know wha-- what we got ta do is re-train the miners ! But, unfortunately of course, with that type of work, their wives could do it, but the miners couldn't do it!. It's a different philosophy altogether! (BS495) (S_speech_unscripted)

I classified instance (75) as ‘ability’: (a) wives is animate; (b) possibility of doing was determined by the subjects’ internal capabilities; (c) active voice; and (d) linguistic substitution check: *...their wives were capable of doing it...* Support for an ‘ability’ reading comes from the context of needing to “re-train the miners”, so we know a new kind of skill is required for the work, and also “it’s a different philosophy altogether”, one in which the wives had and the miners did not.

Instances (76) and (77) are examples of the negative form of *could* in written and spoken text respectively.

(76) ? That's what the troopies musta reckoned. Cos they did n't smear Biff right away, and when he did n't fight back they took him in for terrorgation...' Biff Tundrish,' said the huge man in yellow and blue. However, he continued by using swank-words that Biff couldn't comprend at all. Biff shook his head, rattling his beads, and answered in scumlingo, slowly, to show that he could n't savvy. (BW605) (W_fict_prose)

I classified instance (76) as 'ability': (a) Biff is animate; (b) the impossibility of comprehending was dependent on the subject's internal capability; (c) active voice; and (d) linguistic substitution check: *...Biff was not capable of comprehending at all*. This is also prototypical as there is evidence from the context (e.g. "shook his head", "answered in scumlingo", "couldn't savvy").

(77) Yeah but it do n't mean you have to go and look everything up. There's no fun in looking things up is there? (SP:PS0EB) Yes it is. I find it i-- interesting. (pause) (SP:PS0EH) (belch) (SP:PS0EB) Jeremiah (SP:PS0EC) Ugh ugh (SP:PS0EH) Could have told you that. (SP:PS0EB) No you couldn't. What's the clue then if it's Jeremiah? (BS506) (S_conv)

I classified instance (77) as 'ability': (a) you is animate; (b) the impossibility of telling is dependent on the subject's internal capability; (c) active voice; and (d) linguistic substitution check: *...No you would not have been capable of (telling me that)*. Evidence from the co-text of "What's the clue then if it's Jeramiah?" shows the speaker challenging the general knowledge, or 'ability' of the hearer. This is conditional as indicated from the use of "would" in its substitution check.

Coates (1983) findings contradicted mine, in that she found 'ability' used more than 'epistemic possibility'. Coates' low frequency findings for 'epistemic possibility' may be due to her criteria for that category, for example, the exclusion of instances which have agentive function. Similarly Mindt (1995) reports quite a high percentage of 'ability' instances and includes instances such as "*with the driver's seat pushed fully back, I **could** almost straighten my legs*" (p. 81). Again, I would consider this 'external possibility' with the external circumstances being the positioning of the driver's chair, rather than the internal competence of the subject.

6.4.4 ‘Directive’ and ‘commissive’ COULD

I analysed 18 instances (out of 200) as ‘directives’ (see Section 4.8), all from my spoken data, and did not analyse any instances as ‘commissive’ (see Section 4.8). In analysing the ‘directives’ in this data set, I found only instances of request and suggestion. Instance (78) is an example of a request:

- (78) And what about a quarter of the way round, what would that be? (pause) Do you know how to divide three sixty by four? (pause) Quite a big number **could** you divide thirty six by four? (pause) How many fours in thirty six? (pause) Okay? (SP:PS3TH) (unclear) (SP:PS3TF) Could you have done, could you do half of thirty six? (pause) (SP:PS3TH) Mm. (pause) (SP:PS3TF) Okay what would half of thirty six be? (SP:PS3TH) Eighteen. (SP:PS3TF) And then what (BS434) (S_classroom)

I classified (78) as a ‘directive’ in the form of a request. I initially thought it was an ‘ability’ reading, supported by the context “do you know how to”. However, when viewing the instance in the *BNCweb*, a pause duration of nine sections is noted, which indicates the instructor was looking for a response. The linguistic substitution check for this instance is: *I want you to divide thirty six by four*, and of course, provide the instructor with the answer. A “yes” or “no” response from the student, either affirming or denying capability or possibility would be inappropriate here as the instructor expects a numeric response.

Instance (79) is an example of a suggestion:

- (79) (SP:PS6HN) Yes (SP:PS6HM) so we can get progress? (SP:PS6J9) Chair, **could** I make, could I suggest maybe that in future when you ask organisations (unclear) you make it harder for getting a license for street collection, that you tell them that you'll want to know exactly the proportions (BS512) (S_meeting)

I analysed (79) as ‘directive’ in the form of a suggestion. Contextual support for this includes the performative verb “suggest”. The speaker’s message is *I want you to make it harder to get a license for street collections*. The speaker does not wait until he/she is granted permission to make a suggestion; he/she continues speaking with the suggestion.

With regard to using COULD, in requests or suggestions for example, Celce-Murcia and Larsen-Freeman (1999) discuss how using this form, compared to CAN, “softens” the request

and makes it more polite (p. 145). Making a comparison with my findings for ‘directives’, the form COULD was used more frequently than CAN, roughly twice as much.

Collins (2009) includes these types of speech acts in his ‘dynamic’ category, and Coates (1983) in her ‘root possibility’ category, as discussed previously in Section 4.8; therefore, no sound comparisons can be made with their work as they are not presented as separate categories with their own frequencies.

6.4.5 ‘Phrases’ with COULD

The instances below use *could* and *couldn’t* in ‘phrases’ (see Section 4.9). I analysed a total of nine instances as ‘phrase’; three from the spoken data and six from the written data; this is fewer than the 34 phrases found in CAN. I have included two example instances below, one from the spoken data using *couldn’t* (80) and one from the written data using *could* (81).

Unlike my data for *can/can’t* which contained recurring phrases, there were no recurring phrases in my data for COULD, though there were some that paralleled with my *can/can’t* data (e.g. *could not/can’t be bothered*, *couldn’t/can’t bear*).

Instances (80) - (81) meet the ‘phrase’ criterion in that the modal auxiliary + verb create a new meaning.

- (80) (SP:PS1A9) But I thought I won't give her room to talk. (SP:PS1AH) No. Yeah . (SP:PS1A9) She can er (SP:PS1AH) Isn't that, that terrible! (SP:PS1A9) I **couldn't** believe it when I saw it. Couldn't believe it! Honestly! (SP:PS1AH) Miserable so and so! (SP:PS1A9) Isn't she? (SP:PS1AH) Good God! (SP:PS1A9) Int she? (BS449) (S_conv)

Sinclair (2006) says, “**Believe** is used in expressions such as **I can’t believe how** or **it’s hard to believe that** in order to express surprise because something bad has happened or something very difficult has been achieved” (p. 118). In this case the context of “isn’t that, that terrible!” is support for this being prompted by something bad happening. In this instance, *couldn’t + believe* has the meaning *surprise* and can be paraphrased, *I was surprised when I saw it*. ‘Couldn’t believe’ is a ‘phrase’ that is most likely more familiar than some of the others in this thesis and is found with *can’t* as well.

- (81) Subject: various. # Dorigo. As all players have their price. What would Dorigo's be? In cash terms, cash + Players from S.WED. Bear in mind, that we **could** do with class in some areas. + Sharp coming through. Walker, Palmer+Worthington, 3M, Sheridan + Worthington? (BW573) (W_email)

In (81), *could + do + with* creates the new meaning “need”. The above is recognised in Sinclair (2006) as being associated with the lexical item ‘do’ under ‘phrases’. It reads, “if you say that you **could do with** something, you mean that you need it or would benefit from it” (p. 415). This instance can be paraphrased ...*we need class in some areas*.

I am unable to make direct category frequency comparisons to other studies as, again, ‘phrase’ is not a category that exists in the studies mentioned in this chapter (Biber et al., 1999; Coates, 1983; Collins, 2009; Mindt, 1995; Römer, 2004a) or any modal auxiliary corpus-based studies.

6.4.6 ‘Ambiguous’ COULD

I analysed eight instances as ‘ambiguous’ (see Section 4.11) in my data for COULD, two spoken and six written. For each of the instances, the extended context beyond what is included in this thesis did not help to determine a meaning reading.

Instance (82) comes from the spoken data.

- (82) (SP:PS0LK) just gon na have to you know be stopped there anyway this young lad after the first fast bend he went to overtake and I could see a car coming the other way and he was like er running along side this pick-up but it was like he couldn't drop back and he **couldn't** make it either (SP:PS0LK) Mm (SP:PS0LK) so he just kept going, so the pick-up jammed its anchors on, there was a Rover it was coming the other way, the Rover went up the verge (SP:PS0LK) Oh my god (SP:PS0LK) and the aargh, just squeezed in and this lad sort of (BS440) (S_conv)

I analysed instance (82) as ‘ambiguous’ between an ‘ability’ and ‘external possibility’ reading. In an ‘ability’ reading: (a) he is animate; (b) the possibility of making it was determined by the internal competence of the subject; (c) active voice; and (d) linguistic substitution check: ...*he couldn't drop back and he was not capable of making it either*. In

this reading, “he” couldn’t make it due to his internal capability (at the moment of action). For example, it may be his mental capabilities holding him back. In an ‘external possibility’ reading: (a) the possibility of making it was dependent upon external circumstances (e.g. speed capacity of vehicle); and (b) linguistic substitution check: *Due to external circumstances (e.g. the speed capacity of vehicle), it was not possible for him to make it.*

Instance (83) comes from the written data.

- (83) indication of changes which have occurred in the last three centuries, the period of worldwide industrialization and the extensive burning of fossil fuels. A scientist at the centre said that finding uncontaminated air in any of the three coffins would be the " Rosetta Stone of the atmosphere ". The air samples could give scientists vital information about long-term changes in the chemical composition of the atmosphere. The only other clues available on this aspect until now have been air bubbles in polar ice caps, but there are doubts about how closely the composition of the bubbles matches that of the atmosphere at the time they (BW601) (W_misc)

I analysed instance (83) as ‘ambiguous’ between ‘external possibility’ and ‘epistemic possibility’. In an ‘external possibility’ reading: (a) the possibility of giving scientists vital information is dependent upon the quality of air samples; and (b) linguistic substitution check: *Due to the quality of the air samples (the air having been sealed in the coffins for a long time), it is possible for the air samples to give scientists vital information....* In an ‘epistemic possibility’ reading: (a) the speaker is expressing his/her level of certainty (‘possible’) that the air samples will give scientists vital information; and (b) linguistic substitution check: *It is possible that the air samples will give scientists vital information.*

Instance (83) is from *The Environment Digest*, which I consider to be a genre closely related to academic/scientific writing. In his work on scientific writing, Hyland (1996) found:

Could expresses both hedging and “root possibility,” which concerns the role of enabling conditions on a proposition rather than the writer’s assessment of its truth. Distinguishing between the conceptually possible and the experientially possible is often problematic and may depend on access to the participants’ knowledge [...] Such ambiguity between a writer’s tentative assessment of possibilities and the role of external circumstances allows propositions to be established from a greater distance. (p. 262)

There is a recognition among linguists (e.g. Coates, 1995; Hyland, 1996; Leech & Coates, 1980) that this technique using COULD is often found in academic writing. Hyland (1996) presented a comparison of the “Frequencies of Modal Verbs Used to Express Hedging in Different Corpora” (p. 261) in four different corpora and he listed COULD as the third most frequent used. Coates (1995) explains that, “While *writers* can exploit the both/and relationship of root and epistemic meanings when talking about possibility, *speakers* are constrained by prosodic factors to choose one or the other” (p. 62).

COULD has a higher frequency of ‘ambiguous’ instances than CAN which I believe is due to this close relationship between ‘external possibility’ and ‘epistemic possibility’ when it comes to written *could*. This connects back to my discussion in Section 2.5.4.1 on *it is possible for* (‘external possibility’) and *it is possible that* (‘epistemic possibility’). Though Leech and Coates (1980) do not provide examples using COULD, they state that “the common semantic element of possibility (as shown in the paraphrase formulae) is indicative of the close connection between the two meanings” (p. 86). With regard to other studies discussed in this chapter, none include an ‘ambiguous’ category. For those that have a category with a similar or near-similar term to “ambiguous”, the category descriptors are missing, making it challenging to know how they account for these.

6.4.7 ‘Permission’ COULD

Out of 200 instances of COULD, I analysed only four instances as having a ‘permission’ reading (see Section 4.5), all within my written data.

A prototypical case of ‘permission’ in using *could* in written text is (84). This instance is also used as an example in Section 4.5.2.

- (84) There's a meeting at such and such a place on Wednesday afternoon; would you ask your teacher if you **could** miss your lessons?' (BW523)
(W_non_ac_soc_science)

In the above: (a) you is animate; (b) subject is asked to seek permission from his/her teacher to miss lessons; and (c) linguistic substitution check: *would you ask your teacher if you are permitted to miss your lessons?* In this instance the teacher is the human authority authorised to grant or deny permission to miss lessons.

Instance (85) required a greater amount of extended context to support its inclusion in the ‘permission’ category.

- (85) Lewis at his meeting with Hall on 4th August agreed that up to 5,000 **could** be spent on premiums, and Hall in his letter to Hunt on 21st August at first suggested fifteen premiums, five for each design, with the offices treated equally. (BW612) (W_non_ac_humanities_arts)

I analysed (85) as a ‘permission’ reading: (a) Lewis is animate; (b) Hall received permission from Lewis to spend up to 5,000; and (c) linguistic substitution check: *Hall would be permitted to spend up to 5,000 on premiums*. Further expanded context required for a ‘permission’ reading is to confirm that Lewis is the “human authority” in this situation. The relevant expanded context, which is also part of my data set, is instance (86).

- (86) The parliamentary session closed on 29th July, without any further progress being made, but on 4th August, Hall and Hunt met Cornwall Lewis and Trevelyan to obtain the Government's approval for a competition, and to seek the first steps towards acquiring the land. Lewis said that the Government thought that it was only necessary, at present, to provide suitable accommodation for the War Office and the Foreign Office, but preliminary steps could be taken towards acquiring the land, and Hall **could** obtain designs for laying out the whole area. Up to 5,000 could be spent on premiums for the competition. # The Case for a New War Department # The urgency which at this stage was given to the need for a new War Department building was a direct aftermath of the Crimean War (BW602) (W_non_ac_humanities_arts)

This excerpt confirms Lewis as the human authority speaking on behalf of the government and granting permission to Hall. Supporting context for him as the permission granter is “to obtain the Government's approval for a competition”. I also analysed “could” in instance (86) as ‘permission’: (a) Hall is animate; (b) Hall received permission from Lewis to obtain designs for laying out the whole area; and (c) linguistic substitution check: *...and Hall was permitted to obtain designs for laying out the whole area*.

Though ‘permission’ is often included in discussions in the literature as one of the main meanings for COULD (and CAN), frequencies are usually quite low. In this study, I did not analyse any spoken instances of COULD as ‘permission’ and only 4% of written were analysed this way. Comparing my findings to Römer's (2004) investigation of *could* in only

the spoken BNC, she reported 3.5% instances were ‘permission’. In her paper, she provides only one instance of ‘permission’ using *can*, so I am unable to comment much further on the reason for our difference; though I can speculate that it could be due to either different parameters set up for the ‘permission’ meaning category, or more likely, the sample of instances analysed.

6.4.8 ‘Volition’ COULD

I analysed three instances of COULD as having a ‘volition’ meaning (see Section 4.10), two spoken and one written. Instance (87) is from the spoken data and uses *could*; it is also used as an example in Section 4.10.

- (87) (SP:PS1AD) little schoolgirls play football. (SP:PS1AA) Mm. (SP:PS1AD) Rugby league's the harder game of the three. (SP:KBCPSUNK) (unclear) (SP:PS1AA) Is it? (SP:PS1AD) Yeah. (SP:PS1A9) It's no use (laughing) trying to smarm me. (SP:PS1AG) I **could** watch a game of rugby, I couldn't watch (SP:KBCPSUNK) A biscuit. (SP:PS1AG) a game of football. (SP:PS1A9) No! (SP:PS1AD) Yeah. (SP:PS1AA) I wonder what is, what is the basic difference between rugby league (BS471) (S_conv)

In (87) the speaker is expressing that given a chance to watch a game of rugby, he/she *would want to*. This instance can be paraphrased, *I would want to watch a game of rugby...* The situation in this instance is hypothetical.

Instance (88) is from the written data and uses *couldn't*.

- (88) We began at Bakewell, the central town of the Peaks, where we visited the 14th Century church to see its celebrated collection of mediaeval monuments, did some souvenir shopping and **couldn't** resist a genuine Bakewell Pudding before going on to nearby Chatsworth, the 'Palace of the Peak'. (BW554) (W_advert)

The speaker is using “couldn’t resist” to convey that he/she did not want to resist. Sinclair (2006) describes “resist” as “If you **resist** doing something [...] you stop yourself from doing it although you would like to do it” (p. 1227). In this instance, the speaker follows his/her volition and does not stop him/herself from having a Bakewell Pudding. Using *want to*, the

linguistic substitution test for this instance is: *we wanted a genuine Bakewell Pudding...* In this instance, we can infer that not only did they want one, they had one. The speaker is choosing to do *x* because *x* was very appealing.

Other modal auxiliary studies often include the meaning category ‘volition’, but in the literature it is not associated with COULD (or CAN), as discussed in Section 4.10; therefore, I am unable to make comparisons regarding ‘volition’ to other studies.

6.5 Summary of chapter

This chapter demonstrates the various meanings associated with COULD based on my BNC corpus data. It also emphasises the different meaning categories associated with COULD according to various linguists and why it is difficult to make quantitative comparisons from findings in my study to others’. As discussed throughout the chapter, the meaning category titles are not consistent. Furthermore, the differences in criteria for meaning categories and the corpora analysed may contribute to these frequency differences. For example, one reason that may account for Coates’ findings of ‘ability’ being more frequent than ‘epistemic possibility’ is her boundaries for the inclusion of instances in ‘ability’. She analysed the following as ‘ability’: “*Louis and I and Ann lived in the village blacksmith’s cottage, with the smithy next door, and through the wall we could hear the bellows blowing and the horses stamping*” (p. 112). This is an instance I would have analysed as ‘external possibility’ with the external circumstances for hearing being due to their living in the village blacksmith’s cottage. These differences in meaning classifications can have a great impact on findings.

For the meaning frequencies for COULD, similar to CAN, the spoken and written contexts have an impact on frequency counts, with the greatest difference seen in the ‘directive’ / ‘commissive’ meaning category where spoken COULD is reported at 18% frequency use and in written COULD it is reported as zero.

Next I present my findings for BE ABLE TO in the BNC, the last of the modal auxiliaries in this study.

Chapter 7: Frequency and meanings for BE ABLE TO in the BNC

This chapter examines *BE able to* and *BE unable to* in both spoken and written texts in the BNC. The first thing to note is the convention of “BE” including various forms of BE (e.g. *am, is, was*) as detailed in Appendix 1. I begin by examining BE ABLE TO in its quasi-modal role and next I discuss previous corpus-based investigations of BE ABLE TO and the meaning categories previous linguists have found for this quasi-modal. I then provide an overview of the frequency counts and category percentages I found in my own study. Each category is then presented with example instances, each one followed by a detailed analysis for its inclusion in its assigned category. At the end of each category section, I have included a brief discussion comparing other corpus-based studies’ findings for BE ABLE TO to the present study.

7.1 General considerations for BE ABLE TO

This section includes a discussion of BE ABLE TO as a quasi-modal and the flexibility that role offers, along with the forms I have, and have not, included in the present study.

7.1.1 BE ABLE TO as a quasi-modal

A characteristic of quasi-modals that stands out is that syntactically they can combine with other modal auxiliaries. For example, instance (89) combines central modal auxiliary *would* + quasi-modal *be able to*.

- (89) Apart from all the antiques Mr Grover also had piles of books about every subject under the sun and Paddington felt sure he **would be able to** explain the mystery. (BS20) (S_conv)

Coates (1983) describes that “BE ABLE TO is considerably more flexible than CAN, particularly in its ability to co-occur with true modals, to occur in non-finite forms and with more complex tense and aspect markings than simple present and past” (p. 125). In my BNC corpus analysis of BE ABLE TO I found that the number of instances which were preceded by a central modal auxiliary (e.g. *might be able to afford*) or quasi-modal auxiliary (e.g. *going to be able to go*), depended on the form and whether it was used in spoken or written

registers. I have included Table 16 to show the modal forms for BE ABLE TO and the percentages of central modals, quasi-modals and no modal auxiliary preceding the various BE ABLE TO forms which is derived from my BE ABLE TO sample set of 400. The quasi-modal forms I included in the quasi-modal column are those that are both the more readily acknowledged (e.g. *going to*) and also those that are disputed amongst linguists (e.g. *want to*).

Table 16: Percentage of central, quasi and no modal auxiliary preceding BE ABLE TO

<i>be able to</i> form	Preceding <i>be able to</i> form			Total
	Central Modal	Quasi-Modal	No modal	
<i>BE able to</i> (spoken)	49	12	39	100
<i>BE able to</i> (written)	28	6	66	100
<i>BE unable to</i> (spoken)	8	0	92	100
<i>BE unable to</i> (written)	13	0	87	100

Table 16 shows that while it is most common in spoken registers to use *BE able to* with a preceding central or quasi-modal, it is least common with spoken *BE unable to*. Also, in a written register, a central or quasi-modal preceding *BE able to* is used more frequently than with *BE unable to*.

7.1.2 BE ABLE TO form

As previously discussed in Section 3.3.1.2 in my study, when selecting instances of BE ABLE TO, it was important to ensure that only the modal auxiliary forms were chosen. For example, the instance below is one that is clearly in modal form and uses “are” as the plural form of *BE*.

- (90) Like Debbie, Fay starts from the premise that the point of doing a degree is to get a job, as we can see in her statement that science students **are able to** apply for a wider range of jobs than arts graduates. (BW13) (W_non_ac_soc_science)

An example of instances that were excluded from my data set is below. This instance does not include a form of the verb *BE* and therefore is not counted as a modal auxiliary.

- (91) relatively small group covering a very big area we, we haven't felt **able to** do that, (BS21) (S_meeting)

Instances similar to the above that were not BE + *able to* were excluded from my overall frequency counts which is detailed in Section 7.3 below.

7.2 Previous corpus-based studies of BE ABLE TO

Of the comparison studies I have been focusing on in Chapters 5 and 6, only Coates (1983) and Collins (2009) include BE ABLE TO in their examined modal auxiliaries, while Facchinetti (2000) performed an investigation concentrated on BE ABLE TO. She found, and reconfirmed in Facchinetti (2002), that “*was/were able* [...] appears to be encroaching into some of the semantic and syntactic fields generally agreed to be typical of *could*” (p. 238). However, her 2000 work examines frequencies divided into various genres, as opposed to meaning categories. Therefore, I compare my finding for BE ABLE TO the works of Coates and Collins only.

Some linguists (e.g. Facchinetti, 2000; Hermerén, 1978) connect *be able to/able to* to ‘ability’; however, Coates (1983) states that, “BE ABLE TO seems to cover the whole range of meaning associated with CAN” (p. 124). The meanings she found associated with CAN are ‘possibility’, ‘ability’ and ‘permission’. While Coates found that BE ABLE TO covered the same range of meanings as CAN, Westney (1995) reasons, “this certainly does not mean that any occurrence of *can* can be replaced by *be able to*” (p. 207). Collins (2009) agrees that BE ABLE TO is used in more instances than just ‘ability’, yet states there are specific cases where BE ABLE TO cannot replace CAN. I agree with Westney and Collins and also found that in my data, BE ABLE TO had more than only an ‘ability’ meaning, yet was not used in all of the meaning categories that were associated with CAN. In my data BE ABLE TO is found in connection with the following categories: ‘external possibility’, ‘ability’, ‘permission’, ‘volition’, ‘phrase’ and ‘ambiguous’, and not with ‘epistemic possibility’ and ‘directives/commissives’.

7.3 Overall frequency and category frequency percentages for BE ABLE TO

In my study of BE ABLE TO, I found overall frequency counts and analysed these occurrences according to the meaning categories explained in Chapter 4. As discussed in 3.3.2, calculations for BE ABLE TO were adjusted to account for instances of non-modality, which is shown in Table 17 below.

Table 17: Adjusted raw frequencies for BE ABLE TO

BNC	BNC Frequency Results	Proportion of Non-Modal Instances	Calculated raw frequency
<i>BE able to</i> (spoken)	3,331	0.14	2,865
<i>BE able to</i> (written)	24,684	0.09	22,462
<i>BE unable to</i> (spoken)	141	0.23	109
<i>BE unable to</i> (written)	5,728	0.22	4,468

Table 18 shows the frequency counts for *BE able to* and *BE unable to* in spoken and written texts in the BNC. Using the raw frequencies, I calculated the frequencies per 10,000 words, which are reported as rounded to the nearest whole number, and also the log-likelihoods (LL) comparing spoken and written contexts.

Table 18: Frequency counts for BE ABLE TO in the BNC

BNC	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)	Log-Likelihood (LL)
BE ABLE TO	2,974	3.0	26,930	3.1	LL=5.36 p<0.05
<i>BE able to</i>	2,865	2.9	22,462	2.6	LL=24.58 p<0.0001
<i>BE unable to</i>	109	0.1	4,468	0.5	LL=440.67 p<0.0001
BNC Spoken - 9,963,663					
BNC Written - 86,299,736					

When comparing the spoken and written data for BE ABLE TO in the BNC, the difference is shown by the LL calculation of 5.36, which is significant at the level of $p<0.05$. Furthermore, if examining only *BE able to*, the LL calculation is 24.58, and only *BE unable to*, the LL calculation is 440.67; both with a significance at the level of $p<0.0001$. Similarly, Collins (2009) found in his study of the ICE-GB that BE ABLE TO was used more frequently in written texts than in spoken and Facchinetti (2000) states that BE ABLE TO is “preferably used in the written code” (p. 118). However, when looking at the individual forms, *BE able to* is used more frequently in spoken than written texts, and conversely, *BE unable to* is used more frequently in written texts.

I used sampling to calculate category percentages for BE ABLE TO. I took 100 random instances for each of *BE able to* (spoken), *BE able to* (written), *BE unable to* (spoken) and *BE unable to* (written), for a total of 400 tokens. I uploaded these instances into Wordsmith Tools 6.0 and assigned a category to each. Figure 13 offers a snapshot of the category percentages associated with BE ABLE TO.

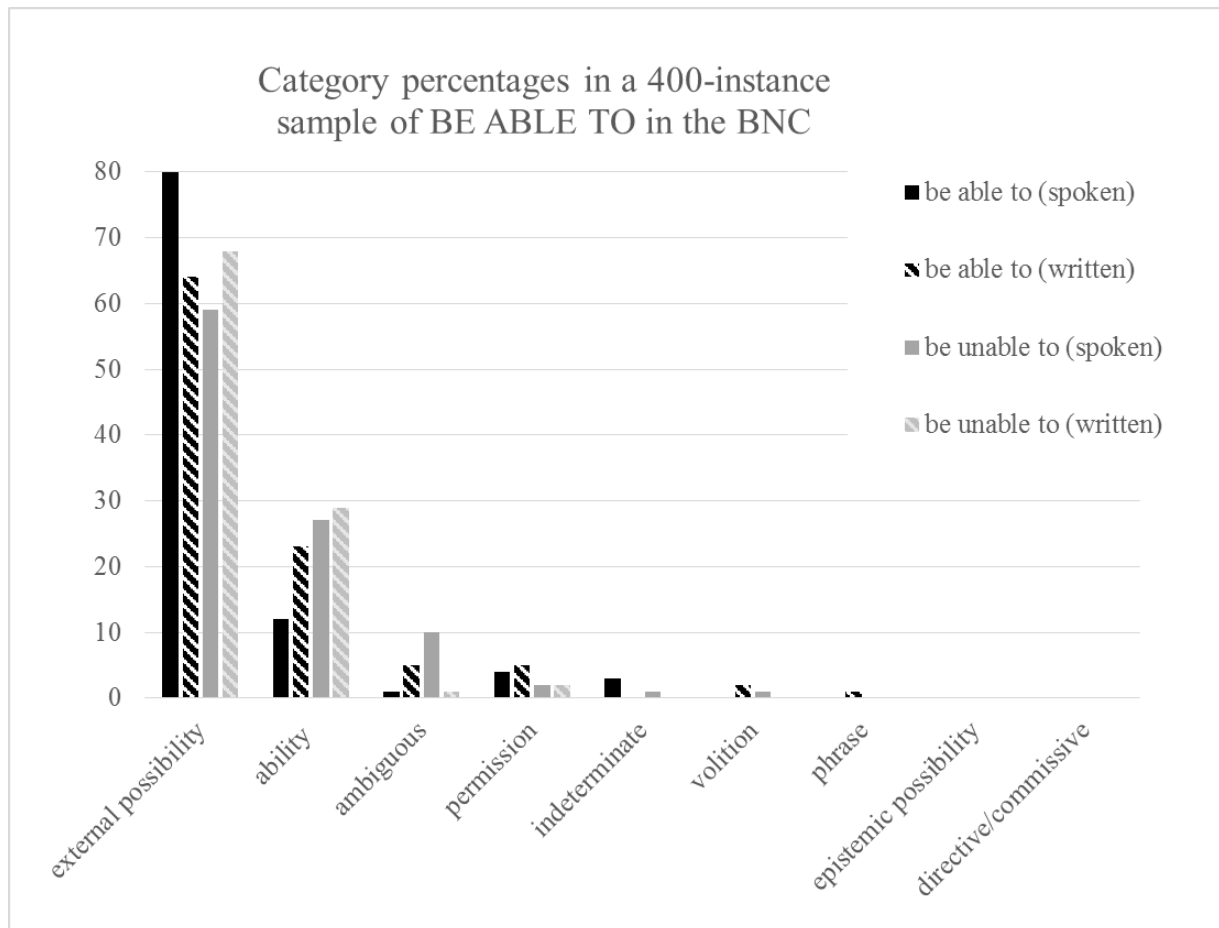


Figure 13: Category percentages in a 400-instance sample of BE ABLE TO in the BNC

As we can see from Figure 13, as with CAN and COULD, ‘external possibility’ is the most frequent meaning found. Table 19 below shows the numerical values found for each category for BE ABLE TO.

Table 19: Frequency percentages per category for BE ABLE TO in the BNC

BNC^s Categories	<i>BE able to</i> (spoken)	<i>BE able to</i> (written)	<i>BE unable to</i> (spoken)	<i>BE unable to</i> (written)
external possibility	80%	64%	59%	68%
ability	12%	23%	27%	29%
permission	4%	5%	2%	2%
ambiguous	1%	5%	10%	1%
volition	0	2%	1%	0
phrase	0	1%	0	0
indeterminate	3%	0	1%	0
epistemic possibility	0	0	0	0
directive/commissive	0	0	0	0
total	100%	100%	100%	100%

The figures in Table 19 are presented as percentages since the sample data set for each was 100. As I did for CAN, in Table 22 I have combined *BE able to* (spoken) + *BE unable to* (spoken) into one category, spoken BE ABLE TO. Likewise, I combined *BE able to* (written) and *BE unable to* (written) into the category written BE ABLE TO. Collins even notes, “Even though, strictly speaking, *able* and *unable* are separate lexemes they are here treated as belonging to the same lexico-modal on the grounds of the close relationship between *not able to* and *unable to*” (p. 122).

The first step in combining *BE able to* (spoken) + *BE unable to* (spoken) was to find the percentage of spoken forms within BE ABLE TO in the BNC. This is reflected in Table 20.

Table 20: Percentage of spoken forms within BE ABLE TO (BNC)

Form of BE ABLE TO (spoken)	Frequency	Percentage within BE ABLE TO (spoken)
<i>BE able to</i> (spoken)	2,865	96.33%
<i>BE unable to</i> (spoken)	109	3.67%

Next, using the frequencies from *BE able to* (written) and *BE unable to* (written), I found the percentage of written forms within BE ABLE TO (BNC) which is shown in Table 21 below.

Table 21: Percentage of written forms within BE ABLE TO (BNC)

Form of BE ABLE TO (written)	Frequency	Percentage within BE ABLE TO (written)
<i>BE able to</i> (written)	22,462	83.41%
<i>BE unable to</i> (written)	4,468	16.59%

These percentages contributed to the weighting of the sample data in Table 22. For spoken instances, the sample data in Table 22 has been weighted to reflect the much higher frequency of *BE able to* (spoken raw frequency = 2,865; 96.33% of spoken instances) and lower frequency of *BE unable to* (spoken raw frequency = 109; 3.67% of spoken instances) in the BNC. Similarly, for written instances, the sample data in Table 22 has been weighted to reflect the higher frequency of *BE able to* (written raw frequency = 22,462; 83.41% of written instances) and lower frequency of *BE unable to* (written raw frequency = 4,468; 16.59% of written instances) in the BNC.

Table 22 includes the weighted percentages and counts for spoken and written BE ABLE TO in the BNC.

Table 22: BNC category weighted percentages and counts for spoken and written BE ABLE TO

Categories \ BNC ^w	BNC ^w BE ABLE TO (spoken)		BNC ^w BE ABLE TO (written)	
	Percent	Count	Percent	Count
external possibility	79.2%	159	64.7%	129
ability	12.6%	25	24.0%	48
permission	4.0%	8	4.5%	9
ambiguous	1.3%	3	4.3%	9
indeterminate	2.9%	6	0	0
volition	0	0	1.7%	3
phrase	0	0	0.8%	2
epistemic possibility	0	0	0	0
directive/commissive	0	0	0	0
total	100%	201	100%	200

Table 23 provides an example for how I calculated the percentages above, using BE ABLE TO (spoken), and the category ‘external possibility’.

Table 23: Example calculation for weighted BE ABLE TO (spoken), ‘external possibility’

	Percentage within BE ABLE TO (spoken)	Frequency of ‘external possibility’	Weighted percentage
<i>BE able to</i> (spoken)	96.33%	80	77.064
<i>BE unable to</i> (spoken)	3.67%	59	2.1653
BE ABLE TO (spoken) (‘external possibility’)			79.2293 79.2%

I calculated 96.33% (percentage of instances of spoken *BE able to*, excluding spoken *BE unable to*), of 80 (frequency count of ‘external possibility’ in sample of spoken *BE able to* in Table 19). The calculations used were: $.9633 \times 80$, which resulted in 77.064. Following the same for instances of spoken *BE unable to*, I calculated 3.67% (percentage of instances of spoken *BE unable to*, excluding *BE able to*), of 59 (frequency count of ‘external possibility’ in sample of spoken *BE unable to* in Table 19). The calculations used were: $.0367 \times 59$, which resulted in 2.1653. Thus, combining the percentage of instances of spoken *BE able to* (77.064) and the percentage of instances of spoken *BE unable to* (2.1653), the total is 79.2293, rounded to 79.2%, as shown above. This was done for all categories for spoken and written BE ABLE TO.

For counts, using the meaning category ‘external possibility’ for BE ABLE TO (spoken) as an example, because we have an original sample of 200 instances for each form and register (200 spoken BE ABLE TO and 200 written BE ABLE TO), we multiply the total percentage found above (79.2293) by 2, which equals 158.4586, and is rounded to 159. If we were to take a sample of the same size directly from the BNC, we would expect 79.2% of these instances (158.5486 out of 200) of spoken BE ABLE TO, and 64.7% of these instances (129.3 out of 200) of written BE ABLE TO, to be used with an ‘external possibility’ meaning. Counts have been rounded to the nearest whole number as SPSS only recognises whole numbers which denote how many instances one target/word represents.

The next section consists of example instances from the BNC, per category as presented in combined count order for spoken and written BE ABLE TO, per Table 22.

7.4 Meanings found for BE ABLE TO

I assigned instances of BE ABLE TO to the following categories: ‘external possibility’, ‘ability’, ‘permission’, ‘ambiguous’, ‘volition’, ‘phrase’ and ‘indeterminate’. I did not classify any instances as ‘epistemic possibility’ or ‘directive’ / ‘commissive’. With regard to ‘epistemic possibility’, Coates (1983) and Collins (2009) found the same. With regard to ‘directive’ / ‘commissive’, though Collins did not directly account for any instances as being ‘directive’ or ‘commissive’ in his examples for BE ABLE TO, he did provide an example of what he calls “dynamic implication” (p. 119), functioning as a suggestion. The example he included is: “I said on the phone, we have not reached any decision about this and it would be very helpful if we *were able to* discuss it further” (p. 120). However, he does not include “dynamic implication” in his category table and he does not explain what he did with this example in his frequency counts.

7.4.1 ‘External possibility’ BE ABLE TO

For both forms, *BE able to* and *BE unable to*, and both registers, spoken and written, the meaning category ‘external possibility’ (see Section 4.6) was the most frequent, by far. For BE ABLE TO, I analysed 139 instances as ‘external possibility’ from my spoken data and 132 from my written (out of 400 total).

Instances (92) and (93) are examples of spoken *BE able to* and written *BE unable to* respectively:

- (92) Technology is changing our world so much that small groups of people through computers and elsewhere **are able to** determine vast patterns of human behaviour (pause) and so it's gonna be a long struggle (pause) but through our struggle in Africa and your struggle here (pause) where we all want democracy but democracy's only a process (pause) what we have to contend with is also power (pause) because ultimately it (BS96) (S_speech_scripted)

I analysed (92) as an ‘external possibility’ reading: (a) the possibility determining vast patterns of human behaviour is dependent upon technology; and (b) linguistic substitution check: *Due to technology, it is possible for small groups of people through computers and elsewhere to determine vast patterns of human behaviour.* Support for this as an ‘external possibility’ reading comes from “technology” and “computers” being the external circumstance aiding people in the process.

- (93) The Bill before the House is not adequate. Dame Jill Knight In connection with an incident that my right hon. Friend has mentioned already, is he aware that hon. Members and staff **were unable to** work in their offices at 1 Parliament street between 9.30 and 12.30 because of three IRA bombs placed in Whitehall? (BW103) (W_hansard)

I classified instance (93) as ‘external possibility’: (a) the impossibility of working in their offices was due to the three IRA bombs placed in Whitehall; and (b) linguistic substitution check: *Due to the three IRA bombs placed in Whitehall, it was not possible for members and staff to work in their offices...* The circumstances in this case are made clear by the writer.

In my data for ‘external possibility’, as shown in Table 22, instances of ‘external possibility’ in spoken BE ABLE TO are weighted at 79.2%, and written instances are weighted at 64.7%. Coates (1983) found what she terms “possibility” to be the most frequent meaning used for BE ABLE TO, and also by a considerable margin, yet Collins (2009) found in his study instances of ‘ability’ to be more frequent than those of, what he terms, ‘theoretical possibility’ (p. 120).

7.4.2 ‘Ability’ BE ABLE TO

For the ‘ability’ meanings (see Section 4.4) of BE ABLE TO, I analysed 39 instances as ‘ability’ in my spoken data and 52 in my written (out of 400 total).

Instances (94) and (95) are examples of spoken *BE able to* and written *BE unable to* respectively:

- (94) n't a toilet and you have to walk to the toilets, and I remember a couple of times when I was little, shitting my pants on the way to the toilets, you know, cos I

could n't hold it in. But (pause) when you reach this age you should **be able to** control it! (SP:PS556) (unclear) (SP:PS55L) My first year at Grange Hill, right, you know when I used to wear boxer shorts with no knickers on underneath? (SP:PS555) Dirty Cath! (SP:PS55L) I was, I, I had diarrhoea this time, yeah, and I was (SP:PS556) Oh my (BS27) (S_conv)

I classified instance (94) as ‘ability’ as: (a) “you” is animate; (b) possibility of the controlling it is determined by the subject’s internal capability (at the moment of the action); (c) active voice; and (d) linguistic substitution check: *...But (pause) when you reach this age you should be capable of controlling it.* ‘Ability’ classification for this instance is supported by the subject’s expectation that “when you reach this age” one should be capable of controlling one’s own bowels.

(95) the bourgeoisie and the proletariat. Neither traditional Marxism nor conventional pluralism seem adequate to us. Marxism's main flaw is its insistence on economics and the economic category of class as the one fundamental explanatory factor. This has meant, for example, that despite some valiant efforts Marxism has **been** ultimately **unable to** deal with other important social dimensions such as race and gender differences without reducing them to a mere aspect of class oppression and class struggle. We are not convinced that the penal realities concerning race and gender outlined in Chapter 9 can be satisfactorily explained in this manner. Pluralism on the other (BW106) (W_ac_soc_science)

I assigned instance (95) an ‘ability’ reading: (a) “Marxism” is indirectly animate. In this instance, Marxism represents people, human subjects, whose internal beliefs and capabilities of dealing with the social dimensions are being commented on; (b) the impossibility of dealing with other important social dimensions is determined by the internal competence of the subject/s; (c) active voice; and (d) linguistic substitution check: *...Marxism has been ultimately not capable of dealing with other important social dimensions...*

In my weighted data, I report 12.6% of spoken BE ABLE TO as having an ‘ability’ reading and 24.0% of written BE ABLE TO. Collins found nearly 50% of his instance of BE ABLE TO in his corpus as having an ‘ability’ reading. Though I have examined Collins’ ‘ability’ instances, he includes only a few examples and I agree with all cases; therefore, I am unable to speculate why he found such a high number of ‘ability’ instances.

7.4.3 ‘Permission’ BE ABLE TO

I analysed 13 instances (out of 400) as having a ‘permission’ reading (see Section 4.5), six from spoken data and 7 from written data.

Instance (96) is a spoken example of *BE able to*, taken from an “Introduction to retirement: pre-retirement course”, and was also used as an example in Section 4.5.2:

- (96) surrender part of your pension with (unclear) in mind. (SP:PS1SN)
Dependant's pension no no. No you're entitled to that you know that's the (unclear) If you have actually nominated somebody and that nomination has been accepted by the Teachers' Pensions Agency. (pause) But you you wouldn't **be able to** nominate your wife as a dependant. They would automatically say forget it. Erm it's a they talk here about nominating a parent, a brother or sister, or a widow's step-parents. Unless the benefits would actually automatically pass to your parents. (BS95)
(S_speech_unscripted)

I analysed the above as a ‘permission’ reading: (a) “you” is animate; (b) “you” wouldn’t receive permission from rules and regulations to nominate your wife as a dependant; and (c) linguistic substitution check: *But you wouldn’t be permitted to nominate your wife as a dependant*. Support for a ‘permission’ reading comes from the speaker describing the rules/regulations of a “Dependant’s pension”. Furthermore, the speaker is the one teaching the course, so we can assume that he/she has the knowledge and authority to speak about the “Dependant’s pension”.

Instance (97) is a written example of *BE unable to*:

- (97) accomplice at Ayr was a well-known Glasgow villain named William (' Tank') McGuinness, a vicious little man with a long record that included violence. Later that year, when Beltrami was acting for McGuinness in another matter, McGuinness admitted his involvement at Ayr -- information that Mr Beltrami **was unable to** divulge because of the confidentiality of the client-solicitor relationship. (BW139)
(W_biography)

I analysed (97) as a ‘permission’ reading: (a) “Mr Beltrami” is animate; (b) Mr Beltrami was not permitted to divulge (information) due to rules and regulations; and (c) linguistic

substitution check: *Mr Beltrami was not permitted to divulge (information) because of the confidentiality of the client-solicitor relationship.*

Both Collins and Coates also found instances of ‘permission’ used with BE ABLE TO in their respective data sources.

7.4.4 ‘Ambiguous’ BE ABLE TO

Examining the specific forms in findings for BE ABLE TO in the ‘ambiguous’ category (see Section 4.11), there were 11 instances (out of 200) in spoken BE ABLE TO, one using *BE able to* and 10 using *BE unable to*. There were six (out of 200) instances in written BE ABLE TO. The higher frequency in spoken and with “unable” may be accounted for by speakers being intentionally vague about why they are *unable to* perform *x*, as exemplified in (98) below.

I analysed the following instance from my spoken data as ‘ambiguous’ between ‘external possibility’ and ‘volition’.

- (98) the temporary er assistant administration erm (pause) post er internally. Er that is Deborah (-----) who is er works in reception. Erm (pause) and we are now moving on to fill the senior customer services post. Er we did (pause) erm er go through the selection procedure with internal candidates but **were unable to** appoint, and so therefore are advertising that in the press in the normal way er although both candidates have been told that they may reapply. Erm and then there's, there will be obviously a knock on effect in erm depending on who's appointed. And that's proceeding according (BS116) (S_meeting)

In an ‘external possibility’ reading: (a) the impossibility of appointing was dependent on external circumstances (e.g. unqualified candidate); and (b) linguistic substitution check: *Due to (e.g. not having a qualified internal candidate), it was not possible for us to appoint...*

And in a ‘volition’ reading, instance (98) can be paraphrased using the linguistic substitution check: *...but we were unwilling to appoint an internal candidate*. If used in a volitional sense, the choice “unable to” would be used intentionally to be vague. Stubbs (1996) claims, “It follows that explicitness, clarity and ambiguity are not inherent properties of texts, but are a function of texts in contexts” (p. 206). Similar to other ‘ambiguous’ instances, if further

information were to be elicited from the speaker, the speaker may give a reason why they were unable to appoint, but as it stands, no reason is given.

Instance (99) is from my written data. I classified this instance as being ‘ambiguous’ between ‘external possibility’, ‘ability’ and ‘permission’.

- (99) ...and they have been delighted with the treatment and the care they have received on Merseyside.' For many tumours of the eye, proton beam therapy is the best hope of preserving useful vision.' He also performs sophisticated' trap door' microsurgery. Only a handful of surgeons **are able to** carry out this procedure, but Mr Damato has done 300 such operations probably the largest total worldwide. (BW33) (W_newsp_other_report)

In an ‘external possibility’ reading: (a) the possibility of carrying out this procedure is dependent on external circumstances (e.g. having the right equipment); and (b) linguistic substitution check: *Due to (e.g. having the right equipment), it is possible for only a handful of surgeons to carry out this procedure.* In an ‘ability’ reading: (a) “handful of surgeons” is animate; (b) the possibility of carrying out this procedure is determined by the subjects’ internal capabilities; (c) active voice; and (d) linguistic substitution check: *Only a handful of surgeons are capable of carrying out this procedure.* And in a ‘permission’ reading: (a) “handful of surgeons” is animate; (b) “handful of surgeons” receives permission from rules and regulations to carry out this procedure; and (c) linguistic substitution check: *Only a handful of surgeons are permitted to carry out this procedure.* An example of a rule/regulation may be licensing.

A specific ‘ambiguous’ category was not included for BE ABLE TO in Coates’ and Collins’ studies; therefore, I am unable to make comparison from my data to theirs.

7.4.5 ‘Volition’ BE ABLE TO

I analysed only three instances (out of 400) of BE ABLE TO as having a ‘volition’ meaning (see Section 4.10). Two were from *BE able to* (written) and one from *BE unable to* (spoken); I have included one from my data.

(100) And Major himself, an unusually objective Scottish commentator who was not averse to criticizing his fellow-countrymen, is good testimony to the result.' I **am** not **able to** acquit the Scots of this fault (pride)', he wrote; and 'ill est fier comme ung Escossoys' (he is as proud as a Scot) was his record of what the French thought of the matter. (BW20) (W_non_ac_humanities_arts)

I classified (100) as 'volition' as it can be paraphrased using the linguistic substitution check: *...I am not willing to acquit the Scots of this fault (pride)*. In this instance, the utterance under examination is foreshadowed with a description that Major is "not averse to criticizing his fellow-countrymen". This supports a 'volition' reading in that it is Major who controls his feelings about the Scots.

A 'volition' category was not included for BE ABLE TO in Coates' and Collins' studies.

7.4.6 'Phrases' with BE ABLE TO

I classified only one instance (out of 400) as 'phrase' (see Section 4.9) within my data for BE ABLE TO. It uses the form *BE able to* and is from written text.

(101) Well, in fact I didn't know, not for certain, but I couldn't see any signs at all of brassiere [sic] straps or elastic waistbands which I hadn't **been able to** help noticing on all other women. (BW99) (W_fict_prose)

I analysed the above as 'phrase' as the modal auxiliary+ verb creates a new meaning of "cannot control". Sinclair (2006) states, "If you **can't help** the way you feel or behave, you cannot control it or stop it happening" (p. 678). Furthermore, the verb meaning does not occur without the relevant modal. For example, *I help* does not convey the meaning "control".

Again, a 'phrase' category was not included for BE ABLE TO in Coates' and Collins' studies.

7.5 Summary of chapter

This chapter called attention to the role of BE ABLE TO as a quasi-modal and considered how it syntactically works with central and other quasi-modals. It also examined *BE able to*

and *BE unable to* in spoken and written texts from the BNC. Though many of the same meaning categories were found in BE ABLE TO as with CAN and COULD, we saw that BE ABLE TO is limited in how many meaning categories it covers (e.g. absence of ‘epistemic possibility’ and ‘directive’ / ‘commissive’ categories) and that it is even less frequently used in the already least frequent categories found with CAN/COULD (e.g. only three instances found as ‘volition’). Nevertheless, others who have examined BE ABLE TO have found only categories of ‘possibility’, ‘ability’ and ‘permission’. Therefore, the present study shows that the use of BE ABLE TO is more diverse than this. The next chapters includes examining BE ABLE TO in the classroom and *New Headway* coursebook series, as well as making comparisons to the BNC. From there, the final chapter on pedagogical implications will discuss suggestions for BE ABLE TO in English language classrooms.

Chapter 8: Classroom investigation

This chapter examines the overall frequencies and meaning frequencies found in my classroom investigation of CAN, COULD and BE ABLE TO. I have divided my classroom analysis into two sections, students and instructor, so as to easily identify who is speaking or writing. This division also helps to compare students' output and instructor's input.

In this chapter, I first include overall frequency counts for CAN, COULD and BE ABLE TO for the students and instructor. Then I examine CAN, COULD and BE ABLE TO in the students' data by providing a breakdown of number of instances per meaning category for each modal, along with percentages. In each modal auxiliary section, the associated categories are presented in combined overall frequency order, including example instances. This format is replicated for the instructor's data.

8.1 Overall and category frequency counts for CAN, COULD and BE ABLE TO

My investigation is a snapshot of the use of CAN, COULD and BE ABLE TO in an English language classroom. As described in Section 3.3.3.3, my classroom data set contains a total of 68,265 tokens. Below is a breakdown between the students' and instructor's data.

Total Student Tokens (running words in text) – 38,983

Spoken - 19,029

Written – 19,954

Total Instructor Tokens (running words in text) – 29,282

Spoken – 17,412

Written - 11,870

Table 24 below represents the frequency of occurrences for the modal auxiliaries CAN, COULD and BE ABLE TO by the students and instructor in my observed classroom. The spoken and written contexts are reported separately; however, the forms are combined (e.g. *can* and *can't*), as there was very little use of *can't* (five instances from students and 10 from the instructor, all in spoken and none in written) and *couldn't* (two from the instructor and one from the students, all in spoken and none in written); there were no instances of *unable*.

Table 24: Overall frequencies of CAN, COULD and BE ABLE TO in classroom data – comparison of spoken and written data

	Students				Log-Likelihood
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)	
CAN	220	116	52	26	LL=119.77 p < 0.0001
COULD	4	2	31	16	LL=22.38 p < 0.0001
BE ABLE TO	6	3	4	2	LL=0.50 N.S.
Instructor					
CAN	114	65	29	24	LL=26.67 p < 0.0001
COULD	51	29	6	5	LL=25.50 p < 0.0001
BE ABLE TO	4	2	2	2	LL=0.13 N.S.
Classroom Students Spoken – 19,029 Classroom Students Written – 19,954 Classroom Instructor Spoken -17,412 Classroom Instructor Written -11,870					

I have reported the raw frequency and the frequency per 10,000 words. The raw frequency is relevant because with a smaller corpus, and some frequency occurrences being markedly small, knowing the exact figures can help shed light on my findings and their conclusiveness. For example, I found 220 occurrences of spoken CAN from students, which is a quantity that once analysed can provide credible results, compared to written BE ABLE TO from instructor data in which there are only two occurrences. Sinclair (2005, Chapter 1) claims that “a word which is not specially ambiguous will require at least twenty instances for even an outline description of its behaviour to be compiled by trained lexicographers”. Therefore, I have identified the meanings for modal auxiliaries in this classroom data set which have infrequent occurrences, yet recognise these findings cannot be considered to provide as much insight as those which have more frequent occurrences.

Though I have reported both raw frequencies and frequencies per 10,000 words, which are reported as rounded to the nearest whole number, I have calculated log-likelihood from the raw data. For my log-likelihood calculations, I compared the students’ spoken and written data, as well as the instructors’ spoken and written data. As we can see from my calculations,

for the students and instructor, for CAN and COULD, the differences are significant, while for BE ABLE TO, they are not.

The students' frequencies per 10,000 words show that: (a) students used CAN in spoken discourse over four times more than in writing; (b) students used COULD in written texts over seven times more than in spoken texts; and (c) students used BE ABLE TO similarly, or with no significant difference, in spoken and written texts. The instructor's frequencies per 10,000 words data show that the instructor: (a) used CAN nearly four times more as much in spoken texts compared to written; (b) used COULD in spoken texts over eight times as much as in written; and (c) used BE ABLE TO similarly, or with no significant difference, in spoken and written texts. Again, it is important to keep in mind that these are limited considering some of these modal auxiliaries have a very low raw frequency count. Sinclair (2005, Chapter 1) points out that only two occurrences of a lexical item are needed to confirm it as an "independent unit of language", though very little information about the lexical item would be available if examining only two occurrences. This is particularly the case with COULD, which has low raw frequency counts in students' spoken texts (four instances), and the instructor's written texts (six instances), and even more so with BE ABLE TO in which all counts are under seven.

8.2 Students' data

Figure 14 below offers a general view of the most and least frequent categories found in the students' classroom data for CAN, COULD and BE ABLE TO.

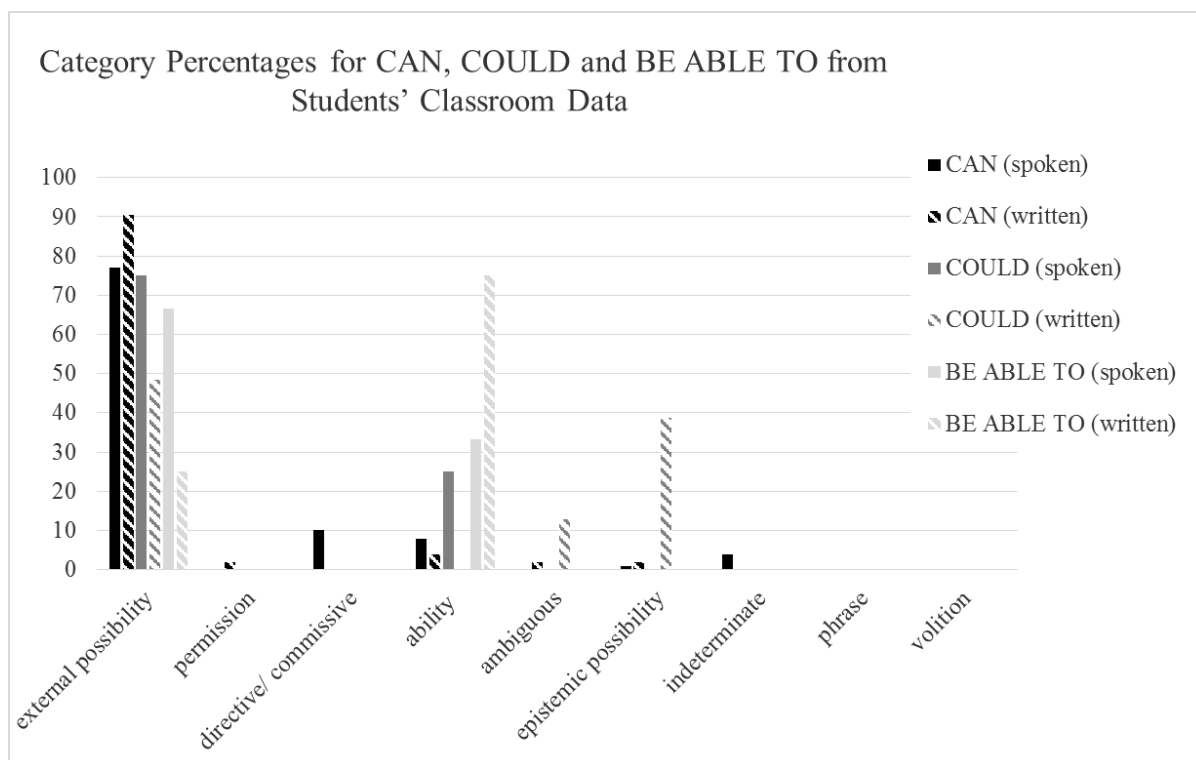


Figure 14: Category percentages for CAN, COULD and BE ABLE TO from students' classroom data

From Figure 14, it is evident that 'external possibility' is the most frequently used meaning for these examined modal auxiliaries. And equally as clear is the absence of the categories 'phrase' and 'volition'.

Table 25 below offers a detailed breakdown of categories and includes the frequencies of the modal auxiliaries examined. For spoken CAN, a sample of 100 has been used, and for the rest, the total reflects the total amount of instances found in the student data.

Table 25: Frequency counts for CAN, COULD and BE ABLE TO from students' classroom data

Students Categories	CAN ^s (spoken)	CAN (written)	COULD (spoken)	COULD (written)	BE ABLE TO (spoken)	BE ABLE TO (written)	total
external possibility	77	47	3	15	4	1	147
ability	8	2	1	0	2	3	16
epistemic possibility	1	1	0	12	0	0	14
directive/commissive	10	0	0	0	0	0	10
ambiguous	0	1	0	4	0	0	5
indeterminate	4	0	0	0	0	0	4
permission	0	1	0	0	0	0	1
phrase	0	0	0	0	0	0	0
volition	0	0	0	0	0	0	0
total	100	52	4	31	6	4	197

Each modal auxiliary, as used by the students in the classroom, is examined below, in overall frequency order per Table 25. I have repeated the relevant frequency table in each section, followed by example instances, which provide an in-depth look at that modal auxiliary being used in its associated category.

The example instances presented include a range in which I tried in all cases to include instances from the modal auxiliary which are from both spoken and written texts and in positive and negative form. I also had to consider availability when it came to the smaller counts.

8.2.1 Students' CAN

I analysed students' instances of CAN using the following categories: 'external possibility', 'ability', 'directive' / 'commissive', 'indeterminate', 'epistemic possibility', 'ambiguous', and 'permission'. Table 26 below reflects CAN extracted from Table 25.

Table 26: Frequency counts for CAN from students' classroom data

Students Categories	CAN ^s (spoken)	CAN (written)
external possibility	77	47
ability	8	2
epistemic possibility	1	1
directive/commissive	10	0
ambiguous	0	1
indeterminate	4	0
permission	0	1
phrase	0	0
volition	0	0
Total	100	52

8.2.1.1 'External possibility' CAN

Examples of instances that I analysed as 'external possibility' (see Section 4.6) are below, along with detailed criteria for their inclusion in this meaning category. In the students' data for CAN, spoken and written, the 'external possibility' meaning category significantly dominated the rest of the meaning categories, accounting for 77 (out of 100) of spoken uses and 47 (out of 52) of written being used as 'external possibility'.

The instances presented below include: from spoken data, one positive form of *can* in (102) and one negative form of *can* in (103), and from written data, one positive form of *can* in (104) and one negative form of *can* in (105).

- (102) <STUDENT> But that's good, at least we're saying something so we can be heard. (CDS-S-67)

In instance (102), which is also discussed in Section 3.3.3.4, the students are aware of the recorders on their table and are acknowledging that if they voice their opinion, it is possible for them to be heard on the recording. I analysed instance (102) as 'external possibility': (a) the possibility of being heard is dependent upon saying something (and it being recorded); and (b) linguistic substitution check: *Due to saying something, it is possible for us to be heard*. This instance uses passive voice which is a signal for 'external possibility'.

In the next instance, (103), the student is describing a timed test situation.

- (103) <STUDENT> to just fill the gaps, [unclear], this is my problem, yea. So I can't pick out the sentence and I **cannot** [pick out the sentence] cause of the time. (CDS-S-206)

I analysed instance (103) as 'external possibility': (a) the impossibility of picking out the sentence was due to the time (limit); and (b) linguistic substitution check: *Due to the time, it is not possible for me to pick out the sentence.* In this instance the student is focusing on the external circumstances of the time pressure from the test.

- (104) Furthermore, PNG normally hires fifty Singapore nursing staff every year to work in Port Moresby general Hospital because of staff shortage, why not spend that amount in building health college to educate your own human resources or sent student out for further studies within the health discipline, so they **can** serve the country in the long term development rather than hiring and spending too much widely which only benefits the urban communities. (CDW-S-36)

I analysed instance (104) as 'external possibility': (a) the possibility of students serving the country in the long term is dependent upon PNG educating students for further studies; and (b) linguistic substitution check: *...so due to educating students for further studies, it would be possible for them to serve the country in the long term development...* This hypothetical instance is looking at the possibility of a short and long term solution and advocating for the long term.

- (105) PNG is a developing country and it has to look at all the aspects of life for development and not only health. It **cannot** focus more on health as it is just the portion of the country's development and there are other things to consider such as education, sports, human resources, law and order problems and many more as a developing country. (CDW-S-34)

I analysed instance (105) as 'external possibility': (a) the impossibility of focusing more on health is due to the other things that need attention (education, sports, etc.); and (b) linguistic substitution check: *Due to the other things that need attention, it is not possible for PNG to focus more on health as it is just a portion of the country's development...* This type of instance also reflects "rational modality" (see Section 5.3.1) whereby, as Palmer (1990) explains, there is no "reference to what is strictly impossible, but only to what is

unreasonable and unacceptable” (p. 105). In other words, the situation is possible, but in this case, the writer deems it unacceptable.

8.2.1.2 ‘Ability’ CAN

The following instances are those that I analysed as ‘ability’ (see Section 4.4). I found eight from my spoken data (out of 100) and two from my written data (out of 52). Similar to the above section, the example instances include: from spoken data, one positive form of *can* in (106) and one negative form of *can* in (107), and from written data, one positive form of *can* in (108) and one negative form of *can* in (109).

- (106) [Y] But anyway, good luck for you to go Auckland
[W] Yea, if I can pass IELTS (CDS-S-41)

I analysed instance (106) as ‘ability’ as: (a) “I” is animate; (b) possibility of passing IELTS is determined by the subject’s internal competence; (c) active voice; and (d) linguistic substitution check: *...if I am capable of passing IELTS*. In the situation of IELTS (International English Language Testing System) no external resources are permitted; therefore, it is the competence of the individual (on the day, or at the moment of action) which determines an individual passing the exam.

- (107) [A] I think when I was nineteen I cannot stand up in front of that many people.
[S] Yea, me too.
[A] I did not have any confidence. (CDS-S-62)

I analysed instance (107) as ‘ability’ as: (a) “I” is animate; (b) possibility of standing up is determined by the subjects’ internal competence; (c) active voice; and (d) linguistic substitution check: *I think when I was nineteen I cannot stand up in front of that many people*. Support for an ‘ability’ reading comes from Speaker A saying “I did not have any confidence” which is an internal capability.

- (108) If the sport minister can manage his area using the allocated funds from the government, there is no difference with the health minister. As was stated from the article ‘Papua new Guinea today’ (2015, March, 31) “the 2015 south pacific games in

two months time which will be hosted by Papua New Guinea will cost the PNG government K70 million just for players safety and security”. That budget is on top of the K1.2 billion that he had planned, but such supplementary cost was not a big issue to the sport minister because his budget was well planned in advance and he was prepared in solving such unexpected issues that arises. The health minister should look at this as an example and do such budget to serve people’s needs instead of spending unnecessary on areas that needs less attention.

(CDW-S-35)

I analysed instance (108) as ‘ability’ as: (a) sports minister is animate; (b) possibility of managing is determined by the subject’s internal competence; (c) active voice; and (d) linguistic substitution check: *If the sport minister is capable of managing his area using the allocated funds...* Support for an ‘ability’ reading comes from the writer first praising the sport minister and giving him credit for being able to manage his budget, and then blaming the health minister for not being able to manage his budget. Though it is safe to assume that in a government role, there are many circumstances that affect what occurs, the writer does not recognise any external circumstances and asserts, “there is no difference with the health minister”, putting responsibility on the capabilities of the health minister only. Furthermore, the writer again turns attention to the health minister and states, “The health minister should look at this as an example and do such budget to serve people’s needs instead of spending unnecessary on areas that needs less attention”. From the context, we can see that the writer believes that the capabilities of the health minister are to blame for funding issues.

(109) As you know, the lack of electricity causes a blackout. For example, there are some people who **cannot** live without using artificial ventilators. (CDW-S-25)

I analysed instance (109) as ‘ability’ as: (a) people are animate; (b) possibility of living is determined by the subjects’ internal competence; (c) active voice; and (d) linguistic substitution check: *...there are some people who are not capable of living without using artificial ventilators.* In other words, these people are not capable of breathing using their internal capabilities.

8.2.1.3 ‘Epistemic possibility’ CAN

I analysed two instances from students as ‘epistemic possibility’ (see Section 4.7), one from my spoken data in (110) and one from my written data in (111).

- (110) <STUDENT> Because sometimes children can influence their parents and because their parents love their children, they say, oh mommy daddy, you should do this or that, they can maybe follow their children. (CDS-S-144)

I analysed instance (110) as ‘epistemic possibility’: (a) the writer is expressing his/her level of certainty, which is a level of ‘possible’, that parents will follow their children; and (b) linguistic substitution check: *...it is possible that they will maybe follow their children*. Support for an ‘epistemic possibility’ reading comes from “maybe” which follows “can”. Holmes (1988) includes “maybe” on her list of adverbials that mark epistemic modality (p. 34). In this instance, the student is not claiming that children always influence their parents, but that in this situation described, it is possible the parents will be influenced by their children.

- (111) World of Warcraft is an online game which possesses a large number of players all over the world. I used to be a player of it and I had always been asking a question: “What do you play World of Warcraft for?” Usually, I will simply answer: “For Horde!!!” In fact, there can be other purposes. Some of them may be really hard to imagine, for example for learning English. (CDW-S-1)

I analysed instance (111) as ‘epistemic possibility’: (a) the writer is expressing his/her level of certainty, which is a level of ‘possible’, that there are other purposes for playing World of Warcraft; and (b) linguistic substitution check: *In fact, it is possible that there are other purposes...* In his article on hedging in academic writing, Hyland (1996) claims that hedging, “allows academics to take a rhetorical stance, to downplay their statements and anticipate audience responses by adjusting the degree of certainty they give to their claims” (p. 241). Although Hyland is discussing academics specifically in this statement, I believe it applies to anyone who is taking part in academic writing. Hedging is used to allow writers to assert their ideas without claiming absolute authority. Therefore, in this instance, the student is downplaying his/her statement that there are other purposes for playing World of Warcraft by using “in fact” and “really hard to imagine”.

8.2.1.4 ‘Directive’ and ‘commissive’ CAN

In this meaning category for CAN from the students’ data, instances analysed as ‘directives’ (see Section 4.8), 10 total (out of 100), were found in the spoken data; no instances of ‘commissives’ were found in either written or spoken data. These ‘directive’ instances were functioning as requests (3 instances) or suggestions (7 instances). I have included one request in (112) and one suggestion in (113).

- (112) <STUDENT> Can you go back to your first slide, the quest, the topic again?
(CDS-S-130)

I analysed instance (112) as ‘directive’ functioning as a request. The student is requesting a student presenter to go back to the first slide.

- (113) [L] We can pick three options and narrow it down
[S] Can we just agree on one now? I don’t want to do three options, I don’t want three options, I just want one, so that it’s (CDS-S-177)

I analysed instance (113) as a ‘directive’ functioning as a suggestion. The student [L] is suggesting they choose three options and narrow it down, while student [S] replies with a counter-suggestion of “Can we just agree on one now?”

In the two cases above, these directives are spoken to other students in the class. The use of “can” signals the politeness in requests and suggestions, compared to being less-politely stated with *I want you to* x, or with no politeness as a bare imperative verb form, *do* x. Searle (1979) explains, “Politeness is the most prominent motivation for indirectness in requests, and certain forms naturally tend to become the conventionally polite ways of making indirect requests” (p. 49). However, as I will discuss in Section 8.4, the students use only CAN for ‘directive’ politeness and do not make use of COULD.

8.2.1.5 ‘Ambiguous’ CAN

In my student data for CAN, I analysed only one instance as having an ‘ambiguous’ (see Section 4.11) reading, which comes from my written data.

- (114) Moreover, a signal control the traffic, however if a blackout occurred, a signal does not work and the traffic would be disorder. Of course, there are people who can

control the traffic (mainly police officer), but if the blackout occurred throughout Japan, they would be at a loss. There is no doubt that increasing the rate of traffic accidents. (CDW-S-27)

I analysed instance (114) as ‘ambiguous’ between ‘ability’ and ‘permission’. In an ‘ability’ reading: (a) people are animate; (b) possibility of controlling is determined by the subjects’ internal competence; (c) active voice; and (d) linguistic substitution check: ...*there are people who are capable of controlling the traffic*. In this reading the writer is explaining that if the traffic lights are not able to be controlled by machines, as usual, then people are capable of filling this role. In a ‘permission’ reading: (a) people are animate; (b) people receive permission from authorities to control the traffic; and (c) linguistic substitution check: ...*there are people who are permitted to control the traffic*. Contextual support for a ‘permission’ reading comes from the student providing the “police officer” as an example of someone who has been given authority to control traffic.

8.2.1.6 ‘Permission’ CAN

Similar to the category ‘ambiguous’, I analysed only one instance of CAN in the students’ data as ‘permission’ (see Section 4.5); it comes from the written data.

(115) And all prisoners can attend the degree courses for absolutely free while a big part of normal students have to apply for loan to sustain their study. All these welfare is unfair to those people who have to work hard to earn themselves a decent life, and the reason, which is for reducing prisoners’ depression emotions, of why prisoners can have such luxury life makes it more ridiculous. (CDW-S-10)

I analysed (115) as ‘permission’: (a) prisoners are animate; (b) prisoners receive permission from the prison to have such luxury life; and (c) linguistic substitution check: *of why prisoners are permitted to have such luxury life makes it more ridiculous*. This instance especially lends itself to ‘permission’ as the prisoners are living under a system of permission.

Having not found instances of ‘phrase’ or ‘volition’ for CAN, or any of the modals spoken by the students, I next show example instances for COULD used by the students in my observed classroom.

8.2.2 Students' COULD

I analysed student instances of COULD using the following categories: 'external possibility', 'epistemic possibility', 'ambiguous' and 'ability'. Table 27 reflects COULD extracted from Table 25.

Table 27: Frequency counts for COULD from students' classroom data

Students Categories	COULD (spoken)	COULD (written)
external possibility	3	15
ability	1	0
epistemic possibility	0	12
directive/commissive	0	0
ambiguous	0	4
indeterminate	0	0
permission	0	0
phrase	0	0
volition	0	0
total	4	31

8.2.2.1 'External possibility' COULD

Examples of instances that I analysed as 'external possibility' (see Section 4.6) are below. 'External possibility' was the most common meaning category for COULD, with three (out of four) instances found in my spoken data, and 15 (out of 31) found in my written data.

I have included one instance of positive *could* from spoken data in (116), and one instance of positive *could* from the written data in (117), as well as one instance of negative *could* also from the written data in (118); there were no negative instances of COULD used with an 'external possibility' meaning.

- (116) [A] You know we have a two program. Picking one is prevention, means before something happen we want to do this, and something is intervention. Intervention, it means when some-, preventions means there is no problem but we want to do some activities before it happen. But intervention means the problem is happen but we want to intervent this and try to reduce it or slow it.
- [L] Yea
- [A] We can go for just two, the education, if a start in the early childhood **could** be

prevent, for the waste management, for the waste problem in the future, but if start on the future, we should intervent (CDS-S-223)

I classified instance (116) as ‘external possibility’: (a) the possibility of preventing is dependent upon starting early in childhood (education); and (b) linguistic substitution check: *Due to starting in the early childhood, it would be possible for “us” to prevent the waste problem in the future.* This is an instance which requires clarification on how I have interpreted the “could be prevent” from the student’s speech. My first thought was that the student intended the passive form of “could be prevented”. However, upon closer examination, this would lead to the student’s utterance meaning something to the effect of: *if a start in the early childhood could be prevented...* I believe the student is not discussing preventing an early start in the education system, but how to prevent the waste management problem in the future.

The next instance comes from the student’s graph essay assignment, in which a graph is included as a visual aid.

(117) The most outstanding figures you **could** see in both year are the population and proportion of the Europeans. (CDW-S-82)

I analysed instance (117) as ‘external possibility’: (a) the possibility of seeing is dependent upon the existence of a visual aid; and (b) linguistic substitution check: *Due to the existence of a visual aid (the graph), the most outstanding figures possible for you to see in both year are the population and proportion of the Europeans.* The inappropriate use of *could* (“can” is more appropriate) is discussed in Section 11.3.4.

(118) Rehabilitation and recidivism in New Zealand prisons also did not satisfied inmates. One prisoner said that putting convicts in jail only meant separating them from their community and they were not reformed or rehabilitated by prisons. When they back to society they had no other choice thus they continue to commit the same crimes. Furthermore, since they had known what prison’s life was, so they thought this punishment was pointless to help them. An obvious fact that **could not** be ignored is that prison costs extremely high budgets in order to decrease crime but there are many gloomy factors obstruct the prisoners to reform, most prisoners also have mental or physical problems, lack of education and employment skills. Regrettably, Ignoring the fact that what reasons encouraged the motivation of crime, the solution

offered by the authorities is simply opening more prisons as a response of the violent increased in recent decade. (CDW-S-64)

I analysed instance (118) as ‘external possibility’: (a) the impossibility of ignoring that fact is due to it being obvious; and (b) linguistic substitution check: *Due to fact’s obviousness, it is not possible to ignore it*. This instance uses passive voice which is a signal for ‘external possibility’ and also reflects “rational modality” (see Section 5.3.1).

8.2.2.2 ‘Ability’ COULD

I analysed only one instance (out of 35) as ‘ability’ (see Section 4.4) and it comes from my spoken data:

- (119) Should they encourage labour to stay in New Zealand because labour worker after one age, they **couldn’t** do labour work anymore because they is, they are too old to do this. Should they encourage this people to go back to their own country after this age? (CDS-S-49)

I analysed instance (119) as ‘ability’ as: (a) labour workers are animate; (b) possibility of doing labour work is determined by the subjects’ internal competence, at the moment of action which would be “after one age”, or after a certain age; (c) active voice; and (d) linguistic substitution check: *...they were not capable of doing labour work anymore because...* Support for an ‘ability’ reason comes from the context “they are too old to do this”; at their age they are not capable of this type of work.

8.2.2.3 ‘Epistemic possibility’ COULD

I analysed a total of twelve instances (out of 35) as ‘epistemic possibility’ (see Section 4.7) in my student data, all within my written data. These instances seem to be using the modal *could* to hedge their assertions, as discussed above for *can* (see Section 8.2.1.3). I have included two example instances below, both using *could* in written text and in positive form.

- (120) The Moari and the Pacific population were increasing at a lesser minimal rate amongst other ethnicity. The primary reason **could** be the intermarriages and also the

definitions changes carried out by the Census department in 2006 where people were flexible to be counted in different ethnical groupings. (CDW-S-79)

I classified instance (120) as ‘epistemic possibility: (a) the writer is expressing his/her level of certainty (‘possible’) that *the primary reason for the population increasing at a lesser minimal rate is intermarriage and definition changes...*; (b) and linguistic substitution check: *It is possible that the primary reason for the population increasing at a lesser minimal rate is the intermarriages and also the definitions changes carried out by the Census department...*

(121) Because most Asian countries are overpopulated, some Asians might be tired of competitions. Therefore, they, who wanted to migrate, would rather to choose New Zealand than Europe and North America. And what's more, the less migrants from Europe **could** result in the lack of skilled worker, so the Asian has more chance to get stable jobs here than in other developed countries (CDW-S-87)

In this instance, the writer is speculating about a table which presents the Ethnic Composition in New Zealand between 1991 and 2006; therefore, I analysed instance (121) as ‘epistemic possibility: (a) the writer is expressing his/her level of certainty (‘possible’) that *the less migrants from Europe will result in the lack of skilled workers...*; and (b) linguistic substitution check: *It is possible that the less migrants from Europe will result in the lack of skilled worker...*

8.2.2.4 ‘Ambiguous’ COULD

I analysed four (out of 35) instances as ‘ambiguous’ (see Section 4.11) in the student data for COULD, all in written data, and all ambiguous between ‘external possibility’ and ‘epistemic possibility’. I have included one example instance below.

(122) Death is irreversible and you cannot appeal death hand [*sic*] there is a real risk that innocent people **could** be executed where an error should be made... (CDW-S-78)

In an ‘external possibility’ reading: (a) the possibility of being executed is dependent upon an error being made; and (b) linguistic substitution check: *...there is a real risk that due to an error being made, it is possible for innocent people to be executed...* And in an ‘epistemic

possibility’ reading, (a) the writer is expressing his/her level of certainty (‘possible’) that *innocent people will be executed where an error should be made...*; (b) and linguistic substitution check: *...there is a real risk that it is possible that innocent people will be executed where an error should be made.*

Finally, I present example instances for BE ABLE TO used by students in the classroom.

8.2.3 Students' BE ABLE TO

Occurrences of BE ABLE TO in the student data were rare. Because of this, it is difficult to make claims about the meaning categories. I analysed student instances of BE ABLE TO using the meaning categories ‘external possibility’ and ‘ability’ only. Example instances for both meaning categories are presented below. Table 28 reflects BE ABLE TO extracted from Table 25.

Table 28: Frequency counts for BE ABLE TO from students’ classroom data

Students Categories	BE ABLE TO (spoken)	BE ABLE TO (written)
external possibility	4	1
ability	2	3
epistemic possibility	0	0
directive/commissive	0	0
ambiguous	0	0
indeterminate	0	0
permission	0	0
phrase	0	0
volition	0	0
total	6	4

8.2.3.1 ‘External possibility’ BE ABLE TO

There were only five (out of 10) instances that I analysed as ‘external possibility’ (see Section 4.6) for BE ABLE TO. Four instances are from my spoken data and one is from my written data. All four instances from my spoken data come from the same student and the written instance from a different student. I have included examples from spoken in (123) and written in (124) below.

- (123) [S] Whereas, you coming from a developing country, like you or me, I ‘m a lawyer and I come here, um I wouldn’t get the job I want, but once I finish, and with my qualification, I might **be able to** get a job in another country, a developed country, a better, another (CDS-S-30)

I classified instance (123) as ‘external possibility’: (a) the possibility of getting a job in another country is dependent upon the subject’s qualification; and (b) linguistic substitution check: *Due to my qualification, it is possible that I will get a job in another country...*

- (124) Players would **be able to** learn a large amount of vocabulary through World of Warcraft. (CDW-S-88)

I classified instance (124) as ‘external possibility’: (a) the possibility of the learning a large amount of vocabulary is dependent upon the game, World of Warcraft; and (b) linguistic substitution check: *Due to World of Warcraft, it would be possible for players to learn a large amount of vocabulary.*

8.2.3.2 ‘Ability’ BE ABLE TO

Again, I analysed only five (out of 10) instances for BE ABLE TO as an ‘ability’ reading (see Section 4.4), two from my spoken data and three from written. I have included one instance from spoken data in (125) and one instance from written data in (126) below.

- (125) I don’t know how to use that 'even more', I mean I understand it, if I read, I’m **able to** understand it, but if I want to use that 'even more' to to [CDS-S-225]

I analysed instance (125) as ‘ability’: (a) “I” is animate; (b) possibility of “I” understanding is determined by the subject’s internal competence; (c) active voice; and (d) linguistic substitution check: *...If I read [it], I’m capable of understanding it...* The speaker is citing a case where he/she is capable of understanding the phrase, in reading, but he/she is not capable of using it.

- (126) If only women are brave enough to identify the accuser they **are able to** contribute in solving the problem. Gender based violence is a violation of human rights. (CDW-S-90)

I analysed instance (126) as ‘ability’: (a) they is animate; (b) possibility of contributing in solving the problem is determined by the subjects’ internal competence; (c) active voice; and (d) linguistic substitution check: ...*they are capable of contributing in solving the problem*. Supporting context for this is “brave enough”, as braveness comes internally.

Having examined the students’ use of CAN, COULD and BE ABLE to in the classroom, I now shift my focus to the instructor’s use of these modal auxiliaries.

8.3 Instructor’s data

Figure 15 provides a snapshot of the percentages of category uses for spoken and written CAN, COULD and BE ABLE TO, as used by the instructor. Instances that illustrate these categories are provided in the following sections, broken up into each modal and category, and presented in overall combined frequency order.

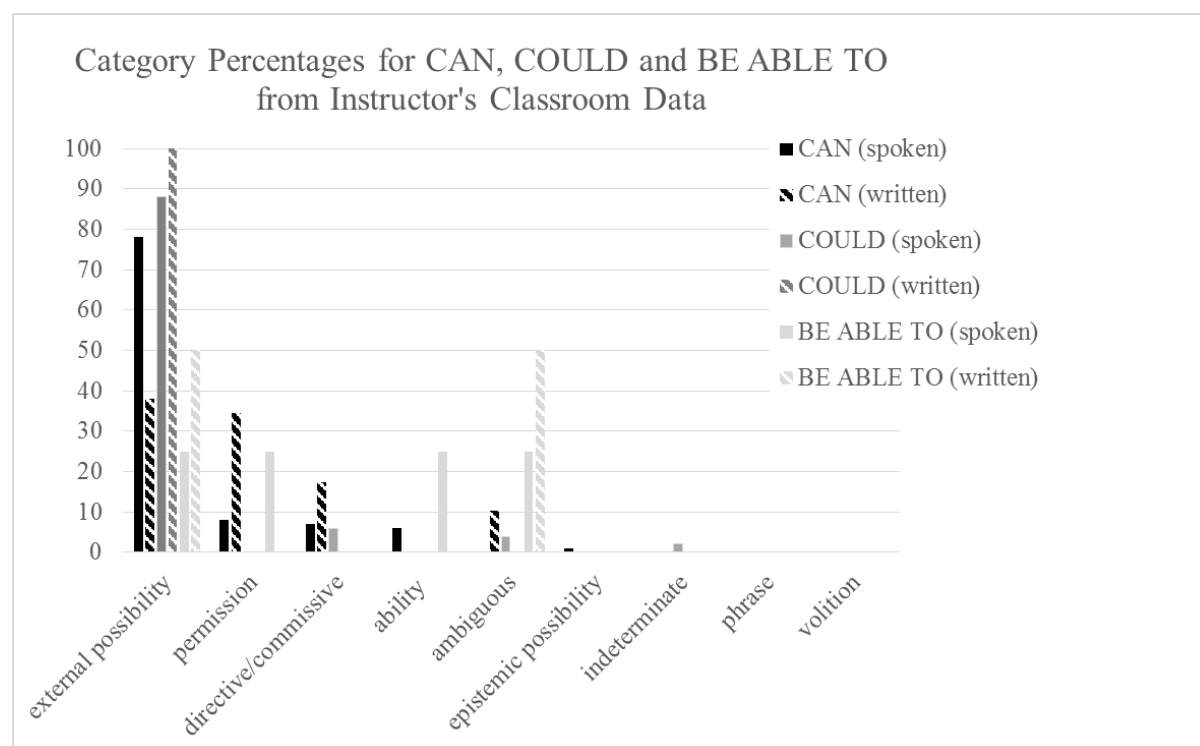


Figure 15: Category percentages for CAN, COULD and BE ABLE TO from instructor’s classroom data

Similar to the students' pattern of usage, it is evident from Figure 15 that 'external possibility' is the instructor's most frequently used meaning for these modal auxiliaries and that there are no occurrences of the meaning categories 'phrase' and 'volition'.

Table 29 offers a detailed breakdown of categories and includes the raw frequencies of the total modal auxiliaries examined, except for spoken CAN where a sample of 100 has been used.

Table 29: Frequency counts for CAN, COULD and BE ABLE TO from instructor's classroom data

Instructor Categories	CAN ^s (spoken)	CAN (written)	COULD (spoken)	COULD (written)	BE ABLE TO (spoken)	BE ABLE TO (written)	total
external possibility	78	11	44	6	1	1	141
permission	8	10	0	0	1	0	19
directive/commissive	7	5	3	0	0	0	15
ability	6	0	0	0	1	0	7
ambiguous	0	3	2	0	1	1	7
epistemic possibility	1	0	0	0	0	0	1
indeterminate	0	0	1	0	0	0	1
phrase	0	0	0	0	0	0	0
volition	0	0	0	0	0	0	0
total	100	29	50	6	4	2	191

Each modal auxiliary, as used by the instructor in the classroom, is examined below. For each modal auxiliary, I have repeated the relevant frequency table in each section, followed by example instances in frequency order as per Table 29.

8.3.1 Instructor's CAN

I analysed instructor instances of CAN using the following categories: 'external possibility', 'permission', 'directive' / 'commissive', 'ability', 'ambiguous', 'epistemic possibility' and 'indeterminate'. There were no occurrences of 'phrase' and 'volition'. Table 30 below reflects CAN extracted from Table 29.

Table 30: Frequency counts for CAN from instructor's classroom data

Instructor Categories	CAN ^s (spoken)	CAN (written)
external possibility	78	11
permission	8	10
directive/commissive	7	5
ability	6	0
ambiguous	0	3
epistemic possibility	1	0
indeterminate	0	0
phrase	0	0
volition	0	0
total	100	29

8.3.1.1 'External possibility' CAN

In the instructor's data for CAN, 78 spoken instances and 11 written instances had the meaning 'external possibility' (see Section 4.6). I have included example instances from the spoken data, one in positive form in (127) and one in negative form in (128), and also in written data, one in positive form in (129) and one in negative form in (130).

- (127) <INSTRUCTOR> Oh, sorry, I misunderstood. So um, clearly, we can use *several* with *times*. Okay, um, yea, so I mean, I think, yes, looking at that, then yes, we can say that with *factor* and with item we can use *several* but if we use *several*, if we talk about, so really, the key difference I think with *factor* is it tends to be used talking about causes, *several factors* in something, causing something, item is really just more listing things, (CDS-I-119)

I analysed instance (127) as 'external possibility' as: (a) the possibility of using *several* with *times* is dependent upon the English language; and (b) linguistic substitution check: *Due to the English language, it is possible for us to use 'several' with 'times*. The external circumstances in this instance are the inner workings of the English language and communication.

- (128) , so it's um, yea because often after *every* we do want, so *every*, person, um, yea, I 'm just trying to think, every person, so you can't say, yea, so here, in this sort of situation, you can't say 'every people', okay? (CDS-I-159)

I analysed instance (128) as ‘external possibility’ as: (a) the impossibility of saying ‘every people’ is dependent upon the English language; and (b) linguistic substitution check: *Due to the English language, it is not possible for us to say ‘every people’*. Similar to (127) above, the external circumstances in this instance are the inner workings of the English language and communication.

- (129) Writing about statistics tends to use a limited range of grammatical structures and vocabulary. Noticing how others write about statistics can help you identify language that you **can** use in your own writing. (CDW-I-3)

I classified instance (129) as ‘external possibility’ as: (a) the possibility of using statistical language in your own writing is dependent upon you noticing; and (b) linguistic substitution check: *Due to noticing how others write about statistics [and] identify language, it is possible for you to use [statistical] language in your own writing*. The first “can” in this instance is analysed in instance (140).

- (130) When learning a new language, the importance of reading **cannot** [be emphasised] enough. (CDW-I-19)

I analysed (130) as ‘external possibility’: (a) the impossibility of emphasising enough is due to the importance of reading; and (b) linguistic substitution check: *Due to the importance of reading, it is not possible for [one] to emphasise it enough*. This instance uses passive voice which is a signal for ‘external possibility’.

In addition, this instance has an element of exaggeration to it. Palmer and Brooks (2004) describe figurative language as “any type of expression that does not literally mean what it says” (p. 371). The instance above (130) has figurative characteristics as it would be impossible to infinitely emphasise the importance of reading.

‘External possibility’ was the most frequent meaning category used by the instructor with CAN. Below we will examine instances from the ‘permission’ meaning category.

8.3.1.2 ‘Permission’ CAN

I analysed a total of 18 (out of 129) instances of CAN as having a ‘permission’ reading (see Section 4.5), and have included three below. I have included a positive instance from spoken

data in (131), a positive instance from written data in (132) and a negative instance from spoken data in (133). There were no negative instances in the written data.

(131) <INSTRUCTOR> Okay, so now you can turn over and check your answers.
(CDS-I-3)

I analysed (131) as a ‘permission’ reading as: (a) you is animate; (b) “you” has permission from the instructor to turn over and check answers; and (c) linguistic substitution check: *...now you are permitted to turn over and check your answers.*

(132) This two-year point is significant because migrants can apply for a permanent residence visa after two years of residing in New Zealand (with certain conditions). The permanent residence visa has no travel restrictions, allowing a migrant to return to New Zealand at any time should they choose to remigrate to another country.
(CDW-I-9)

I analysed instance (132) as ‘permission’ as: (a) migrants is animate; (b) after two-years, migrants have permission from rules/regulations to apply for a permanent residence visa; and (c) linguistic substitution check: *...migrants are permitted to apply for a permanent residence visa...*

(133) No, um, so tomorrow, you don’t, when you, when you do this writing, unfortunately, I can’t give you your essay to keep, so I won’t give a detailed feedback on it, but what I will do is class feedback, so general feedback for the class and I might just make a few (CDS-I-161)

I analysed instance (133) as ‘permission’ as: (a) “I” is animate; (b) I do not have permission from the course/programme policies to give you your essay to keep; and (c) linguistic substitution check: *...I am not permitted to give you your essays to keep.* The instructor’s use of “unfortunately” is an indication that the reason why the instructor is not permitted to give the students their essays to keep is due to the rules/regulations of the program, implying the decision is external to herself. The context after this is shown in instance (149) (see Section 8.3.3.2) with the quasi-modal *be able to* and is also a ‘permission’ reading.

Next I present instances of CAN used by the instructor with a ‘directive’ and ‘commissive’ meaning.

8.3.1.3 ‘Directive’ and ‘commissive’ CAN

Examples of instances that I analysed as ‘directive’ and ‘commissive’ are below (see Section 4.8). The counts in the data are so small that from this point forward I do not make comparisons within the data, as they are not viable. I have included three examples; two ‘directives’, one functioning as a request from written text in (134), one functioning as a suggestion from written text in (135), as these are the only functions within ‘directives’ used by the instructor. The last instance is a ‘commissive’ from the spoken data in (136).

(134) **Can** you name some legal drugs? What are their purposes? (CDW-I-23)

I analysed instance (134) as a ‘directive’ functioning as a request. The instructor is asking the students to name some legal drugs. Because this instance is taken from a writing assignment created by the instructor, one can assume that the students will either write the answer to the question or leave it blank; in either case, the instructor is not eliciting a ‘yes’ or ‘no’ response.

(135) Look at the sentence from the excerpt and use the same structure to make new sentences about the population of different ethnic groups shown in the graph. You **can** use a different year and verb (e.g. instead of reached you could use exceeded or neared). (CDW-I-4)

I analysed instance (135) as a ‘directive’ functioning as a suggestion. The students are given instructions followed by a suggestion of using a different year and verb.

(136) Okay, yep, I think we've got those. I think we **can** move on from those ones. Yep, So, let 's have a look then at (CDS-I-11)

I analysed (136) as a ‘commissive’. The instructor is politely telling the students that it is time for her to “move on” to something different.

8.3.1.4 ‘Ability’ CAN

I analysed a total of six (out of 129) instances of CAN with an ‘ability’ meaning (see Section 4.4) in the instructor’s spoken data. There were no instances in the written data, but there was one written that was ‘ambiguous’ between ‘ability’ and ‘external possibility’ (see instance

(139) in Section 8.3.1.5). I present two example instances of ‘ability’ meanings, one with *can* in (137) and one with *can’t* in (138).

- (137) If you, if you do get great ideas and you **can** see a different way to organise the information, no problem. But I think under those very strict time conditions it’s wise to go on with the some basic patterns in your head that you could use, yep (CDS-I-75).

I analysed (137) as ‘ability’: (a) you is animate; (b) possibility of seeing is determined by the subject’s internal competence (at the moment of action); (c) active voice; and (d) linguistic substitution check: *..if you do get great ideas and you are capable of seeing a different way to organise the information*. In this instance, this seeing comes from the subject and not any external circumstances. Some students may be capable of seeing, at the moment of action, a different way to organise the information, and some may not.

- (138) okay, so, you might explain what the result or consequence of something might be, you might explain why something is, okay, yep, any other? those were the four , weren’t they? listing, compare-contrast, oh, sequence was the other one, wasn’t it? is that relevant for this no, not necessarily, I **can’t** think of [unclear] exactly, but I think this is part of preparation is thinking about what, how can you, you know, how can you develop ideas (CDS-I-160)

I analysed (138) as ‘ability’: (a) “I” is animate; (b) possibility of thinking is determined by the subject’s internal competence (at the moment of action); (c) active voice; and (d) linguistic substitution check: *I am not capable of thinking of exactly, but I think this is part of....* In this instance, at the moment of speaking, the instructor is not capable of thinking of *x*.

8.3.1.5 ‘Ambiguous’ CAN

I analysed three instances as ‘ambiguous’ (see Section 4.11) in the instructor data for CAN, all from the written data. Two are ‘ambiguous’ between ‘ability’ and ‘external possibility’ and one between ‘external possibility’ and ‘epistemic possibility’. I have included an instance of each ambiguity below.

- (139) [Work-life balance] is achieved when individuals can balance their work demands with their non-work demands. (CDW-I-5)

I categorised instance (139) as ‘ambiguous’ between ‘ability’ and ‘external possibility’. In an ‘ability’ reading: (a) individuals is animate; (b) possibility of balancing is determined by the subject’s internal competence; (c) active voice; and (d) linguistic substitution check: *Work-life balance is achieved when individuals are capable of balancing their work demands with their non-work demands*. In an ‘ability’ reading, the individual is in control of making the balance possible. In an ‘external possibility’ reading: (a) the possibility of balancing is dependent upon the demands of work and non-work; and (b) linguistic substitution check: *Due to the demands of work and non-work, it is possible for individuals to achieve work-life balance*. In this reading, it is the demands that are in control of whether or not it is possible to create this balance.

- (140) Writing about statistics tends to use a limited range of grammatical structures and vocabulary. Noticing how others write about statistics can help you identify language that you can use in your own writing. (CDW-I-2)

I analysed instance (140) as ambiguous between ‘external possibility’ and ‘epistemic possibility’. In an ‘external possibility’ reading: (a) the possibility of identifying language is dependent upon “noticing how others write about statistics”; and (b) linguistic substitution check: *Due to noticing how others write about statistics, it is possible for that to help you identify language that you can use in your own writing*. In an ‘epistemic possibility’ reading: (a) the writer is expressing his/her level of certainty, which is a level of ‘possible’, that it will be helpful to identify language; and (b) linguistic substitution check: *It is possible that noticing how others write about statistics will help you identify language that you can use in your own writing*. The second “can” in this instance is analysed in instance (129).

8.3.1.6 ‘Epistemic possibility’ CAN

I analysed only one instance (out of 129) as ‘epistemic possibility’ (see Section 4.7) for *can* in the instructor’s data, in spoken context.

- (141) <INSTRUCTOR> Al mentioned, you don’t have a lot of time to think about structure, so it can be useful to have in the back of your head a couple of you know

basic structures that you could use pretty much for any sort of situation and adapt to. It doesn't mean you have to stick to that. If you, if you do get great ideas and (CDS-I-74)

I analysed instance (141) as 'epistemic possibility': (a) the writer is expressing his/her level of certainty, which is a level of 'possible', that it will be useful to have a couple of basic structures in the back of students' heads; and (b) linguistic substitution check: *...so it is possible that it is useful to have in the back of your head a couple of you know basic structures....*

Having not found instances of 'phrase' or 'volition' for CAN, or indeed for any of the modals spoken by the instructor, I next show example instances of COULD used by the instructor in my observed classroom.

8.3.2 Instructor's COULD

I analysed instructor instances of COULD using the following categories: 'external possibility', 'directive' / 'commissive', 'ambiguous', and 'indeterminate'. The instructor did not use COULD to express the categories 'permission', 'ability', 'epistemic possibility', 'phrase' and 'volition' in my data. Table 31 reflects COULD extracted from Table 29.

Table 31: Frequency counts for COULD from instructor's classroom data

Instructor Categories	COULD (spoken)	COULD (written)
external possibility	44	6
permission	0	0
directive/commissive	3	0
ability	0	0
ambiguous	2	0
epistemic possibility	0	0
indeterminate	1	0
phrase	0	0
volition	0	0
total	50	6

8.3.2.1 ‘External possibility’ COULD

Most instances in this meaning category come from the spoken data, in which 44 instances of ‘external possibility’ (see Section 4.6) were identified out of a total of 50 instances. Only six instances of COULD were found in the written data, and all six were analysed as ‘external possibility’. I have included two example instances from spoken data, one positive form in (142) and one negative form in (143), and only one positive instance in (144) from written data, as there were no negative forms used in the written data.

- (142) <INSTRUCTOR> Um, if I use something like, um, as a result of, you know, I **could** say something like, as a result of learning a new language, I’ve spend a lot of money, you know. (CDS-I-38)

I assigned (142) as ‘external possibility’ reading: (a) the possibility of saying something like *x* is dependent upon the English language; and (b) linguistic substitution check: *Due to the way the English language works, it would be possible for me to say something like ‘as a result of learning a new language’....*

- (143) <INSTRUCTOR> Okay good, um, ah, yea, I’d be interested to see what your answer for J is because I was not sure. Anyone have suggestions for that one? I **couldn’t** work that out.
<STUDENT> I had ‘nearly’.
<INSTRUCTOR> Nearly, okay, let’s see if that works, and [unclear]
<STUDENT> More than, more than.
<INSTRUCTOR> Yea, but that’s a weird way to express that actually, cause it, more than, twice as much, it just didn’t quite compute for me that one, I didn’t, couldn’t quite work out
<STUDENT> [unclear]
<INSTRUCTOR> It didn’t sound, to be honest, I didn’t have a, I couldn’t work out a good way to say that actually. It didn’t seem to make sense to me, or certainly wasn’t a natural way to express it. So I think we’ll skip that one actually. (CDS-I-129)

I analysed instance (143) as ‘external possibility’. As you can see in the context, variations of *couldn’t work out*, are used throughout this excerpt and in all cases, I analysed each instance as ‘external possibility’. In an ‘external possibility’ reading: (a) the impossibility of working *x* out is due to external circumstances, which I describe below; and (b) linguistic substitution

check: *Due to external circumstances, it wasn't possible for me to work x out.* Support for an 'external possibility' reading comes from the external circumstances of the instructor pointing out that it is "a weird way to express that", it 'didn't seem to make sense' and that it "wasn't a natural way to express it". Not being able to "work it out" comes from the expression not making sense, not the capabilities of the instructor.

(144) How could immigrants who tend to leave be encouraged to stay? (CDW-I-36)

I classified instance (144) as 'external possibility': (a) the possibility of encouraging is dependent upon the actions/enticements done to encourage immigrants to stay; and (b) linguistic substitution check: *Due to the following actions/inducements, it is possible for immigrants to be encouraged to stay.*

In the following sections on the other two categories used by the instructor for COULD, 'directive' / 'commissive', and 'ambiguous', I provide one instance of each due to the low numbers in each category.

8.3.2.2 'Directive' and 'commissive' COULD

I analysed a total of three instances of COULD from the instructor's data as 'directive' (see Section 4.8), all within the spoken data, and all requests. Instance (145) is an example.

(145) <INSTRUCTOR> what could we add there? You might have a different start as well, but we could use this as a general start. What would, what cou-, how could you put a negative thesis statement, yea, Sean?
<SEAN> I say most of people may think vegetarianism offers them a good [unclear] however, or [unclear] (CDS-I-150)

I analysed (145) as 'directive'. In this instance the instructor is requesting the student to make the thesis statement negative, which the student does do. A 'directive' reading is supported by the student responding by changing the statement.

8.3.2.3 ‘Ambiguous’ COULD

I analysed a total of two instances of COULD as ‘ambiguous’ (see Section 4.11) from the instructor’s data. Instance (146) is an example.

- (146) <INSTRUCTOR> Many animals have become extinct, okay, as their effect, what might be some of the causes there? ... Wars?
<STUDENT> No, yes.
<INSTRUCTOR> Um, possibly, I think that could possibly [be a cause] because it can affect habitats, a war affects habitats and things like that. Although it does seem to fit more naturally with the second one, the maybe overcrowded cities perhaps, um, high birth rates (CDS-I-44)

I analysed instance (146) as ambiguous between ‘external possibility’ and ‘epistemic possibility’. In an ‘external possibility’ reading: (a) the possibility of wars being a cause is dependent upon the effects of war and (b) linguistic substitution check: *Um, possibly, due to “affecting habitats”, I think it is possible for wars to be a cause of animal extinction.* And in an ‘epistemic possibility’ reading: (a) the writer is expressing his/her level of certainty, which is a level of ‘possible’, that wars are a cause of animal extinction; and (b) linguistic substitution check: ... *Um, possibly, I think that it is possible that it is possibly a cause because it can affect habitats...* In this scenario, the instructor is concluding at a level of ‘possible’ that wars affect animal extinction. Contextual support for her level of certainty being ‘possible’ comes from her also including “possibly” in the utterance twice.

In both readings above, the meanings are quite similar, and complementary, as discussed in Section 2.5.4.1. However, the differences I identify is that in the ‘external possibility’ reading, the instructor is focusing on whether or not the answer is applicable to the question set out in the task, and in an ‘epistemic possibility’ reading, the instructor is applying the situation to “real-life” and reasoning whether she believes it is accurate or not.

Having not found instances of ‘permission’, ‘ability’, ‘epistemic possibility’ and the already noted ‘phrase’ or ‘volition’ for COULD in the instructor’s data, I next show example instances for BE ABLE TO used by the instructor in the classroom.

8.3.3 Instructor's BE ABLE TO

The counts for BE ABLE TO in the instructor classroom data set are extremely low. Table 32 reflects BE ABLE TO extracted from Table 29.

Table 32: Frequency counts for BE ABLE TO from instructor's classroom data

Instructor Categories	BE ABLE TO (spoken)	BE ABLE TO (written)
external possibility	1	1
permission	1	0
directive/commissive	0	0
ability	1	0
ambiguous	1	1
epistemic possibility	0	0
indeterminate	0	0
phrase	0	0
volition	0	0
total	4	2

I present example instances here but I do not make any claims regarding this data in the following chapters. I analysed instructor instances of BE ABLE TO using the following categories: 'external possibility', 'permission', 'ability' and 'ambiguous'. The instructor did not use BE ABLE TO with the categories 'directive' / 'commissive', 'epistemic possibility', 'indeterminate', 'phrase' and 'volition'.

8.3.3.1 'External possibility' BE ABLE TO

I analysed only two instances (out of 6) from the instructor's data for BE ABLE TO as 'external possibility' (see Section 4.6), one from the spoken data in (147), and one from the written data in (148).

- (147) <INSTRUCTOR> Ah, does it have to be true? Does it have to be accurate?
Yea, no, it doesn't. Okay, so, the accuracy, that's right, because you're writing under these constraints where you've got no access to **be able to** check things, okay, no, we're not really, I mean, if... (CDS-I-163)

I assigned (147) as an ‘external possibility’ reading: (a) the impossibility of checking things is due to not having access; and (b) linguistic substitution check: *Due to not having access, it is not possible for you to check things...*

- (148) A long report prepared for business or policy makers usually has an executive summary at the beginning. This sets out the theme of the report and briefly summarises the content and conclusions. From this readers should **be able to** immediately grasp key objectives, main points and recommendations without having to read the report itself. (CDW-I-38)

I analysed (148) as an ‘external possibility’: (a) the possibility of grasping key objectives is dependent upon the inclusion of an executive summary; and (b) linguistic substitution check: *Due to the inclusion of an executive summary, it should be possible for readers to immediately grasp key objectives, main points...*

8.3.3.2 ‘Permission’ BE ABLE TO

I analysed only one instance from BE ABLE TO in the instructor’s spoken data as ‘permission’ (see Section 4.5).

- (149) <INSTRUCTOR> but you, unfortunately, this one, you won’t **be able to** keep this essay, but we (CDS-I-164)

I analysed (149) as a ‘permission’ reading as: (a) you is animate; (b) “you” does not have permission from the course/programme policies to keep this essay; and (c) linguistic substitution check: *...you are not permitted to keep this essay*. In this instance, ‘permission’ not being granted to keep the essay is mostly likely coming from the rules/regulations of the school program, which is indicated by the instructor’s use of “unfortunately”, in which case the instructor is the messenger. The context before this is shown in instance (133) in Section 8.3.1.2 with *can’t* and is also a ‘permission’ reading.

8.3.3.3 ‘Ability’ BE ABLE TO

I analysed only one spoken instance as ‘ability’ (see Section 4.4).

(150) <INSTRUCTOR> I ‘m hoping for the end of course test they won’t be quite so close together. But it is an issue with that one, that you do need to **be able to** write quickly and yea, okay, so as I said, I haven’t had a chance to mark them (CDS-I-45)

I analysed (150) as ‘ability’: (a) you is animate; (b) possibility of the writing quickly is determined by the subject’s internal competence; (c) active voice; and (d) linguistic substitution check: *...you do need to be capable of writing quickly...* Support for an ‘ability’ reading comes from the need for the students to be capable of not only physically writing quickly, but more so, their capability of processing, thinking, etc. in English and putting their thoughts to paper.

8.3.3.4 ‘Ambiguous’ BE ABLE TO

I analysed two instances (out of 6) as ‘ambiguous’ (see Section 4.11), both between ‘ability’ and ‘external possibility’. An example from written data is below.

(151) It is your responsibility to submit the following assessment items on the due dates shown below. If there is any reason why you will not **be able to** meet any of the deadlines you must tell your teacher before the due date. If you are having trouble with or want advice about any aspect of the assignment, please discuss this with your teacher. (CDW-I-39)

I analysed instance (151) as ‘ambiguous’ between an ‘ability’ reading and an ‘external possibility’ reading. In an ‘ability’ reading: (a) you is animate; (b) possibility of not meeting any of the deadlines is determined by the subject’s internal competence; (c) active voice; and (d) linguistic substitution check of: *If there is any reason why you will not be capable of meeting any of the deadlines....* In an ‘external possibility’ reading: (a) the possibility of not any of the deadlines is dependent upon (unknown) external circumstances; and (b) linguistic substitution check: *If there is any reason, due to external circumstances, why it will not be possible for you to meet any of the deadlines...* I think this instance is inherently open to an ‘ability’ and ‘external possibility’ reading; the inclusion of “any reason” supports both readings.

8.4 Classroom findings

This chapter examined overall frequency findings and category frequencies for CAN, COULD and BE ABLE TO as used in the classroom I investigated. Table 33 presents a comparison of the overall frequency findings for the students and instructor.

Table 33: Frequencies of CAN, COULD and BE ABLE TO in classroom data (students and instructor comparison)

	Students			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
CAN	220	116	52	26
COULD	4	2	31	16
BE ABLE TO	6	3	4	2
	Instructor			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
CAN	114	65	29	24
COULD	51	29	6	5
BE ABLE TO	4	2	2	2
	Log-Likelihood (student and instructor comparison)			
	Spoken		Written	
CAN	LL=25.47, p<0.0001		LL=0.08, N.S.	
COULD	LL=51.86, p<0.0001		LL=7.98, p<0.01	
BE ABLE TO	LL=0.24, N.S.		LL=0.04, N.S.	
Classroom Students Spoken – 19,029				
Classroom Students Written – 19,954				
Classroom Instructor Spoken -17,412				
Classroom Instructor Written -11,870				

When comparing the students' frequencies per 10,000 words to the instructor's frequencies per 10,000 words, we can see: (a) the students used CAN almost twice as much as the instructor in spoken texts, which is significant at a p-value of $p < 0.0001$; (b) written CAN use is similar between the students and instructor, for which the table shows no indication of a significant difference; (c) COULD is used more by students than the instructor in writing, which is significant to a p-value of $p < 0.01$ and markedly less than the instructor in speech, which is significant to a p-value of $p < 0.0001$; and (d) on all accounts, BE ABLE TO is used infrequently and indicates no significant differences, which shows that it is not preferred to its modal auxiliary counterparts CAN and COULD.

One reason for the students using CAN at a high frequency in the spoken register may be that CAN is the only form used by students for ‘directives’. Celce-Murcia and Larsen-Freeman (1999) discuss in their work using the “historical past tense forms” to “soften requests” (p. 145). Accordingly, using the historical past tense *could* can soften requests even more so than *can*. The example instances in Section 8.2.1.4 are student-student interactions, as opposed to student-teacher interactions, as are all the directives spoken by students in my data. This could be the reason why students are using “can” instead of the softer *could*. As there are no student-teacher interactions using directives in my data, I would need to explore this with additional data to be able to say more about it.

The students using written COULD at a higher frequency than the instructor is not unexpected as the students and instructor are writing for different purposes. In academic writing, the students would be expected to use more hedging while less hedging is more appropriate in instructive writing done by the instructor. However, the students in this classroom are using written COULD in instances where hedging may not be appropriate (e.g. *There are two possible reasons which could cause this change. The first could be the shift of their identities* (CDW-S-85)).

With regard to the instructors high use of spoken COULD, in my data set I noticed that within the instructor’s spoken texts using COULD, out of 44 ‘external possibility’ instances, 11 instances contained the main verb “use” (*could use*), while 10 instances contained the main verb “say” (*could say*). I think these particular constructs are higher for the instructor than for the students because instructors spend a lot of time explaining how to do things in the classroom (e.g. *you could use general statistics* (CDS-I-139)), and particular to English language instructors, they dedicate a large amount of time explaining to their students what is possible to “say” in the spoken and written English language (e.g. *you could say “almost as expensive as”* (CDS-I-122)).

Moving to the meanings used by the students, Table 34 below is an excerpt, with added totals, from Table 25 (p. 181), which shows the category frequencies for comparisons of the students’ classroom data. I removed the following modal auxiliaries and categories due to low, or zero, instances or meaning counts: spoken COULD, spoken and written BE ABLE TO, ‘phrase’ and ‘volition’.

Table 34: Category percentages for comparisons of students' classroom data

Students Categories	CAN ^s (spoken)	CAN (written)	COULD (written)	total
external possibility	77	47	15	139
ability	8	2	0	10
epistemic possibility	1	1	12	14
directive/commissive	10	0	0	10
ambiguous	0	1	4	5
indeterminate	4	0	0	4
permission	0	1	0	1
total	100	52	31	183

With the low and zero counts removed, I can focus on the data which gives us a better insight to the students' category use of the modals. Specific to CAN and COULD, Table 34 shows that: (a) 'external possibility' is the most frequent meaning found, dominantly expressed with spoken CAN; (b) 'epistemic possibility' is the second most frequent meaning category used, expressed mostly through written COULD; (c) 'ability' is expressed most through CAN; and (d) 'directive' and 'commissives' are expressed mostly through spoken CAN.

Table 35 shows the category frequencies for comparisons of the instructor's classroom data and is an excerpt from Table 29 (p. 196) for CAN and COULD, with added totals. I removed the following modal auxiliaries and categories due to low counts: written COULD, spoken and written BE ABLE TO, 'phrase' and 'volition'.

Table 35: Category percentages for comparisons of instructor's classroom data

Instructor Categories	CAN ^s (spoken)	CAN (written)	COULD (spoken)	total
external possibility	78	11	44	133
permission	8	10	0	18
directive/commissive	7	5	3	15
ability	6	0	0	6
ambiguous	0	3	2	5
epistemic possibility	1	0	0	1
indeterminate	0	0	1	1
total	100	29	50	179

Table 35 above shows: (a) ‘external possibility’ is the most frequent meaning found for CAN and COULD and expressed mostly by spoken CAN; (b) ‘permission’ is the second most frequent category used, and in the majority of cases used with CAN; (c) ‘directives/commissives’ are used mostly with CAN; and (d) ‘ability’ is only used with spoken CAN.

Comparing the students’ and instructor’s category frequency data from Table 34 and Table 35, we can see that: (a) the ‘external possibility’ meaning is not only present for all instances of CAN and COULD, it is the most used meaning for the students and instructor; (b) ‘permission’ is used more by the instructor; (c) ‘directives/commissives’ are used more by the instructor; and (d) ‘epistemic possibility’ is rare for the instructor but not for the students, especially in written texts.

With regard to the role of the students and instructor, the meaning categories of ‘permission’ and ‘directive’ / ‘commissive’ being more frequent in the instructor’s discourse fits into the traditional role of the instructor as the human authority granting permission and also “directing” the classroom and attempting to get the students to do *x*. Additionally, ‘epistemic possibility’ being used more frequently by students in writing than the instructor would account for the students hedging their written work. The instructor’s role does not have a need to hedge in writing as the instructor needs to be clear and concise in conveying messages to the students and not express doubt.

8.5 Summary of chapter

This chapter presents a look into the classroom I investigated by first examining overall frequencies of CAN, COULD and BE ABLE TO, and then category frequencies for each. Comparing the overall frequency counts between the students and instructor revealed that students are using spoken CAN almost twice as much compared to the instructor. For COULD, students are using spoken COULD significantly less than the instructor and written COULD significantly more than the instructor. I suggested that the higher use of CAN by the students may be because they are using this at the expense of COULD for ‘directives’. Furthermore, the high use of written COULD by the students may be linked to their preference to hedge in their academic writing. For BE ABLE TO, the frequencies were very low and showed no significant differences between student and instructor use.

Category frequencies showed that ‘external possibility’ was present for all forms of the modals and used most frequently among students and the instructor. Where the counts in the categories diverged was with the instructor having higher counts in the categories of ‘permission’ and ‘directive’ / ‘commissive’, whereas the students had higher counts in the categories ‘ability’ and ‘epistemic possibility’. In all cases the counts for BE ABLE TO were too low to make any meaningful interpretations.

In Chapter 10, I compare the classroom investigation to the British National Corpus and examine how English language learners use these modal auxiliaries compared to how native and near-native English users use them. Next, Chapter 9 is an investigation of CAN, COULD and BE ABLE TO in the *New Headway* coursebook series.

Chapter 9: *New Headway* investigation

This chapter examines the overall frequencies and meaning frequencies for CAN, COULD and BE ABLE TO and presents example instances from the books in the *New Headway* coursebook series. First, overall and category frequency counts for CAN, COULD and BE ABLE TO are reported. Then each modal auxiliary is presented in its own section, which is subdivided into the categories associated with that modal auxiliary and followed by example instances.

9.1 Overall and category frequency counts for CAN, COULD and BE ABLE TO

In the NH coursebook series examined, the total number of tokens is 441,760. A breakdown by each coursebook level, which was presented in Table 5 (see Section 3.3.4.1), is included here for convenience.

NH Level	Tokens in WordList
Beginner	33,165
Elementary	56,020
Pre-Intermediate	77,882
Intermediate	77,388
Upper-Intermediate	101,872
Advanced	95,433
Total	441,760

The overall frequencies, raw and normed per 10,000 words, which are reported as the nearest whole number, for CAN, COULD and BE ABLE TO in the NH series are reported in Table 36.

Table 36: Frequency counts for CAN, COULD AND BE ABLE TO in NH series

<i>New Headway</i>	Raw Frequency	Frequency per 10,000
CAN	2,188	50
COULD	717	16
BE ABLE TO	76	2

CAN is the modal auxiliary most frequently used, followed by COULD and BE ABLE TO.

There is no differentiation between spoken and written text as the NH books are of course written, but some of the texts act as a representation of spoken texts. Figure 16 offers a snapshot of the category percentages associated with all three.

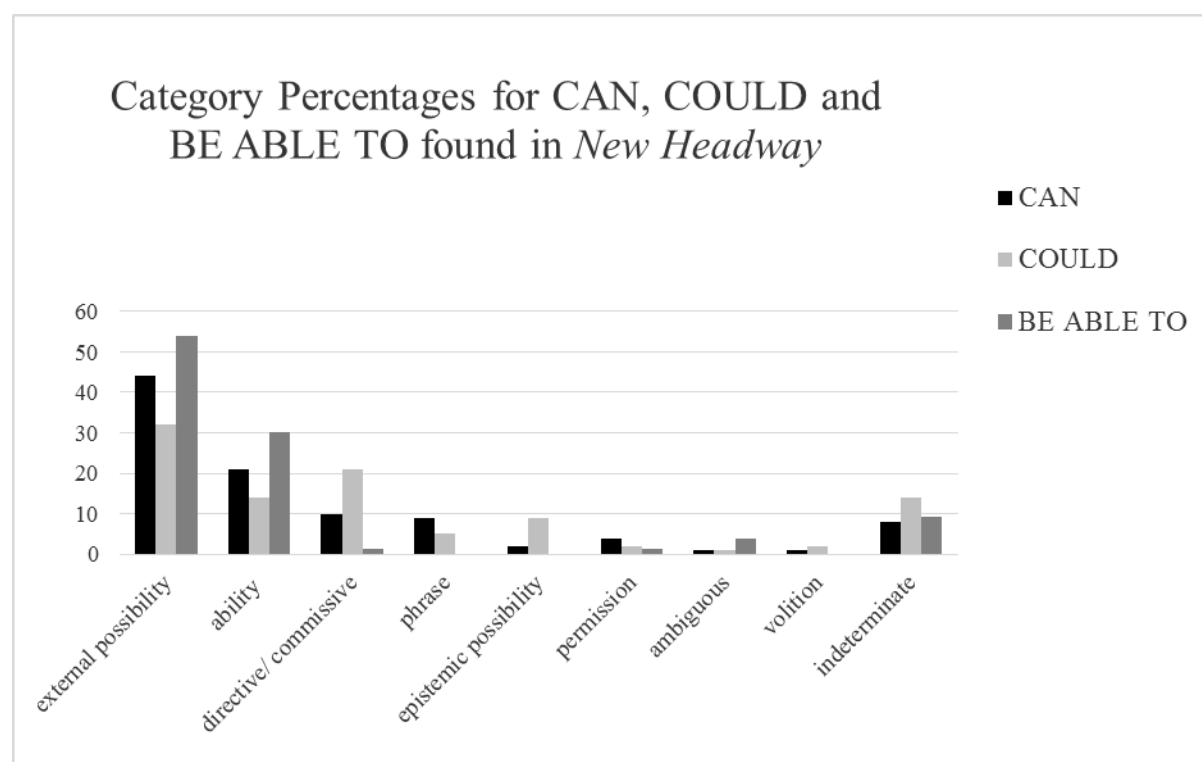


Figure 16: Category percentages for CAN, COULD and BE ABLE TO found in NH

It is evident that ‘external possibility’ is the most frequent category found for all three modal auxiliaries studied in NH. While I was able to take a random sample of 100 instances each for CAN and COULD, there were only 76 instances of BE ABLE TO in the NH series coursebooks. Therefore, I extrapolated the number of category instances for BE ABLE TO from 76 to 100 when presenting and comparing category percentages below. Table 37 below offers an account of actual percentages represented in Figure 16.

Table 37: NH category percentages for CAN, COULD and BE ABLE TO

<i>New Headway</i> Categories	CAN ^s	COULD ^s	BE ABLE TO (raw)	BE ABLE TO	total count
external possibility	44%	32%	41	54%	117
ability	21%	14%	23	30%	58
directive/commissive	10%	21%	1	1%	32
phrase	9%	5%	0	0	14
epistemic possibility	2%	9%	0	0	11
permission	4%	2%	1	1%	7
ambiguous	1%	1%	3	4%	5
volition	1%	2%	0	0	3
indeterminate	8%	14%	7	9%	29
total	100%	100%	76	99%	276

Table 37 is organised by the most frequent to the least based on counts in the sample data sets from CAN and COULD and raw counts from BE ABLE TO. This ordering does not encompass ‘indeterminate’, which is shown last. There is a high frequency of ‘indeterminate’ instances (see Section 4.11.2) in the data for NH which is due to the coursebooks having instances which are not used in a meaningful context (e.g. answer choice, citation form or used in chapter/section title).

As stated above, for all three modal auxiliaries, ‘external possibility’ is the most used meaning. From there, the frequency of categories used differs. We see that ‘ability’ is the second most frequent meaning used for CAN and BE ABLE TO, but not COULD. The second most frequent meaning category for COULD is ‘directive’ / ‘commissive’, which is the third most frequent for CAN, but for BE ABLE TO, is one of the least frequent meaning categories. ‘Phrase’ ranks fourth in frequency for the modal CAN, whereas ‘epistemic possibility’ ranks fourth for COULD, and for both ‘phrase’ and ‘epistemic possibility’ for BE ABLE TO, there is no count.

9.2 Complexities with readings in *New Headway*

Table 37 shows that the meaning category ‘external possibility’ is the most frequent and the second most frequent is ‘ability’ (for CAN and BE ABLE TO). However, when exploring the content of the coursebooks further, what I found is that the coursebooks’ presentations and explanations of the meanings may skew a meaning interpretation for the reader. For example,

instances that I would have analysed as ‘external possibility’ were introduced or explained as having an ‘ability’ meaning.

The first example comes from the Advanced Student’s Book (Soars & Soars, 2003a). The writers give an example for “ability on one occasion in the past”, using the instance, “I was able to give the police a full description” (p. 154) with no other supporting context. With extreme capability circumstances provided (e.g. the subject has very limited vision), this could be an ‘ability’ reading, but it seems more plausible that it is ‘external possibility’. My thinking is supported by an example used in a previous level, Upper-Intermediate (Soars & Soars, 2005a), where a rich context is provided which supports an ‘external possibility’ reading of a similar utterance, which is part of my data set and analysed as such.

Burglar arrested

A COUPLE came home at midnight to find their house had been burgled. Bob and Janet Gilbreath had left their house at six o’clock to go to the theatre. When they got home, the back door had been smashed, and money and jewellery stolen. A neighbour said that she had heard a loud noise at about eight o’clock. Mr and Mrs Gilbreath, who moved to the house five years ago, told police that they had seen a man who had been acting suspiciously for several days before the robbery, and **were able to** give a description. A man answering the description was later arrested. (NH, Upper-Intermediate, p. 26)

I analysed the above as ‘external possibility’ because the reason the couple was able to provide the police with a description of the robber is that they saw “a man who had been acting suspiciously” days before. My data set includes the instance above, which has extended context; however, these types of instances, where there was conflict between my own reading and the reading that the coursebook steers readers toward, were difficult to analyse because it meant that my own readings were challenged by the intention of the coursebooks.

Along the same lines, another set of examples that are under the heading “Ability” can be found in the Upper-Intermediate level. Though the heading is “Ability”, and ‘ability’ is indeed a possible interpretation, there are also other possible interpretations, depending on the context in which the instance occurs. So, without context, the instances are ambiguous.

Ability

1 Can expresses ability. The past is expressed by could.

I can speak three languages.

I could swim when I was three.

2 Other forms are provided by be able to.

I've never been able to understand her. (Present Perfect)

I'd love to be able to drive. (infinitive)

Being able to drive has transformed my life. (-ing form) (underline added) (NH, Upper-Intermediate, p. 148)

In the first example, "I can speak three languages", a context of conversation about learning languages would favour an 'ability' interpretation. However, a context such as *when I visit with my husband's family*, would create an 'external possibility' reading with the external circumstance that the family speaks three languages.

The second example, "I could swim when I was three", the context of being three (years old) favours an 'ability' interpretation, but even then, a different interpretation is possible, for example "but after my cousin drowned that year, my parents wouldn't allow me to swim" favours a 'permission' interpretation.

The examples using "be able to" are also ambiguous, and in context, could have an 'external possibility' or 'permission' reading. I will focus on, "I'd love to be able to drive", to explain how the sentence alone, without the heading "Ability" is ambiguous between 'ability', 'external possibility' and 'permission'. For all three readings, we can infer that the speaker is not able to drive for x reason. In an 'ability' reading, (a) "I" is animate; (b) the impossibility of driving is determined by the subject's internal capability; (c) active voice; and (d) linguistic substitution check: *I'd love to be capable of driving*. In an 'external possibility' reading: (a) the impossibility of driving is due to external circumstances (e.g. destination takes too long to drive to); (b) active voice; and (c) linguistic substitution check: *Due to (e.g.) the time it takes to get to x, it is not possible for me to drive*. In a 'permission' reading: (a) "I" is animate; (b) I am not permitted by rules/regulations, or more likely, human authority (e.g. parents) to drive; and (c) linguistic substitution check: *I'd love to be permitted to drive*. Although varying contextual assumptions are possible with examples like these, I have analysed, or would analyse, if they were in my data set, these examples as 'ability', since the coursebook writers have labelled them as such.

These sectional headings and language descriptors put forth by the authors of the NH coursebooks have an effect on my analysis as they are pre-determining what an instance is ‘supposed’ to be, even though in many cases, with context, it could well be a different reading. However, despite my acknowledgement of this impreciseness, I feel it is better to analyse the meaning instances as labelled, as learners would also look to the labels for meaning. Therefore, I adhered to the intention of the coursebook in my analysis, such as in the ‘ability’ example above.

In the following sections, where I present my analysis of the NH data, I occasionally make reference to ‘example communication’ and ‘real communication’. For clarity, ‘example communication’ is the language that the coursebook writers use to provide examples of English for the learners (e.g. dialogues). This differs from ‘real communication’ which is the language that the writers use to interact directly with the reader (e.g. instructions).

9.3 *New Headway* CAN

I analysed the random sample of 100 NH instances of CAN and found it occurred in all of the meaning categories available, as shown in Table 38.

Table 38: Frequency counts for CAN from NH

<i>New Headway</i> Categories	CAN ^s
external possibility	44%
ability	21%
directive/commissive	10%
phrase	9%
epistemic possibility	2%
permission	4%
ambiguous	1%
volition	1%
indeterminate	8%
total	100%

The figures in Table 38 are presented as percentages since the sample data set for each was 100.

9.3.1 ‘External possibility’ CAN

In my analysis, the most frequent meaning category is ‘external possibility’ (see Section 4.6) with 44 instances of CAN. The example instances included below range from prototypical instances in which the external circumstances are provided at the sentence level, using *can* in (152) and *can’t* in (153), to an instance in which ‘real communication’ is directed at the learner (as opposed to ‘example communication’) in (154).

(152) Quick! Give me your homework so I can copy it. (NH, Intermediate, p.93)

I analysed (152) as ‘external possibility’: (a) the possibility of copying the homework is dependent upon the subject receiving the homework; (b) linguistic substitution check: *Due to the giving of the homework, it is possible for me to copy it.* Support for a ‘possibility’ reading comes from the external circumstances of “give me your homework” as having the homework makes it possible for the speaker to copy it. Furthermore, “Quick!” is an additional external circumstance; only if you do it quickly, will it be possible for me to copy it.

(153) You can't speak to Lisa. She's having a bath. (NH, Intermediate, p.136)

I analysed (153) as ‘external possibility’: (a) the impossibility of speaking to Lisa is due to her having a bath; and (b) linguistic substitution check: *Due to her having a bath, it is not possible for you to speak to Lisa.* Support for an ‘external possibility’ reading comes from the circumstance that Lisa is “having a bath”.

(154) Type 2 phrasal verbs are separable. The object (noun or person) can come between the verb and the adverb. (NH, Advanced, p.147)

I analysed (154) as ‘external possibility’: (a) the possibility of the object (noun or person) coming between the verb and the adverb is due to English language use; and (b) linguistic substitution check: *Due to English language use, it is possible for the object (noun or person) to come between the verb and the adverb.* Support for an ‘external possibility’ reading comes from the circumstances that this possibility applies only to “Type 2 phrasal verbs”. This example is one that utilises “real communication”, as the writer is speaking directly to the reader.

9.3.2 ‘Ability’ CAN

In my analysis, the second most frequent meaning category is ‘ability’ (see Section 4.4), with 21 instances of CAN. The instances below include one using *can* in (155), one using *can’t* in (156), and one which requires the intention of the coursebook for expanded context in (157).

- (155) [T] **Can** you use a computer, Josh?
[J] Yes, of course I can. All my friends ____ [can]. I use a computer at school and at ____ [home].
[T] That's very good. What other things can you do? (NH, Beginner, p. 81)

I analysed instance (155) above as ‘ability’: (a) “you” is animate; (b) the possibility of using a computer is determined by the subject’s internal capability; (c) active voice; and (d) linguistic substitution check: *Are you capable of using a computer, Josh?* In this instance the speaker is questioning Josh’s internal capability of being able to use a computer. Josh is confirming he knows how to and providing evidence that he is not the only one who is capable and where he uses a computer. Additional support comes from Speaker T asking “What other things can you do?”, questioning Josh’s abilities further.

- (156) He's been learning English for five years and he still **can't** speak a word. (NH, Pre-Intermediate, p.115)

I analysed instance (156) above as ‘ability’: (a) “he” is animate; (b) the impossibility of speaking a word of English is due to the subject’s internal capabilities (at the moment); (c) active voice; and (d) linguistic substitution check: *He’s been learning English for five years and he still is not capable of speaking a word.*

The instance below comes from a unit titled, “Can you speak English?”, in the section titled, “What can you do?”

- (157) 1 I can speak French, but I can't speak German.
2 He can't dance, but he can sing.
3 Can you cook?' ‘Yes, I can.’
4 They can ski, but they **can't** swim.
5 We can dance and we can sing.
6 ‘Can she drive?’ ‘No, she can't.’ (NH, Elementary, p.129)

I analysed instance (157) above as ‘ability’: (a) “they” is animate; (b) the impossibility of swimming is due to the subjects’ internal capability (at the moment of the action); (c) active voice; and (d) linguistic substitution check of: *They can ski, but they are not capable of swimming*. In this instance, swimming is an internal capability. The relevant expanded content for instance (157) is generated from the intention of the coursebook writers. Along with the unit title and section title noted above, the writers use lexical verbs such as *walk, draw, sing, dance, speak* and there is no indication in the context of any type of ‘external possibility’ circumstances that would affect the meaning. Though this instance has very little context around it, the other instances around it indicate ‘ability’; therefore, I analysed the intended meaning as ‘ability’.

9.3.3 ‘Directive’ and ‘commissive’ CAN

In my analysis, the third most frequent meaning category is ‘directive’ / ‘commissive’ (Section 4.8). There are 10 instances of CAN, eight ‘directives’, which all function as requests, and two commissives. An example of a ‘directive’ is in (158) and of a ‘commissive’ is in (159) below.

- (158) A Right, everybody. Dinner’s ready. Come and sit down. Kim, can you sit next to Henry? (NH, Upper Intermediate, p. 156)

I analysed (158) as ‘directive’ as the speaker is telling Kim where to sit; this utterance is functioning as a request and can be paraphrased: *Kim, I want you to sit next to Henry*.

- (159) Listen and complete the conversations in a tourist office.
A Hello. Can I _____ [help you]? (NH, Beginner, p. 111)

The answer “help you” is supplied in the Typescripts Index (p. 120). I analysed (159) as a ‘commissive’ as the speaker is offering help and can be paraphrased: *I am offering to help you*.

9.3.4 ‘Phrases’ with CAN

In my analysis, the fourth most frequent category is ‘phrase’ (see Section 4.9), with nine instances using CAN. I include an example of ‘phrases’ using “can’t stand” (160) and “can’t beat” (161).

(160) [A] It drives me mad! You never actually talk to a person.

[B] But it's machines I **can't** stand. (NH, Pre-Intermediate, p. 124)

I analysed (160) as ‘phrase’ as the meaning for “can’t stand” is similar to “don’t like” or as Sinclair (2006) describes, “If you cannot **stand** something, you cannot bear it or tolerate it” (p.1410). Further support for this instance being included as a ‘phrase’ reading is that subject + *stand* (e.g. *I stand*) does not express “don’t like”.

(161) It's too dark. Browns and blues and reds. You could do with something brighter. If I were you, I'd go for cream or white. You **can't** beat cream, it goes with everything. (NH, Advanced, p.141)

I analysed instance (161) as ‘phrase’ as “can’t beat” in this utterance means the speaker is saying that “it is the best thing of its kind” (Sinclair, 2006, p. 111). Taking the criteria for phrase into consideration, “can’t beat” is equivalent in meaning to *it is the best*. And furthermore, using subject + beat, (e.g. *I beat*) does not convey the same meaning.

9.3.5 ‘Permission’ CAN

In my analysis, four instances of CAN have a ‘permission’ meaning (see Section 4.5), two of which are included below. In all four of the instances I analysed as ‘permission’, human authority is the permission granter, not rules/regulations. The first instance, (162), is straightforward in meeting the criteria for ‘permission’, while (163) is more complex and requires outside knowledge.

(162) [A] Yeah, but I **can't** go out on weekday evenings. My parents won’t let me.
(NH, Upper-Intermediate, p. 132)

I analysed (162) as permission: (a) “I” is animate; (b) “I” does not have permission from his/her parents to go out on weekday evenings; and (c) linguistic substitution check: ...*but I*

am not permitted to go out on weekday evenings. Support for a ‘permission’ reading comes from “my parents won’t let me”. In this instance, the parents are the authority preventing the speaker from going.

- (163) [B] Ah yes, that’s a drag. You don’t like tourists, then?
[A] Well, I shouldn’t really complain.
[B] How come? You **can** complain if you want.
[A] Not really – you see I’m a travel agent, so I make a living from tourists.
(NH, Upper-Intermediate, p. 153)

I analysed (163) as permission: (a) “you” is animate; (b) “you” is receiving permission from the speaker to complain; and (c) linguistic substitution check: *You are permitted to complain if you want*. In this instance, it is actually a wider authority doing the permitting; our society grants the right for people in general to be permitted to complain if they want to.

9.3.6 ‘Epistemic possibility’ CAN

In my analysis, two instances of CAN have an ‘epistemic possibility’ meaning (see Section 4.7).

- (164) They **can’t** have been trying very hard. (NH, Intermediate, p. 147)

I analysed (164) as ‘epistemic possibility’: (a) the speaker is expressing his/her level of certainty, at a level of ‘certain’, that they did not try very hard; and (b) linguistic substitution check: *It is certain that they were not trying very hard*. Collins (2009) also includes an instance in his data using “can’t have” (p. 99), which he identifies as expressing ‘epistemic’ possibility in a past situation and Holmes (1982) supports the idea of *can’t* “expressing certainty” (p. 28), which has also been discussed in Section 4.7.3 of this thesis.

- (165) They **can** only have known each other for a few weeks. (NH, Advanced, p. 153)

I analysed (165) as ‘epistemic possibility’ at a level of ‘certain’, as opposed to ‘possible’. Support for this comes from Hoyer (1997), who states, “the CAN ONLY expression is almost on a par with MUST” and “has a very strong likelihood of being true” (p. 86). The other criteria for its inclusion in ‘epistemic possibility’ are: (a) the speaker is expressing his/her

level of certainty, at a level of ‘certain’, that they have known each other only (no more than) a few weeks; and (b) linguistic substitution check: *It is certain that they have known each other for only a few weeks.*

9.3.7 ‘Ambiguous’ CAN

In my analysis, only one instance of CAN is ‘ambiguous’ (see Section 9.2). For this example, the instructions to the learners include practicing adding the adverb to the sentence.

(166) Please speak. I **can't** understand you. (slow) (NH, Elementary, p. 100)

In the instance above, the writers of the coursebook are eliciting the response *Please speak slowly. I can't understand you.* Without having any further context, this could be an ‘external possibility’ or ‘ability’ reading. In an ‘external possibility’ reading: (a) the impossibility of understanding you is due to the speaker speaking too fast; and (b) linguistic substitution check: *Due to the speaker speaking too fast, it is not possible for me to understand you.* In this instance, the speaker would be speaking at a speed which is higher than the average speaker would speak. In an ‘ability’ reading, (a) ‘I’ is animate; (b) the possibility of understanding is dependent upon the subject’s internal capabilities (language comprehension capabilities); (c) active voice; and (d) linguistic substitution check: *I am not capable of understanding you.* Because this instance is located in an English learner coursebook, an ‘ability’ reading may be the meaning the learners identify most with, but this is not supported in the context; therefore, I feel this is best analysed as ‘ambiguous’.

9.3.8 ‘Volition’ CAN

In my analysis, I analysed one instance of CAN as having a ‘volition’ meaning (see Section 4.10).

(167) ‘Please, please, please marry me. I **can't** live without you,’ John said to Moira.
(NH, Intermediate, p. 97)

I analysed instance (167) as ‘volition’ using the linguistic substitution check: *I don't want to live without you.* The speaker is using “can't” for *don't want to*.

9.4 *New Headway* COULD

I analysed the random sample of 100 NH instances of COULD and found occurrences in all of the meaning categories available, as demonstrated in Table 39 below.

Table 39: Frequency counts for COULD from NH

<i>New Headway</i> Categories	COULD ^s
external possibility	32%
ability	14%
directive/commissive	21%
phrase	5%
epistemic possibility	9%
permission	2%
ambiguous	1%
volition	2%
indeterminate	14%
total	100%

The figures in Table 39 are presented as percentages since the sample data set for each was 100.

9.4.1 ‘External possibility’ COULD

In my analysis, the most frequent meaning category is ‘external possibility’ (see Section 4.6) with 32 instances of COULD. According to Coates (1983), the uses of COULD that relate to ‘external possibility’ are past of CAN and hypothetical use. For the example instances below, I have included two which use the past of CAN. I did not find any hypothetical instances in the sample data for COULD in *New Headway*.

Instances (168) and (169) below are examples of *could* being used for the past of CAN to express ‘external possibility’. Instance (168) has clear contextual support and (169) requires reader inference.

- (168) Neighbours complained that they could hear them shouting from across the street.

Ann West, who lives next door, said, ‘First I asked them nicely to stop because my baby **couldn't** get to sleep, but they didn't. (NH, Intermediate, p. 96)

I analysed (168) as ‘external possibility’ as: (a) the impossibility of getting to sleep is due to the shouting across the street; and (b) linguistic substitution check: *Due to the shouting from across the street, it was not possible for my baby to get to sleep.*

(169) ...and we'd walked to the summit of Mont Ventoux. It's a long climb, nearly five hours. We **could** see a village below us (NH, Advanced, p. 137)

I analysed (169) as ‘external possibility’: (a) the possibility of seeing the village is due to being on the summit; and (b) linguistic substitution check: *Due to the summit being so high, it was possible for us to see a village below.* Contextual support for the possibility of seeing the village comes from “it’s a long climb” which indicates the summit is high. General support for the possibility of seeing the village comes from us knowing that when we are higher up we have a greater outlook.

9.4.2 ‘Directive’ and ‘commissive’ COULD

I analysed 21 instances of COULD as having a ‘directive’ or ‘commissive’ meaning (see Section 4.8), 18 requests, two suggestions and one commissive. I have included example instances of a request in (170), a suggestion in (171) and a commissive in (172).

Instance (170) occurs in the section of the coursebook titled “Requests and offers”.

(170) That would be great! **Could** you drop me off at the library? (NH, Intermediate, p. 37)

I analysed (170) as a request as the speaker is trying to get the hearer to drop him/her off at the library. Less politely, this instance could be rephrased as *I want you to drop me off at the library.*

(171) Well, that would be really nice. We **could** meet at the new bar on the High Street and take it from there. What do you think? (NH, Advanced, p. 141)

In the instance above, through suggestion, the speaker is trying to get the hearer to “meet at the new bar on the High Street”. The speaker also follows up with “what do you think” to elicit feedback from the hearer.

Finally, instance (172) is a ‘commissive’ functioning as an offer.

(172) I’m a very good skier and in fact I even give lessons to friends — and my husband! If you’ve never been skiing, you should try it. Hey, I **could** give you your first lesson! (NH, Intermediate, p. 121)

In (172) the speaker is offering, or committing, herself to giving the hearer a lesson.

9.4.3 ‘Ability’ COULD

In my analysis, 14 instances have an ‘ability’ meaning (see Section 4.4). I have included three example instances for ‘ability’, the first one prototypical in (173), the second emphasising the importance of the inclusion of “at the moment of the action” in the criteria in (174), and the third using “could have” in (175).

(173) He **couldn’t** speak any German, but that didn’t stop him making friends. (NH, Advanced, p. 142)

I analysed instance (173) above as ‘ability’: (a) “he” is animate; (b) the impossibility of speaking German is due to the lack of the subject’s internal capability; (c) active voice; and (d) linguistic substitution check: *He was not capable of speaking any German...* In this instance, speaking German is an internal capability, which the subject lacks.

(174) I **couldn’t** solve the problem at all, and then the answer came to me in a flash. (NH, Advanced, p. 74)

I analysed instance (174) as ‘ability’: (a) “I” is animate; (b) the impossibility of solving the problem is due to the subject’s internal capability (at the moment of the action); (c) active voice; and (d) linguistic substitution check: *I was not capable of solving the problem at all...* In this instance, “at the moment of the action” is key. Solving the problem is an internal capability, which the subject lacked at first, but then changed suddenly. In the next moment of action, the subject was capable of solving problem.

- (175) We **could** have won the match. We didn't try hard enough. (NH, Upper-Intermediate, p. 151)

I analysed instance (175) as 'ability': (a) "we" is animate; (b) the possibility of winning the match was dependent on the subjects' internal capabilities (at the moment of the action); (c) active voice; and (d) linguistic substitution check: *We would have been capable of winning the match*. In this instance, "we didn't try hard enough" offers contextual support for an 'ability' reading. Coates (1983) describes this type of construction as a hypothetical meaning, "it would have been possible for....but...not". She continues, "the association between HYPOTHETICAL COULD and HAVE + EN is not 100 percent [...] there is potential ambiguity" (p. 121). This is evident in the next section on 'epistemic possibility', instance (176), which also uses a *could* + *have* + *en* construction.

9.4.4 'Epistemic possibility' COULD

In my analysis, nine instances of COULD have an 'epistemic possibility' meaning (see Section 4.7). Three are presented below, one each from a past in (176), a present in (177), and a future time situation in (178).

- (176) 'He **could** have been lying.' 'Yes, he could/could have/could have been.' (NH, Advanced, p. 147)

I assigned (176) as 'epistemic possibility': (a) the speaker is expressing his/her level of certainty, at a level of 'possible', that he was lying; and (b) linguistic substitution check: *It is possible that he was lying*. Because this instance is based on a past time situation, the possibility of finding out whether or not he was lying can be investigated.

- (177) 'I don't know where Sam is
'He **could** be in his bedroom.' (NH, Intermediate, p. 128)

I assigned (177) as 'epistemic possibility' as (a) the speaker is expressing his/her level of certainty, at a level of 'possible', that Sam is in his bedroom; and (b) linguistic substitution check: *It is possible that Sam is in his bedroom*. This instance is based on a present time situation and can be investigated by checking Sam's bedroom.

- (178) Along Channel coasts especially, there may be a little rain at first, with temperatures reaching only eight degrees. Inland, however, there will be more sunshine than showers, with all areas becoming warmer and drier as the day goes on. Towards the end of the day temperatures **could** be as high as 15 degrees in these regions. (NH, Intermediate, p. 125)

I assigned (178) as ‘epistemic possibility’: (a) the speaker is expressing his/her level of certainty, at a level of ‘possible’, that the temperature will be as high as 15 degrees; and (b) linguistic substitution check: *It is possible that the temperatures will be as high as 15 degrees in these regions*. This instance has a future time situation, so it is only in the future that one will be able to investigate if the temperature reached 15 degrees.

9.4.5 ‘Phrases’ with COULD

In my analysis, five instances have a ‘phrase’ (see Section 4.9) with COULD. I have included one example using *could* in (179) and one using *couldn’t* in (180).

- (179) I **could** kick myself. As soon as I’d handed it in, I remembered what the answer was. (NH, Upper-Intermediate, p. 138)

I analysed instance (179) as ‘phrase’ as “could kick myself” in this utterance conveys that the speaker “is annoyed” (Sinclair, 2006, p. 789). In this instance, “could kick myself” can be paraphrased as *was annoyed with myself*.

- (180) I know I shouldn’t have eaten a whole tub of ice-cream ... but I just **couldn’t** help it. (NH, Upper-Intermediate, p. 89)

I analysed instance (180) as ‘phrase’ as “couldn’t help it” in this utterance means the speaker is saying that he/she “cannot control it or stop it happening” (Sinclair, 2006, p. 678). We can say that *couldn’t* + “help it” is equivalent to *cannot control*. The lexical verb “help” in this type of instance requires further thought. Though its primary reading is ‘phrase’, “control” comes from internal capabilities, which provides an ‘ability’ aspect as well.

9.4.6 ‘Permission’ COULD

In my analysis, two instances have a ‘permission’ meaning (see Section 4.5). They are presented in similar contexts; therefore, only one is included below.

- (181) He had wanted to become a soldier, but **couldn't** because he had poor eyesight. (NH, Intermediate, p. 26)

A ‘permission’ reading comes from: (a) “he” is animate; (b) he was not permitted by rules/regulations of the army to become a soldier; and (c) linguistic substitution check: ...*but was not permitted because he had poor eyesight*. In this instance, by the army’s standards, he is not allowed to become a soldier.

9.4.7 ‘Volition’ COULD

In my analysis, two instances have a ‘volition’ meaning (see Section 4.10). One example is included which is an exchange between someone who has parked wrongfully and a parking enforcement officer.

- (182) [A] Look, I know I shouldn’t have parked here but I was only gone two minutes.
[B] I’ve already written the ticket.
[A] Surely you **could** cancel it if you wanted? It was literally one minute.
[B] One minute, two minutes. You can’t park here, it’s as simple as that.
[A] But I just had to dash into the chemist to collect a prescription for my sick grandmother. Supposing you cancelled it just this once?
[B] I don’t care what you were doing. I can’t cancel a ticket — it’s more than my job’s worth. You’ve got two weeks to pay. (NH, Upper-Intermediate, p. 137)

I analysed (182) as ‘volition’. A ‘volition’ reading is supported by the context “if you wanted”. The speaker is questioning if the parking enforcement officer wants to cancel the ticket.

9.4.8 ‘Ambiguous’ COULD

I analysed one instance of COULD as ‘ambiguous’ (see Section 4.11) between a ‘directive’ and ‘permission’ reading.

In (183), the reader is provided four choices, “could”, “may”, “will” and “would”. The directions are to determine “which of the verbs or phrase can fill the gap correctly” and “cross out those which cannot”.

(183) _____ I have some more dessert?

a **Could** (NH, Upper-Intermediate, p. 64)

Completing this sentence with “could” without additional context of setting or speaker relationship, it is not possible to determine one reading or the other. In a ‘directive’ reading, the speaker would be making a request for the hearer to provide the speaker with more dessert. In a ‘permission’ reading: (a) “I” is animate; (b) the speaker is asking permission from human authority to have more dessert; and (c) linguistic substitution check: *Am I permitted to have more dessert?*

9.5 *New Headway* BE ABLE TO

Table 40 shows the NH category percentages, along with raw figures, for BE ABLE TO.

Table 40: Frequency counts for BE ABLE TO from NH

<i>New Headway</i> Categories	BE ABLE TO (raw)	BE ABLE TO
external possibility	41	54%
ability	23	30%
directive/commissive	1	1%
phrase	0	0
epistemic possibility	0	0
permission	1	1%
ambiguous	3	4%
volition	0	0
indeterminate	7	9%
total	76	99%

A random sample of 100 instances from NH of BE ABLE TO was not possible as there were only 76 instances. I analysed the 76 instances using the following categories: ‘external possibility’, ‘ability’, ‘ambiguous’, ‘directive’ / ‘commissive’, and ‘permission’. No instances in the ‘phrase’, ‘epistemic possibility’ or ‘volition’ category were found. Example instances for the categories I did find are below.

9.5.1 ‘External possibility’ BE ABLE TO

In my analysis of BE ABLE TO, the most frequent meaning category is ‘external possibility’ (see Section 4.6), with 41 instances (out of 76). I have included three examples below, one which has a reading that is analysable at sentence level in (184), one that requires extended context beyond the sentence in (185) and one that uses *be unable to* in (186).

- (184) He hasn't **been able to** do much in the garden (9) _____ (because / actually) it's rained every day for the last two weeks! (NH, Intermediate, p. 118)

I analysed (184) as ‘external possibility’: (a) the impossibility of doing much in the garden is due to the rain; and (b) linguistic substitution check: *Due to it raining every day for the last two weeks, it has not been possible for him to do much in the garden.*

- (185) In 1990 the Human Genome Project was begun. Scientists wanted to make a map of the 3 billion chemical letters in human DNA. Over 1,000 scientists all over the world worked on the project, and it took 10 years. With this information, it is possible that a cure for many diseases will be found in the future. Do we want to **be able to** choose what our babies will look like, or pick the best person for a job with DNA tests? (NH, Pre-Intermediate, p. 83)

I analysed (185) as ‘external possibility’: (a) the possibility of choosing what our babies will look like is dependent upon the Human Genome Project; and (b) linguistic substitution check: *Due to the Human Genome Project, do we want it to be possible for us to choose what our babies will look like...?* In this instance, it is the external circumstances of the Human Genome Project, or in general, science, that would make it possible.

Instance (186) uses *be unable to* and is the only instance in my data for ‘external possibility’ with this form.

(186) Today Robert Capa is considered one of the finest war photographers of all time.

He was an exceptional photojournalist who used his camera to express and record the horror of the events around him. Not surprisingly Capa hated war, especially his often passive role in it. 'It's not always easy to stand aside and **be unable to** do anything except record the sufferings around one.' he said. (NH, Advanced, p. 131)

I analysed (186) as 'external possibility': (a) the impossibility doing anything except record the sufferings of the events around him is due to his role as photojournalist; and (b) linguistic substitution check: *Due to my role being restricted to a photojournalist, it is not possible for me to do anything except record the sufferings...* In this instance, Capa was to be passive and only record and take photos.

9.5.2 'Ability' BE ABLE TO

In my analysis, 23 instances (out of 76) of BE ABLE TO have an 'ability' meaning (see Section 4.4). In the examples below, I have included one which is analysable at the sentence level in (187), one which requires expanded context in (188) and one which uses *be unable to* in (189).

(187) I won't **be able to** get about forever, so when I can't stagger down my front steps, I'll perfect my Greek. (NH, Upper-Intermediate, p. 107)

I analysed (187) as 'ability': (a) "I" is animate; (b) the possibility of the getting about is determined by the subject's internal capability (at the moment of the action); (c) active voice; and (d) linguistic substitution check: *I won't be capable of getting about forever*. Contextual support for an 'ability' reading comes from the speaker's statement of "when I can't stagger down my front steps"; the speaker is saying that when he/she can't get out anymore, he/she will continue to soak up life with inside activities, such as perfecting Greek language skills. In this instance "at the moment of the action" is particularly relevant as it is implied that at the current moment, the speaker is capable of getting down his/her front steps, but he/she is looking into the future and commenting on his/her capabilities at that "moment of action".

(188) [A] What the ... where d' you think you're going?

[B] What d' you mean?

[A] Well, you're not allowed to turn right here.

[B] Who says it's not allowed?

[A] That sign does mate. 'No Entry', you ought to **be able to** read that.

[B] It's impossible to see.

[A] You'd better get your eyes tested, you had. You're not fit to be on the roads. (NH, Upper-Intermediate, p. 132)

I analysed instance (188) above as 'ability': (a) "you" is animate; (b) the possibility of reading the sign is determined by the subject's internal capability; (c) active voice; and (d) linguistic substitution check of: *...you ought to be capable of reading that*. In this example, the conversation continues and specifically states that the subject should get his/her eyes tested, which supports an 'ability' reading. However, this instance has a 'twist' in that though Speaker A questions Speaker's B reading capabilities, Speaker B puts blame on the sign ("it's impossible to see"), and thus proposes 'external possibility' as the reason.

(189) EVERY YEAR MILLIONS of people die from cigarette-related illnesses.

Despite awareness of health risks, many people **are unable to** control their addiction.

(NH, Advanced, p. 125)

I analysed instance (189) above as 'ability': (a) people is animate; (b) the impossibility of controlling their addiction is determined by the subject's internal capability (at the moment of the action); (c) active voice; and (d) linguistic substitution check: *...many people are not capable of controlling their addiction to cigarettes*. "At the moment of the action" is relevant here, as addiction is not necessarily a permanent incapability and may or may not change throughout people's lives.

9.5.3 'Ambiguous' BE ABLE TO

In my analysis, three instances (out of 76) are 'ambiguous' (see Section 4.11) in my data for BE ABLE TO. In these instances there was not enough context and/or instructional clues to indicate the authors' intended meaning. Therefore, these instances are highly ambiguous between 'ability' and 'external possibility' in (190) and 'external possibility' and 'permission' in (191).

For instance (190), the instructions are to “complete the conversations with might/might not or will/won't”.

- (190) A Well, Max thinks he _____ **be able to** fix it. If not, we _____ get the bus.
See you there at 9.00. (NH, Pre-Intermediate, p. 141)

I analysed this as ‘ambiguous’ between ‘ability’ and ‘external possibility’. In an ‘ability’ reading: (a) Max is animate; (b) the possibility of fixing it is determined by the subject’s internal capability; (c) active voice; and (d) linguistic substitution check: *Max thinks he will be capable of fixing it.* In an ‘external possibility’ reading: (a) the possibility of fixing it is dependent upon external circumstances (e.g. possession of tools); and (b) linguistic substitution check: *Due to (e.g.) having tools, it will be possible for Max to fix it.*

In instance (191), the instruction to the students is to decide “which of the verbs or phrases can fill the gap correctly”.

- (191) Will you _____ come on holiday with us?
a can b **be able to** c be allowed to d may (NH, Upper-Intermediate, p. 64)

If the gap is filled with “be able to”, the instance would be ‘ambiguous’ between ‘external possibility’ and ‘permission’. In an ‘external possibility’ reading: (a) the possibility of coming on holiday is dependent on external circumstances (e.g. time off work); (b) linguistic substitution check: *Considering external circumstances (e.g. time off work), will it be possible for you to come on holiday with us?* In a ‘permission’ reading: (a) “you” is animate; (b) “you” receives (or has) permission from rules/regulations, or most likely human authority, to come on holiday with us; and (c) linguistic substitution check: *Will you be permitted to come on holiday with us?* Because this instance is a question, it may be intentionally ‘ambiguous’, as the speaker may not know of the conditions that determine the hearer coming on holiday. And though a stretch, one could even turn this into an ‘ability’ reading if the context was that “you” has had an injury. Again, the situational possibilities are wide-ranging, which leads to an ‘ambiguous’ reading.

9.5.4 ‘Directive’ and ‘commissive’ BE ABLE TO

I analysed only one instance (out of 76) of BE ABLE TO as a ‘directive’ (see Section 4.8).

In (192), students are instructed to choose “which of the verbs or phrases can fill the gap correctly”.

- (192) _____ tell me where the station is?
a May you b Could you c **Are you able to** d Can you (NH, Upper-Intermediate, p. 64)

The book does not provide an answer key for this activity. I analysed the above as a ‘directive’ functioning as a request. In this instance, the speaker is requesting the hearer to tell him/her where the station is.

9.5.5 ‘Permission’ BE ABLE TO

In my analysis, only one instance (out of 76) of BE ABLE TO has a ‘permission’ meaning (see Section 4.5).

- (193) A I don’t know if I’ll **be able to** come this evening.
B But you have to. You promised to.
A Yeah, but I’m not supposed to go out on weekday evenings. My parents won’t let me. (NH, Upper-Intermediate, p. 63)

I analysed the above as permission: (a) “I” is animate; (b) “I” will not receive (or doesn’t have) permission from his/her parents to “come this evening”; and (c) linguistic substitution check: *I don’t know if I will be permitted to come this evening*.

9.6 Summary of chapter

This chapter examined CAN, COULD and BE ABLE TO in the *New Headway* coursebook series. CAN was used most frequently, followed by COULD and BE ABLE TO, with large gaps between each. All of the meaning categories identified in this study were represented in the coursebooks with the meaning category of ‘external possibility’ used most frequently, followed by ‘ability’. However, as discussed in Section 9.2, it does not follow that the findings are reliable for these two meaning categories, as the example instances from the coursebook were often either skewed in their readings due to coursebook intention, or misrepresented. Furthermore, there was a much higher frequency of ‘indeterminate’ instances in the data for NH compared to the BNC and classroom data due to the coursebooks having

more instances which are not used in a meaningful context. The next chapter includes a comparison of the coursebook data to the findings in the BNC and the following chapter makes pedagogical recommendations.

Chapter 10: Findings

This chapter combines my findings for CAN, COULD and BE ABLE TO in the BNC, classroom and *New Headway* coursebook series. As this study views the BNC as reflecting native or native-like speakers' use of the English language, comparisons are made between the classroom and *New Headway* to the BNC. I first discuss the major findings within the BNC, and then move into the classroom, examining the overall frequencies and category percentages and how they compare to the BNC. The same is done for *New Headway*.

10.1.1 Meaning categories

In Chapters 5 – 7 on CAN, COULD and BE ABLE TO in the BNC, in making comparisons, I focused mainly on overall frequency data and category percentages, and how these compared to previous linguists' findings. I now look at the categories that have previously not been identified in connection to CAN, COULD and BE ABLE TO by linguists and comment on why it is relevant that I have identified and included them in the present study. I then examine findings from the overall frequencies and category frequencies for each and expand my observations to key findings within this study that contribute to pedagogy.

The categories found in this study – 'external possibility', 'ability', 'directive'/'commissive', 'permission', 'epistemic possibility', 'phrase', and 'volition' – relate to my first research question: What are the categories of meaning associated with the central modal auxiliaries CAN and COULD and quasi-modal BE ABLE TO? One of the most noticeable differences between my study and previous studies on CAN, COULD and BE ABLE TO is the difference in number of categories; this study distinguishes more categories. One explanation for this is that perhaps in previous studies the categories were not present in the data sets, yet, more plausibly, it may be that the categories were present but the considerations for the analysis of modal instances were different. We saw an example of this when examining the 'phrase' category in Section 5.3.4. Coates included "*can't face*" and "*can't stand*" in her 'ability' meaning category, when I would have included these in my 'phrase' category.

Because the focus of my study is pedagogically related, I endeavoured to create categories that would be "learner-friendly" and as straightforward as possible, while still maintaining linguistic integrity (e.g. using the term 'epistemic possibility'). I found some of my main meaning categories, though not necessarily having the same terminology, were the same as

those found in previous literature ('external possibility', 'ability', 'permission', 'epistemic possibility'), while other categories were not ('directive' / 'commissive', 'phrase', 'volition'). The three main categories that were not previously identified in relation to the modal auxiliaries in this study are discussed in further detail in the following subsections.

10.1.1.1 'Directive' and 'commissive'

Coates (1983), Collins (2009), Facchinetti (2002) and Palmer (1990) recognise 'directives' in their studies (see Section 4.8). Coates titles these "covert imperative[s]", Collins and Palmer title these 'dynamic implication' and Facchinetti identifies these using their functions (e.g. suggestion, request). In all four studies, these meanings are subsumed into larger categories of meaning and not given due attention. Coates includes "covert imperatives" in 'root possibility' and Collins, Palmer and Facchinetti include these instances in their 'dynamic' category.

My BNC data provides a frequency case for having a 'directives' / 'commissives' category of meaning. In my weighted data, 11.2% of instances of spoken CAN and 2.8% of written CAN were used as a 'directive' or 'commissive', while 18% of instances of spoken COULD were used in that way. There were no such instances of written COULD and spoken or written BE ABLE TO. While the latter of these percentages are zero, the former are not negligible, especially in the spoken contexts.

Furthermore, there is a functional case for having this category. 'Directives' and 'commissives' stand out because they call for a special response from the hearer/reader. In regard to directives in interrogative form, Palmer (1990) states, "It would be perverse for the addressee to take them as simply questions about his ability or willingness to act and to reply 'Yes' but take no action" (p. 191). In response to such a directive, the norm would be for the hearer to respond with a "yes" or "no". A "yes" would be followed by action, and a "no" would be followed by a reason why the hearer cannot perform *x*. Conversely it would appear odd and/or rude to have someone say, for example, "I can help you" (a commissive) and then walk away, leaving the purpose of the utterance to only state that he/she has the 'ability', 'possibility', or even 'permission' to help. Though these 'directive' / 'commissive' meanings fit into an overall 'external possibility' meaning, as demonstrated with the linguistic substitution check of 'external possibility' (see Section 4.14), they stand on their own in that

the expected response is an action, or explanation when there is a lack of action, and should be recognised as such, and called attention to for learners of English.

10.1.1.2 ‘Phrase’

When all three modal auxiliaries are combined, the category ‘phrase’ is used more frequently than the ‘directive’ / ‘commissive’ category. This is surprising because ‘phrase’ is not recognised as a category in the literature and ‘directive’ is acknowledged, though not as a main category. In my weighted data, I reported 8.5% of instances of spoken CAN and 2.0% of written CAN used as a ‘phrase’, with COULD reported at 3% for spoken and 6% for written and weighted BE ABLE TO zero for spoken and at 0.8% for written contexts. In my review of the literature, I did not find any other linguist who used ‘phrase’ as a separate category in relation to the modal auxiliaries in this study, or any modal auxiliaries. However, these especially stand out as they have their own meanings which is created by the modal auxiliary + verb (see Section 4.9).

For learners, it is beneficial to be able to recognise the difference between a modal meaning and when a ‘phrase’ is present and the meaning becomes more than the sum of two parts.

10.1.1.3 ‘Volition’

For my overall ‘volition’ meaning frequency percentages, in my weighted data for CAN, I reported 0.5% for spoken CAN and 1.2% for written CAN, 2% for spoken COULD and 1% for written COULD and for my weighted BE ABLE TO data, zero for spoken BE ABLE TO and 1.7% for written BE ABLE TO. Though percentages are low, I found it difficult to try to incorporate these meanings in with other categories, as “want to” / “don’t want to” is a very different meaning to possibility, and one that I felt should be acknowledged as such. For learners, distinguishing the difference between a modal meaning and ‘volition’ can help them to recognise when someone really can’t do *x* and when someone does not want to do *x*. Knowing how to use ‘volition’ in this manner may also help learners become aware of social politeness in how to turn an offer down, as opposed to the direct (and most likely perceived as rude) truth of *I don’t want to*.

10.1.2 Overall frequencies

To answer part ‘a’ in my second research question, “What are the overall frequencies of occurrence of my selected modal auxiliaries...” in a general English corpus, I summarise below the key findings from the overall frequencies of the BNC for each modal auxiliary.

CAN in both forms, *can* and *can’t*, is used more frequently in speech than in writing. For *can*, the frequency in speech is nearly double that in writing, and for *can’t*, the frequency in speech is over six times that in writing.

COULD in both forms, *could* and *couldn’t*, is used more frequently in speech than in writing. For *could*, the frequency in speech is not much higher than in writing, but for *couldn’t*, the frequency in speech is over three times more than in writing.

BE ABLE TO shows very little difference between speech and writing. *BE able to* is used only very slightly more frequently in speech than in writing. For *BE unable to*, the difference is in the opposite direction; it is used slightly more in writing than in speech.

Having considered the overall frequencies found in the BNC for CAN, COULD and BE ABLE TO, I now discuss the meaning frequencies associated with each.

10.1.3 Meaning frequencies

In relation to my third research question, “What are the meaning frequencies of my selected modal auxiliaries...” in a general English corpus, I discuss below the key findings for each of the three modal auxiliaries and then compare them.

10.1.3.1 CAN

‘External possibility’ is the most frequent meaning used for spoken and written contexts. While the ‘ability’ meaning category was the second most frequent in written contexts, which aligns with most other corpus-based findings, the ‘directive’ / ‘commissive’ category was the second most frequent in spoken contexts. ‘Permission’ was found to be the third most frequent meaning used with CAN in written contexts, but fifth in spoken. Furthermore,

additional categories than previously identified were applied to account for the uses of CAN ('directive' / 'commissive', 'phrase', and 'volition').

It is not only the spoken and written contexts that affect meaning frequencies, forms do as well. For example, for the meaning category 'ability' the form *can* in spoken data is used at a much lower frequency than the other forms - *can* (written), *can't* (spoken and written). Yet it is used much more frequently for 'directives' / 'commissives', compared to the others.

Another example is that 'phrases' are more likely to be used with *can't* than *can* (see Section 5.3.3). Furthermore, only one instance of CAN with 'epistemic possibility' meaning uses *can*, which indicates a certainty level of 'possible', and four instances use *can't*, which indicates a certainty level of 'certain'.

10.1.3.2 COULD

For spoken and written COULD, 'external possibility' is the most frequent meaning category used, followed by 'epistemic possibility'. For spoken COULD, 'directive' / 'commissive' is the third most frequent, and for written COULD, 'ability' is the third most frequent.

'Epistemic possibility' as the second most frequently used meaning is a noticeable difference from CAN, where 'epistemic possibility' was the least frequently used. 'Directive' / 'commissive' shows a large difference between speaking and writing. There are 18% of instances of spoken COULD in this category but no written instances; COULD is used this way in spoken texts to "soften" requests (Celce-Murcia & Larsen-Freeman, 1999, p. 145).

10.1.3.3 BE ABLE TO

'External possibility' is the most frequent meaning for spoken and written BE ABLE TO, followed by 'ability' and 'permission'. As mentioned previously in Section 7.2, though some linguists (e.g. Facchinetti, 2000; Hermerén, 1978) connect *be able to/able* to 'ability', this study shows that not only is BE ABLE TO not limited to 'ability', it is used for 'ability' much less than for 'external possibility' with the highest percentage of 'external possibility' instances (80%) coming from the form *BE able to* in spoken data and the lowest percentage of 'ability' instances (12%) from the same form and spoken context. Though percentages for 'volition' and 'phrases' with BE ABLE TO are quite low, weighted at 1.7% for written BE

ABLE TO (zero instances for spoken) in the ‘volition’ category, and 0.8% for written BE ABLE TO (zero instances for spoken) in the ‘phrase’ category, the categories were present. ‘Epistemic possibility’ and ‘directive’ / ‘commissive’ were the only meanings not found. For ‘epistemic possibility’, I attribute this to the nature of the quasi-modal being able to be used with modal auxiliaries, which means the preceding modal auxiliary can take the role of ‘epistemic’ modality, where appropriate. This in turn means that BE ABLE TO does not need to fulfil this role. For the ‘directive’ / ‘commissive’ category, though I feel certain it is possible to ask someone, “Are you able to help me with this?”, from the data it is clear that this is not common and my invented instance may only be an example of false native intuition.

Next I discuss the findings from the classroom I observed and how the use of these modals in that context compares to the BNC.

10.2 Findings in the classroom

Chapter 8 offered an insight into my classroom investigation while also looking at the frequencies of occurrences and category frequencies of the students compared to the instructor. This section compares findings in the classroom to findings in the BNC. I first examine the overall frequencies compared to the BNC and then consider the category percentages found in the classroom compared to the BNC.

10.2.1 Overall frequencies compared to BNC

In relation to part ‘b’ in my second research question, “What are the overall frequencies of occurrence of my selected modal auxiliaries...” in a data set of spoken and written English used by students and their instructor in an English language classroom, I include below the key findings from comparing the overall frequencies of the classroom to the BNC. Table 41 - Table 43 below show overall classroom frequency data for CAN, COULD and BE ABLE TO, respectively, as they compare to the BNC.

10.2.1.1 CAN

Table 41 compares overall frequencies for CAN in the BNC and in the classroom data sets.

Table 41: Comparison of overall frequencies for CAN in the BNC and classroom data sets

BNC	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
CAN	49,828	50	205,813	24

Classroom Data	Students			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
CAN	220	116	52	26
compared to BNC	LL=118.75, p<0.0001		LL=0.41, N.S.	

Classroom Data	Instructor			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
CAN	114	65	29	24
compared to BNC	LL= 7.57, p<0.01		LL=0.03, N.S.	

BNC Spoken - 9,963,663 BNC Written - 86,299,736 Classroom Students Spoken – 19,029 Classroom Students Written – 19,954 Classroom Instructor Spoken -17,412 Classroom Instructor Written -11,870				
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In Table 41, the frequencies per 10,000 words are reported as rounded to the nearest whole number. The log-likelihood values are relative to the size of the BNC and classroom data sets and help to compare the students' and instructor's use of CAN to the BNC, in the relevant contexts. For example, the student's spoken raw frequency (220) is compared to the BNC's spoken raw frequency (49,828) resulting in a log-likelihood of 118.75.

Comparing the students' and instructor's use of written CAN to the BNC, I found no significant difference. However, in comparing the instructor's use of spoken CAN to the BNC, I found a difference that was significant at the $p<0.01$ level, which is exceeded by the difference between the students' use of spoken CAN compared to the BNC, for which I reported a log-likelihood of 118.75, and a p-value of $p<0.0001$. One reason for the higher

frequency use of spoken CAN from the students may be that the students use only CAN (and not COULD) in ‘directives’ and ‘commissives’. This issue is discussed further in Section 11.3.1 below.

10.2.1.2 COULD

Table 42 is a comparison of overall frequencies for COULD in the BNC and in the classroom data sets.

Table 42: Comparison of overall frequencies for COULD in the BNC and classroom data sets

BNC	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
COULD	20,116	20	138,163	16

Classroom Data	Students			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
COULD	4	2	31	16
compared to BNC	LL=50.68, $p<0.0001$		LL=0.01, N.S.	

Classroom Data	Instructor			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
COULD	51	29	6	5
compared to BNC	LL=6.25, $p<0.05$		LL=12.16, $p<0.001$	

See Table 41 for overall frequency counts.

Comparing the students’ written use of COULD to the BNC figures, the small difference is not significant. However, the difference between the instructor’s use of written COULD and the BNC is significant at $p<0.001$ level. The lower frequency of COULD in the instructor’s written data compared to the BNC may be due to the instructor in her written work needing to be clear and explicit for instructional purposes, which written “could” does not usually convey.

In speaking, for the instructor, spoken COULD is not only higher than in the written data, but also higher than the BNC’s spoken data, a significance of $p<0.05$. As discussed previously

(see Section 8.4), in the instructor's spoken data, I found that just over 20% of my instances included "could say" (e.g. *you know, I could say something like, as a result of learning a new language, I've spend a lot of money* (CDS-I-38)), and 25% included "could use" (e.g. *you might have a different start as well, but we could use this [sentence] as a general start* (CDS-I-150)). This use of COULD is contextually classroom-based as the instructor is offering possibilities for students to communicate and achieve competency in English.

In Table 42, the most significant difference comes from the comparison of the frequency of spoken COULD in the BNC and by the students. The students' use of spoken COULD is much less than the BNC, at a significance of $p < 0.0001$. The reason for such a low frequency from the students may be that they rely on CAN for spoken 'directives' / 'commissives' and not COULD. Again, the pedagogical implication of this is discussed in Section 11.3.1 below.

10.2.1.3 BE ABLE TO

Table 43 is a comparison of overall frequencies for BE ABLE TO in the BNC and in the classroom data sets.

Table 43: Comparison of overall frequencies for BE ABLE TO in the BNC and classroom data sets

BNC	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
BE ABLE TO	2,974	3	26,930	3

Classroom Data	Students			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
BE able to	6	3	4	2
compared to BNC	LL=0.02, N.S.		LL=0.92, N.S.	

Classroom Data	Instructor			
	Spoken (raw frequency)	Spoken (frequency per 10,000)	Written (raw frequency)	Written (frequency per 10,000)
BE able to	4	2	2	2
compared to BNC	LL=0.30, N.S.		LL=0.94, N.S.	

See Table 41 for overall frequency counts.

Comparing the spoken and written data from both the students and instructor to the BNC, no significant differences were found. This shows that the low use of BE ABLE TO by native and native-like speakers occurs in the classroom environment as well. One could make a case that because of this low frequency by native and native-like speakers, BE ABLE TO should be used more in the classroom to make up for the students lack of natural exposure to this quasi-modal. On the other hand, one could argue that instances of BE ABLE TO are so infrequent that it does not need to be included in the classroom and instead students should be encouraged to make these meanings with alternative, and more frequently used, forms.

As discussed previously in Section 3.3.1, the BNC was used as the general English corpus in this study due to its likeness to New Zealand English (for classroom comparison) and British English (for coursebook comparison). However, because the classroom study took place in a New Zealand context, I also compared the overall frequencies for CAN, COULD and BE ABLE TO found in the classroom to the ICE-NZ, which is the *New Zealand Component of the International Corpus of English (School of Linguistics and Applied Language Studies, Victoria University of Wellington, New Zealand, 1998)* and found no notable differences.

I now move to the meaning frequencies found in the classroom compared to the BNC.

10.2.2 Classroom meaning frequencies compared to BNC

In relation to my third research question, “What are the meaning frequencies of my selected modal auxiliaries...” in a data set of spoken and written English used by students and their instructor in an English language classroom, I have included Table 44 - Table 49 to show the comparison of the students’ data to the BNC, as well as the instructor’s data compared to the BNC. The tables below show the category percentages for each modal auxiliary in speaking and writing from the classroom compared to the BNC. I discuss the pedagogical implications of this in Section 11.3 below.

Because some of the total counts in my meaning data set for the classroom were so low (e.g. 4 total for written *BE able to* in the student data), I have not included the following sets of data when comparing the modal auxiliaries from the classroom to the BNC: spoken instances of COULD from the students, written instances of COULD from the instructor and spoken and written instances of BE ABLE TO from the students and the instructor.

To gain a better understanding of whether there are any significant differences when comparing individual categories from the students' data to the BNC, I used a chi-square test in SPSS which was supplemented by Fisher's exact test (see Section 3.4.3). To account for running multiple tests (more than one meaning category found), I applied a Bonferroni correction which reduces the significance level on the individual tests so that for all tests the error rate is controlled (see Section 3.4.3).

I discuss the differences and similarities in percentages below and Section 11.3 provides pedagogical recommendations based on these differences.

10.2.2.1 Student CAN (spoken)

Table 44 below is a comparison of the students' use of spoken CAN to the BNC.

Table 44: Fisher's exact test results for spoken CAN – comparison of students and BNC

Category		Source		Fisher's exact (FE) p-value compared against p<0.0056 (Bonferroni correction applied)
		BNC ^w	Students ^s	
External Possibility	Count	123	77	FE=0.009, N.S.
	% within Source	61.4%	77.0%	
Ability		14	8	FE=0.815, N.S.
		7.1%	8.0%	
Permission		10	0	FE=0.034, N.S.
		4.8%	0.0%	
Epistemic Possibility		1	1	FE=1.000, N.S.
		0.7%	1.0%	
Directive/Commissive		22	10	FE=0.846, N.S.
		11.2%	10.0%	
Phrase		17	0	FE=0.001, p<0.0056
		8.5%	0.0%	
Volition		1	0	FE=1.000, N.S.
		0.5%	0.0%	
Ambiguous		2	0	FE=1.000, N.S.
		1.0%	0.0%	
Indeterminate		10	4	FE=0.781, N.S.
		4.8%	4.0%	
Total		200	100	
		100.0%	100.0%	

Fisher's exact test concludes that for all of the categories above comparing to the students' spoken use of CAN to the BNC, the only significant difference found was in the category 'phrase'. Because there is little difference in significance for the other categories, this means that for spoken CAN, the four most frequent meaning categories used in the BNC ('external possibility', 'ability', 'directive' / 'commissive' and 'permission') are also used by students in the classroom. The zero instances of 'phrase' not only apply to the students' data, but the instructor's as well and is discussed in Section 11.3.2.1.

10.2.2.2 Student CAN (written)

Table 45 shows a comparison of the students' use of written CAN in the classroom compared to the BNC.

Table 45: Fisher's exact test results for written CAN – comparison of students and BNC

Category	Source		Fisher's exact (FE) p-value compared against $p < 0.0056$ (Bonferroni correction applied)
	BNC ^w	Students	
External Possibility	Count 148	47	FE=0.000, $p < 0.0056$
% within Source	73.8%	90.4%	
Ability	26 13.0%	2 3.9%	FE=0.081, N.S.
Permission	10 4.8%	1 1.9%	FE=0.469, N.S.
Epistemic Possibility	1 0.3%	1 1.9%	FE=0.374, N.S.
Directive/Commissive	6 2.8%	0 0.0%	FE=0.351, N.S.
Phrase	4 2.0%	0 0.0%	FE=0.584, N.S.
Volition	2 1.2%	0 0.0%	FE=1.000, N.S.
Ambiguous	2 1.1%	1 1.9%	FE=0.500, N.S.
Indeterminate	2 1.0%	0 0.0%	FE=1.000, N.S.
Total	201 100.0%	52 100.0%	

In my data, the category counts are rounded to the nearest whole number to fit the requirements of SPSS. Therefore, even though, for example in Table 45, the whole number counts for the BNC add to a total of 201, the actual weighted counts, in decimal form, total 200. This applies to all the category frequency counts in the tables below that are one count above or below 200.

Table 45 above shows that ‘external possibility’ is the only meaning category where there is a significant difference at the value of $p < 0.0056$ between BNC and student writing according to Fisher’s exact test. Students use CAN to express ‘external possibility’ more frequently than we might expect based on the BNC data.

Three categories were not used in students’ written CAN but were found in the BNC: ‘directive’ / ‘commissive’, ‘phrase’ and ‘volition’. Though the counts for these categories are very low, given that the written student work analysed was academic, it seems plausible that the aforementioned categories would not be required for the writing assignments of argument and graph essays.

10.2.2.3 Student COULD (written)

Table 46 is a comparison of the students’ use of written COULD compared to the BNC.

Table 46: Fisher’s exact test results for written COULD – comparison of students and BNC

Category	Source		Fisher’s exact (FE) p-value compared against $p < 0.007$ (Bonferroni correction applied)
	BNC ^s	Students	
External Possibility	Count 57	15	FE=0.417, N.S.
	% within Source 57.0%	48.4%	
Ability	13 13.0%	0 0.0%	FE=0.038, $p < 0.007$
Permission	4 4.0%	0 0.0%	FE=0.572, N.S.
Epistemic Possibility	13 13.0%	12 38.7%	FE=0.003, $p < 0.007$
Phrase	6 6.0%	0 0.0%	FE=0.335, N.S.
Volition	1 1.0%	0 0.0%	FE=1.000, N.S.
Ambiguous	6 6.0%	4 12.9%	FE=0.246, N.S.
Total	100 100.0%	31 100.0%	

The categories ‘directive’ / ‘commissive’ and ‘indeterminate’ are not included in Table 46 because both the BNC and student data had counts of zero and according to SPSS, “Such cases are invisible to statistical procedures and graphs which need positively weighted cases...” The significant differences in Table 46 between students’ written COULD in the classroom and the BNC include the zero meaning percentage for ‘ability’ in the classroom compared to the BNC and a higher meaning percentage for ‘epistemic possibility’. Furthermore, there is an absence of the meaning categories ‘permission’ and ‘directive’ / ‘commissive’, along with the previously accounted for ‘ability’, ‘phrase’ and ‘volition’.

The largest difference is in the meaning category ‘epistemic possibility’. This is used nearly three times more by students than in the BNC. Furthermore, though not found to be significant, a similar trend is evident in the percentage of students’ written ‘ambiguous’ instances which is twice that of the BNC. I think both of these high category percentages are due to the students hedging their academic writing frequently (e.g. *There are two possible reasons which could cause this change. The first could be the shift of their identities.*) The ‘ambiguous’ meaning category connects to this high frequency as all the ‘ambiguous’ instances from the students include an ambiguity of ‘epistemic possibility’. I comment on the aforementioned example instance and include pedagogical recommendations in Section 11.3.3.

With regard to the significant difference found for ‘ability’ used in the BNC at 13% and not used in students’ writing at all, this may be because within the argument and essay writing, the meaning of ‘ability’ may not have needed to be drawn on greatly.

10.2.2.4 Instructor CAN (spoken)

Table 47 below illustrates a comparison of the instructor’s use of spoken CAN compared to the BNC.

Table 47: Fisher's exact test results for spoken CAN – comparison of instructor and BNC

Category		Source		Fisher's exact (FE) p-value compared against $p < 0.0056$ (Bonferroni correction applied)
		BNC ^w	Instructor ^s	
External Possibility	Count	123	78	
	% within Source	61.4%	78.0%	FE=0.006, N.S.
Ability		14	6	
		7.1%	6.0%	FE=0.811, N.S.
Permission		10	8	
		4.8%	8.0%	FE=0.313, N.S.
Epistemic Possibility		1	1	
		0.7%	1.0%	FE=1.000, N.S.
Directive/Commissive		22	7	
		11.2%	7.0%	FE=0.306, N.S.
Phrase		17	0	
		8.5%	0.0%	FE=0.001, $p < 0.0056$
Volition		1	0	
		0.5%	0.0%	FE=1.000, N.S.
Ambiguous		2	0	
		1.0%	0.0%	FE=1.000, N.S.
Indeterminate		10	0	
		4.8%	0.0%	FE=0.034, N.S.
Total		200	100	
		100.0%	100.0%	

In Table 47, Fisher's exact test calculated only 'phrase' to have a significant difference, which again is discussed in Section 11.3.2.1. The difference in use of 'directives' / 'commissives' between instructor and BNC, although not statistically significant, was in the opposite direction from what I expected. The instructor's use of the 'directive' / 'commissive' category was lower than found in the BNC. I expected, given the classroom setting and the instructor leading the class, that the instructor would have had a higher percentage of 'directives' / 'commissives', but recognise that this percentage would most likely fluctuate when examining different classrooms, and teaching styles. Though again not statistically significant, in the 'permission' category the instructor's meaning percentage is higher than

that in the BNC. This is not surprising as the instructor is the human authority in the classroom environment.

10.2.2.5 Instructor CAN (written)

Table 48 shows a comparison on written CAN used by the instructor compared to the BNC.

Table 48: Fisher's exact test results for written CAN – comparison of instructor and BNC

Category		Source		Fisher's exact (FE) p-value compared against $p < 0.0056$ (Bonferroni correction applied)
		BNC ^w	Instructor	
External Possibility	Count	148	11	FE=0.000, $p < 0.0056$
	% within Source	73.8%	37.9%	
Ability		26	0	FE=0.000, $p < 0.0053$
		13.0%	0.0%	
Permission		10	10	FE=0.000, $p < 0.0056$
		4.8%	34.5%	
Epistemic Possibility		1	0	FE=1.000, N.S.
		0.3%	0.0%	
Directive/Commissive		6	5	FE=0.005, $p < 0.0056$
		2.8%	17.2%	
Phrase		4	0	FE=1.000, N.S.
		2.0%	0.0%	
Volition		2	0	FE=1.000, N.S.
		1.2%	0.0%	
Ambiguous		2	3	FE=0.015, $p < 0.0056$
		1.1%	10.3%	
Indeterminate		2	0	FE=1.000, N.S.
		1.0%	0.0%	
Total		201	29	
		100.0%	100.0%	

Of the categories in Table 48, using Fisher's exact test results, 'external possibility', 'ability', 'permission', 'directive' / 'commissive' and 'ambiguous' are all significant at $p < 0.0056$.

Starting with 'external possibility', which is used significantly less in writing by the instructor, this is reasonable as we can see from the data that the instructor's role in writing

instructions is not to provide possibilities, but uses meaning connected to permission (e.g. *You can change the word family if you want to* (CDW-I-13)). This applies to ‘directives’ / ‘commissives’ as well (e.g. *Can you name some legal drugs?* (CDW-I-23)). These types of instances may contribute to the high frequency meanings of ‘permission’ and ‘directive’ / ‘commissive’ given that the instructor in her writing is also in a position of directing the students. This includes, for example, conveying what is/is not permitted on tests, directing what information the instructor is seeking and conveying this in a manner that is not vague. The instructor needs to be clear in writing so the students have the opportunity to meet her expectations appropriately. Following this, the meaning category ‘ability’ may not have any instances as the instructor is not commenting on or questioning the students’ abilities, but is instead directing them to produce and do. However, out of a total of three ‘ambiguous’ instances, two are ambiguous between ‘ability’ and ‘external possibility’, with one instance used in preparation for the guest lecturer and the other used as a discussion prompt, which shows that ‘ability’ CAN is not completely absent from the instructor’s written texts.

10.2.2.6 Instructor COULD (spoken)

Table 49 below is a comparison of the instructor’s use of spoken COULD to the BNC.

Table 49: Fisher's exact test results for spoken COULD – comparison of instructor and BNC

Category	Source		Fisher's exact (FE) p-value compared against p<0.006 (Bonferroni correction applied)
	BNC ^s	Instructor	
External Possibility	Count 42	44	FE=0.000, p<0.006
	% within Source 42.0%	88.0%	
Ability	8 8.0%	0 0.0%	FE=0.052, N.S.
Epistemic Possibility	20 20.0%	0 0.0%	FE=0.000, p<0.006
Directive/Commissive	18 18.0%	3 6.0%	FE=0.079, N.S.
Phrase	3 3.0%	0 0.0%	FE=0.551, N.S.
Volition	2 2.0%	0 0.0%	FE=0.553, N.S.
Ambiguous	2 2.0%	2 4.0%	FE=0.601, N.S.
Indeterminate	5 5.0%	1 2.0%	FE=0.664, N.S.
Total	100 100.0%	50 100.0%	

The meaning category 'permission' is not included in Table 49 since there was a zero count for the BNC and instructor data. According to Fisher's exact test, the only categories which are significantly different are 'external possibility' and 'epistemic possibility'. The instructor used the meaning category of 'external possibility' for COULD in speech nearly twice as much compared to the BNC. As previously discussed in Section 10.2.1.2, the 'external possibility' meaning percentage is most likely higher due to the instructor offering various ways of how it is possible to use the English language (e.g. *could* say) and instructing the class in general (e.g. *could use general statistics*). And also found to be significant, the instructor's non-use of 'epistemic possibility' COULD may be attributed to the instructor not needing to hedge what is said, which was discussed in Section 8.4 is discussed further in the pedagogical Section 11.3.3 below.

10.3 Summary of classroom findings

A noticeable difference when comparing my classroom data to the BNC is the “missing” categories of ‘phrase’ and ‘volition’, which applies to all three modal auxiliaries for both the instructor and students. Though I recognise that these categories are used less frequently than others in the BNC, I was surprised to find that two whole categories were not found in any of the data I collected or transcribed from my observation sessions.

The most significant difference in overall frequency counts for CAN between the students and BNC was the students’ high use of spoken CAN. I posited that the reason for the students’ high use of spoken CAN may be because of their preference to use CAN over COULD in ‘directives’ and ‘commissives’.

In the frequencies for COULD, the instructor used written COULD at a lower frequency than the students, which may be appropriate with their roles in the classroom. The instructor’s low use may be because she needs to be explicit when writing to the students, as opposed to hedging most statements. This would certainly be true of texts such as tests and assignment instructions. And while the instructor used this at a low frequency in writing, the students used ‘epistemic possibility’ COULD at a significantly higher rate, three times as much as found in the BNC. Additionally, the instructor used spoken COULD almost double compared to the BNC. I suggested that this may be due to the instructor providing various ways for the students to use the English language and for general explanations in the classroom.

The data for BE ABLE TO showed very low usage of spoken and written BE ABLE TO with no significant findings. This raises the question for instructors of whether to include BE ABLE TO in instruction since it has such low frequency use by native and native-like speakers, or to emphasise it in the class because there will be rare opportunity for students to encounter this in English exchanges outside of the classroom.

While the sections above examined the classroom data in comparison to the BNC, below I examine the NH data in comparison to the BNC.

10.4 Findings in *New Headway*

In Chapter 9, on *New Headway*, I looked at the overall frequencies and category percentages and made general observations overall for within the series. Below, I examine the overall frequencies and category percentages as they compare to the BNC.

10.4.1 Overall frequencies

In relation to part ‘c’ in my second research question, “What are the overall frequencies of occurrence of my selected modal auxiliaries...” in an English as a second language coursebook series, I include below the key findings from comparing the overall frequencies from NH to the BNC. Because NH is not divided into separate spoken and written texts, for comparison purposes, I combined the BNC spoken and written components, which is reflected in Table 50. Table 50 compares the frequencies of CAN, COULD and BE ABLE TO in NH and BNC data sets.

Table 50: Comparison of overall frequencies for CAN, COULD and BE ABLE TO in NH and BNC

	<i>New Headway</i>		BNC		Log-Likelihood (LL)
	Spoken & Written (raw frequency)	Spoken & Written (frequency per 10,000)	Spoken & Written (raw frequency)	Spoken & Written (frequency per 10,000)	
CAN	2,188	50	255,641	27	LL=693.83, p<0.0001
COULD	717	16	158,279	16	LL=0.14, N.S.
BE ABLE TO	76	2	29,904	3	LL=32.52, p<0.0001
NH (spoken and written) - 441,760					
BNC (spoken and written) - 96,263,399					

Starting with COULD, there is no significance between the frequency of COULD in NH and the BNC. For BE ABLE TO, I report a significant difference in NH compared to the BNC, in which BE ABLE TO is used more frequently in the BNC, with the p-value being p<0.0001.

For CAN the frequency difference is much greater and in the opposite direction, with it being used in NH nearly double. The pedagogical implications of the significant frequency differences are discussed in Section 11.4.1.

10.4.2 *New Headway* meaning frequencies compared to the BNC

In relation to my third research question, “What are the meaning frequencies of my selected modal auxiliaries...” in an English as a second language coursebook series, I have compared the meaning percentage findings for CAN, COULD and BE ABLE TO in the NH series to those found in the BNC.

Because instances in NH are not differentiated between spoken and written, in order to compare the NH data to the BNC, I combined spoken and written instances of each modal, weighting them accordingly. For each modal auxiliary below, I have included a table with the percentage of forms within the modal and a breakdown of their weighted samples which were calculated based on the raw sample data and frequencies of the items within the BNC.

10.4.2.1 Weighted CAN (BNC)

The first step in combining spoken CAN and written CAN in the BNC was to identify the percentage each instance of *can* and *can't* was used within CAN (spoken and written). I did this by dividing the frequency of instances for each form and register of CAN by the total number of instances of CAN in the BNC, which is 255,641.

Table 51: Percentage of forms within CAN (BNC)

Form of CAN	Frequency	Percentage within CAN (rounded to two decimal places)
<i>can</i> (spoken)	37,105	14.51%
<i>can't</i> (spoken)	12,723	4.98%
<i>can</i> (written)	188,779	73.85%
<i>can't</i> (written)	17,034	6.66%

Next, I applied these percentages to each form of CAN within each meaning category. The figures below for each meaning category per form of CAN are taken from Table 8, in which these were counts and percentages, taken from a sample of 400 instances of CAN from the BNC.

Table 52: BNC weighted sample data based on CAN

Categories \ BNC	BNC ^s				BNC ^w CAN	
	<i>can</i> (spoken)	<i>can</i> (written)	<i>can't</i> (spoken)	<i>can't</i> (written)	Percentage	Count
external possibility	66	75	48	61	71.4 %	286
ability	3	13	19	13	11.8 %	47
permission	4	5	7	2	4.8 %	19
directive/commissive	15	3	0	1	4.5 %	18
phrase	7	1	13	13	3.3 %	13
indeterminate	4	1	7	1	1.7 %	7
volition	0	1	2	3	1.0 %	4
ambiguous	0	1	4	2	1.1 %	4
epistemic possibility	1	0	0	4	0.4 %	2
total	100	100	100	100	100%	400

Using ‘external possibility’ as an example, the percentage 71.4% was calculated by multiplying the number of instances in the 100 sample for spoken *can* (66) by the proportion of times spoken *can* occurs in the BNC (0.1451). The result is: 9.58. This step was repeated for all the forms of CAN, with the relevant percentages. Next, each of the totals (*can* spoken (9.58), *can* written (55.38), *can't* spoken (2.39), *can't* written (4.06)) were totalled, which resulted in 71.4%. This process was repeated for each category.

Because we have an original sample of 400 instances, if we were to take a sample of the same size directly from the BNC, we would expect 71.4% of these instances (285.6 out of 400) of CAN to be used with an ‘external possibility’ meaning. Counts are rounded to the nearest whole number in order to be able to put these figures into SPSS to test their significance as SPSS will only use whole numbers when weighting data.

In the next section, I have used these counts within SPSS to determine if my findings are significant using Fisher’s exact test with the Bonferroni correction applied.

10.4.2.2 CAN

Table 53 compares CAN in NH and in the BNC.

Table 53: Fisher's exact test results for CAN – comparison of NH and BNC

Category	Source		Fisher's exact (FE) p-value compared against $p < 0.0056$ (Bonferroni correction applied)
	BNC ^w	NH ^s	
External Possibility Count % within Source	286 71.4%	44 44.0%	FE=0.000, $p < 0.0056$
Ability	47 11.8%	21 21.0%	FE=0.022, N.S.
Permission	19 4.8%	4 4.0%	FE=1.000, N.S.
Epistemic Possibility	2 0.4%	2 2.0%	FE=0.180, N.S.
Directive/Commissive	18 4.5%	10 10.0%	FE=0.048, N.S.
Phrase	13 3.3%	9 9.0%	FE=0.024, N.S.
Volition	4 1.0%	1 1.0%	FE=1.000, N.S.
Ambiguous	4 1.1%	1 1.0%	FE=1.000, N.S.
Indeterminate	7 1.7%	8 8.0%	FE=0.004, N.S.
Total	400 100.0%	100 100.0%	

Of the meanings above, only 'external possibility' is reported as having a significant difference with BNC, higher than NH. It is also the most frequent meaning used overall in both NH and BNC. Though no significance was reported for 'ability', the second most used meaning category for both NH and BNC, 'ability' is used more frequently in NH than in the BNC. This in conjunction with the lower frequency of 'external possibility' may be due to the coursebook writers often steering students to an 'ability' reading when the instance could just as well be an 'external possibility' reading (see Section 9.2). Also, the contrived conversations where speakers are asking "What other things can you do?" (see Section 9.3.2) with an 'ability' meaning may contribute to the higher frequency of 'ability' instances.

Two other differences, though not statistically significant, come from the higher frequency categories of ‘phrase’ and ‘directive’ / ‘commissive’. I was surprised to see ‘phrases’ incorporated into the coursebooks series and that their frequency, though still low, was higher than in the BNC. When reviewing these instances, though the frequency may be higher, the range in lexical verbs is much lower than in the BNC, as three of the same verbs were used for 10 out of the 12 total instances of ‘phrases’ with CAN. This may be useful as learners need to be exposed to a phrase more than once for it to have a good chance of being learnt. Finally, the ‘directive’ / ‘commissive’ meaning category, which is again not significantly different, was higher than the BNC as well. This could possibly be attributed to there not only being example exchanges in the coursebooks to show how ‘directives’ and ‘commissives’ are used but also because in some cases, coursebooks convey their own ‘directives’ using CAN (e.g. *How many different ways can you think of to start and end a letter or email?* (NH, Intermediate, p. 104)).

10.4.2.3 Weighted COULD (BNC)

In order to weight COULD, I only needed to consider the difference in the percentages of spoken and written text, as *could* and *couldn't* forms were already combined per the search functionality in the BNC. Therefore, similar to CAN, to combine spoken COULD and written COULD, I identified the percentage of each used within COULD by dividing the frequency of instances for both spoken and written COULD by the total number of instance of COULD, 158,279. These percentages are included in Table 54.

Table 54: Percentage of forms within COULD (BNC)

Form of COULD	Frequency	Percentage within COULD (rounded to two decimal places)
COULD (spoken)	20,116	12.71%
COULD (written)	138,163	87.29%

Next, I applied these percentages to each form of COULD within each meaning category. The figures below for each meaning category per form of COULD are taken from Table 15,

in which these were counts and percentages, as they were taken from a sample of 200 instances of COULD from the BNC.

Table 55: BNC weighted sample data based on COULD

BNC Categories	BNC^s		BNC^w COULD	
	COULD (spoken)	COULD (written)	Percentage	Count
external possibility	42	57	55.1%	110
epistemic possibility	20	13	13.9%	28
ability	8	13	12.4%	25
phrase	3	6	5.6%	11
ambiguous	2	6	5.5%	11
permission	0	4	3.5%	7
directive/commissive	18	0	2.3%	5
indeterminate	5	0	0.6%	1
volition	2	1	1.1%	1
total	100	100	100%	199

Using ‘external possibility’ as an example, the percentage 55.1% was calculated by multiplying the number of instances in the 100 sample for spoken COULD (42) by the proportion of times spoken COULD occurs in the BNC (0.1271). The result is: 5.34. This step was repeated for written COULD. Next, the addition of the totals (spoken COULD (5.34) and written COULD (49.79)) resulted in 55.1%.

Because we have an original sample of 200 instances, if we were to take a sample of the same size directly from the BNC we would expect 55.1% of these instances (110.2 out of 200) of COULD to be used with an ‘external possibility’ meaning. The same formula was applied to all categories.

In the next section, I have used these counts within SPSS to determine if my findings are significant using Fisher’s exact test with the Bonferroni correction applied.

10.4.2.4 COULD

Table 56 below is a comparison of COULD in NH and the BNC.

Table 56: Fisher's exact test results for COULD – comparison of NH and BNC

Category		Source		Fisher's exact (FE) p-value compared against $p < 0.0056$ (Bonferroni correction applied)
		BNC ^w	NH ^s	
External Possibility	Count	110	32	FE=0.000, $p < 0.0056$
	% within Source	55.1%	32.0%	
Ability		25	14	FE=0.719, N.S.
		12.4%	14.0%	
Permission		7	2	FE=0.723, N.S.
		3.5%	2.0%	
Epistemic Possibility		28	9	FE=0.265 N.S.
		13.9%	9.0%	
Directive/Commissive		5	21	FE=0.000, $p < 0.0056$
		2.3%	21.0%	
Phrase		11	5	FE=1.000, N.S.
		5.6%	5.0%	
Volition		1	2	FE=0.259, N.S.
		1.1%	2.0%	
Ambiguous		11	1	FE=0.067, N.S.
		5.5%	1.0%	
Indeterminate		1	14	FE=0.000, $p < 0.0056$
		0.6%	14.0%	
Total		199	100	
		100.0%	100.0%	

Table 56 shows a significant difference in the categories 'external possibility', 'directive' / 'commissive' and 'indeterminate'. Although 'external possibility' is the most frequently occurring meaning in both BNC and NH, its frequency is higher in BNC than in NH. From examining the NH series, I found that the use of COULD as 'external possibility' is low for the elementary book (two instances), pre-intermediate book (one instance) and there were none found in the beginner level. However, the intermediate level contained five instances, the upper-intermediate nine, and the advanced level contained 12 instances. Perhaps we can infer that the writers of the series felt the 'external possibility' meaning of COULD requires students to be at a higher proficiency level to interpret and use.

The high frequency of the 'directive' / 'commissive' category in NH comes from there being a high volume of example instances using these meanings (e.g. *Could you ask him to phone me?* (NH, Intermediate, p. 127) which are found mainly in the intermediate levels (13

instances) level. This may be beneficial since my classroom findings indicated that the learners in this particular class were using “can” at a much higher frequency for this purpose. Very few uses of ‘directives’ / ‘commissives’ can be found in the elementary (two instances), and advanced levels (four instances), and none can be found in the beginner level. I discuss the pedagogical implications of this in Section 11.4.2.

Furthermore, as stated previously in Section 9.1, the high frequency of ‘indeterminate’ cases comes from the nature of the coursebook containing more instances which are not used in a meaningful context, for example, as an answer choice, citation form or used in chapter/section title.

10.4.2.5 Weighted BE ABLE TO (BNC)

The first step in combining written BE ABLE TO and spoken BE ABLE TO from the BNC was to identify the percentage each form and register was used within BE ABLE TO. I did this by dividing the frequency of instances for each form and register of BE ABLE TO by the total number of instance of BE ABLE TO, which is 29,904. These percentages are included in Table 57.

Table 57: Percentage of forms within BE ABLE TO (BNC)

Form of BE ABLE TO	Frequency	Percentage within BE ABLE TO (rounded to two decimal places)
<i>BE able to</i> (spoken)	2,865	9.58%
<i>BE unable to</i> (spoken)	109	0.36%
<i>BE able to</i> (written)	22,462	75.11%
<i>BE unable to</i> (written)	4,468	14.94%

Next, I applied these percentages to each form of BE ABLE TO within each meaning category. The figures below in Table 58 for each meaning category per form of BE ABLE TO are taken from Table 19, in which these were counts and percentages, as they were taken from a sample of 400 instances of BE ABLE TO from the BNC.

Table 58: BNC weighted sample data based on BE ABLE TO

<div style="text-align: center;">BNC</div> <div style="text-align: left;">Categories</div>	BNC ^s				BNC ^w BE ABLE TO	
	<i>BE able to</i> (spoken)	<i>BE able to</i> (written)	<i>BE unable to</i> (spoken)	<i>BE unable to</i> (written)	Percentage	Count
external possibility	80	64	59	68	66.1%	264
ability	12	23	27	29	22.9%	91
permission	4	5	2	2	4.4%	18
ambiguous	1	5	10	1	4.0%	16
volition	0	2	1	0	1.5%	6
phrase	0	1	0	0	0.8%	3
indeterminate	3	0	1	0	0.3%	1
epistemic possibility	0	0	0	0	0	0
directive/commissive	0	0	0	0	0	0
total	100	100	100	100	100%	399

Using ‘external possibility’ as an example, the percentage for ‘external possibility’, 66.1%, was calculated by multiplying the number of instances in the 100 sample for ‘external possibility’ (80) by the proportion of times spoken *Be able to* occurs in the BNC (0.0958). The result is: 7.66. This step is repeated for all the forms of BE ABLE TO, with the relevant percentages. Next, each of the totals (*Be able to* spoken (7.66), *Be able to* written (48.07), *Be unable to* spoken (0.22), *Be unable to* written (10.16) were added up for each form, which resulted in 66.1%. Again, because we have an original sample of 400 instances, if we were to take a sample of the same size directly from the BNC we would expect 66.1% of these instances (264.4 out of 400) of BE ABLE TO to be used with an ‘external possibility’ meaning.

In the next section, I have used these counts within SPSS to determine if my findings are significant using Fisher’s exact test with the Bonferroni correction applied.

10.4.2.6 BE ABLE TO

Table 59 below shows BE ABLE TO in NH and the BNC.

Table 59: Fisher's exact test results for BE ABLE TO - comparison of NH and BNC

Category	Source		Fisher's exact (FE) p-value compared against $p < 0.0063$ (Bonferroni correction applied)
	BNC ^w	NH	
External Possibility	Count 264 % within Source 66.1%	41 53.9%	FE=0.050, N.S.
Ability	91 22.9%	23 30.3%	FE=0.187, N.S.
Permission	18 4.4%	1 1.3%	FE=0.335, N.S.
Directive/Commissive	0 0.0%	1 1.3%	FE=0.160, N.S.
Phrase	3 0.8%	0 0.0%	FE=1.000, N.S.
Volition	6 1.5%	0 0.0%	FE=0.596, N.S.
Ambiguous	16 4.0%	3 3.9%	FE=1.000, N.S.
Indeterminate	1 0.3%	7 9.2%	FE=0.000, $p < 0.0063$
Total	399 100.0%	76 100.0%	

The meaning category 'epistemic possibility' is not included in Table 59 as there were zero counts for both sources for this meaning category. When examining BE ABLE TO in the BNC and NH, the only meaning category that is found to be significant is 'indeterminate'. Again this is due to the modal auxiliaries not always being used in NH in a meaningful context. For the other meaning categories, because the majority of the counts in this data set both are low, we can see that BE ABLE TO is not used as frequently as its counterparts, CAN and COULD. Where it is used the most in 'external possibility' and 'ability', we see similar frequency usage patterns, yet CAN and COULD showed significant differences in 'external possibility' between NH and the BNC, where BE ABLE TO does not.

10.5 Summary of chapter

The investigation of the BNC resulted in the identification of more categories ('directive' / 'commissive', 'phrase' and 'volition'), than previously identified by linguists. For all three modal auxiliaries, 'external possibility' was by far the most frequent meaning. Furthermore, it is evident that the spoken and written contexts along with the positive and negative forms affect the meaning frequencies. A study which does not base findings on these considerations may not show the complete picture for how these modal auxiliaries are used.

Comparing the classroom data to the BNC, this study found significant differences in the frequency of spoken CAN and COULD used by the students and instructor, and also in the frequency with which written COULD was used by the instructor. BE ABLE TO findings indicated no significant difference between the students and instructor in the classroom and the BNC.

With regard to the categories found in the classroom, 'phrase' and 'volition' were not found in my data from either the students or the instructor. Salient differences in category frequencies from the classroom compared to the BNC include the students' significantly higher use of 'epistemic possibility' for written COULD and the instructor's significantly higher use of 'permission' and 'directive' / 'commissive' for written CAN.

Investigation of *New Headway* in comparison to the BNC showed a significantly lower use of 'external possibility' for CAN and COULD, and a much higher use of 'directive' / 'commissive' for COULD. BE ABLE TO showed no significant differences except in the category 'indeterminate'. Furthermore, as discussed in previous chapters, though 'permission' is a meaning often associated with CAN and COULD, it was used only 4% for CAN and 2% for COULD, percentages which are low and follow that of the data for CAN and COULD in the BNC.

Having compared the classroom and NH findings to the BNC, I now focus on the pedagogical implications of this study.

Chapter 11: Pedagogical implications

In the following sections I discuss pedagogical implications arising from this study. I first address the overall theme of context and then how the meaning categories found for CAN, COULD and BE ABLE TO in the BNC can play a role in the classroom. Then, focusing on my classroom data findings, I discuss the most salient observations made when compared to the BNC – the high frequency of spoken CAN by students, “missing” categories and the high meaning percentage of ‘epistemic possibility’ and ‘ambiguous’ for students’ use of COULD in written texts. Next, the overall frequency and category frequency differences found in NH are considered, all within the framework of how these findings can be applied in classroom teaching. Finally, I include a summary of findings and clear points for instructors, and readers. At the conclusion of this chapter, limitations of the present study and future research directions are put forward.

11.1 Context

Context is a recurring theme throughout my thesis which I specifically discuss in Sections 3.5.1 and 3.6.2, and also in my analysis of instances from all three data sources. When analysing the BNC, I found that I needed to expand the context of my instances well beyond their concordance lines in order to interpret their meanings. This differed from my classroom and coursebook data in which very few instances required expanded context for analysis. I believe this is due to the nature of the classroom and coursebooks being more focused on an in-class and in-coursebook environment and not requiring a broad amount of context for conveying and understanding messages. As Holmes (1982) noted in regard to language used in the classroom, “Outside classrooms life is not so simple” (p. 9); therefore, I think it is beneficial to incorporate a broader context in the classroom and coursebook setting, where relevant and possible.

My suggestion to try to bridge the gap of the narrow context used in the classroom and coursebooks to the broader range of context used “outside classroom life” is to incorporate “outside” of the classroom reading samples to heighten awareness of potential complexity in context dependent messages. I examined graded readers (e.g. Penguin Readers, Cambridge Readers and Little Readers) and found there was a need for expanded context to understand the meaning for instances using CAN and COULD.

One example of required expanded context comes from an e-graded reader, *Treasure Island* (Paluchowska, 2004), at an advanced level. The text reads, “And then Silver came up to us. ‘What’s the business with the map, doctor?’ he asked. ‘I **can’t** tell you much,’ said the doctor, ‘But if I could, I would’” (p.68). In reading pages 1-67 of the text, it was not clear to me whether this was a ‘permission’ reading (e.g. the reason is a secret), ‘volition’ (e.g. I don’t want to tell you), or even ‘phrase’ (e.g. I don’t know). It was only after reaching the end of the story that I understood that it was a ‘volition’ reading. Ironically, the doctor added, “but if I could, I would”, which readers later find is not the case because he does know and actually could tell him the truth, but chooses not to, which further demonstrates the complexity of these modal auxiliaries.

As an instructor, it is worth emphasizing such instances to the students to show the complex role of context in understanding modal auxiliaries and that the meanings they may be more familiar with, those of ‘ability’, ‘possibility’ and ‘permission’, may not always apply.

11.2 BNC

The overall goal of my thesis is to contribute to English language learning in the classroom. The investigation of CAN, COULD and BE ABLE TO in the BNC is valuable as it is through this data that we can gain a better understanding of how native and native-like English speakers use these three modal auxiliaries. My study has shown that there is a large amount of complexity involved with these three modal auxiliaries, but by examining corpora, or in this study, the BNC, we can gain some better understanding of how they are used and share this information with classroom instructors and students.

11.2.1 Additional categories found

As discussed in Section 10.1.1, the present study found additional categories for CAN, COULD and BE ABLE TO compared to previous linguists’ analyses. This finding deviates from others who have not categorised some of these meanings as main categories of meaning. It also draws attention to the issue that if these additional categories have not been identified by previous linguists, then there is a very small chance they will be considered by instructors in the classroom. The value in learners being made aware of these categories that have not

previously been identified is discussed in this section and the subsections ‘phrase’ (see Section 11.3.2.1) and ‘volition’ (see Section 11.3.2.2) in the classroom section below. They are included in the classroom section as not only are these categories newly incorporated within the present study, but they have not been found in the classroom data sets.

The modal auxiliaries CAN and COULD used with ‘directive’ / ‘commissive’ meanings help to convey the message that a speaker wants the hearer to do something, and needs to be recognised from the hearer’s perspective, or learner’s perspective. Conversely, learners who want their hearers to do something need to learn appropriate ways to ask. Signalling these types of instances to learners helps learners to recognise them and also gives them a better perspective of the complexity of modals, making it clear that a request such as, “Can you pass the salt, please?” (Palmer, 1990, p. 86), at the dinner table is not actually a question of ‘ability’. It is agreed amongst linguists (e.g. Crandall & Basturkmen, 2004; Kennedy, 2003; Paltridge, 2000) that these types of speech acts and indirect requests are often difficult for English language learners to interpret and respond to. Therefore, drawing attention to ‘directives’ / ‘commissives’ as a meaning category for CAN and COULD (and possibly BE ABLE TO), along with explicit instruction in the classroom would benefit learners.

The categories ‘phrase’ and ‘volition’ are discussed in Section 11.3.2.

11.2.2 Meaning frequencies for CAN, COULD and BE ABLE TO

For all three modal auxiliaries, in each form and register, ‘external possibility’ is the most common meaning used, and by a much greater frequency than the next most frequent. For written CAN, spoken *can*’t and spoken and written BE ABLE TO, the second most frequent meaning is ‘ability’. This differs for spoken *can* in which ‘ability’ is the sixth most frequent and it is the ‘directive’ / ‘commissive’ category used second most frequent for this form and register. COULD patterns differently as well, as ‘epistemic possibility’ is the second most frequent meaning occurring in spoken and written contexts. All in all, these frequency orderings for CAN and COULD counter the traditional order of meanings presented of ‘possibility’, ‘ability’ and ‘permission’, while BE ABLE TO follows this order.

Considering not only the register but the forms as well for each modal helps to reveal these differences in uses and is something that has been neglected by other linguists. For example, in their study of CAN and COULD, Biber et al. (1999) consider the difference in

conversation and academic contexts, but do not consider positive and negative forms. Collins (2009) considers the spoken and written register in some cases, but in many cases reports on the meanings of the modals in his study in combined spoken and written contexts and positive and negative forms. This has the effect of masking the differences in how these modals are used.

11.2.3 Epistemic modality

Throughout my discussions on ‘epistemic possibility’ I have made it clear that I found this to be the most difficult type of modality to identify and understand. Though it may be less of an issue for learners as their tasks do not usually involve having to distinguish between epistemic and non-epistemic modal auxiliary use, having a base knowledge of what these convey and the nuances they contain may be helpful.

Perkins (1983) discusses the term ‘epistemic’ coming from Greek “episteme” (p. 10), meaning knowledge. He goes on to say:

To know (KNOW is a factive predicate) that a proposition is true presupposes that it actually *is* true; whereas, say, to be certain (CERTAIN is a non-factive predicate) that a proposition is true does not presuppose that it is true. (p. 10)

This is the distinguishing factor between statements of what are believed to be fact and ‘epistemic’ modality, and also what makes ‘epistemic’ modality so confusing, especially for learners. If one were to say *He is in the room* or *I am certain he is in the room*, adding “certain” to the statements means that it may not actually be accurate and that it is only a conjecture of the speaker. Yet, at the outset, as a language learner, if one were to hear or see the word “certain” in an utterance, it would be understandable why a learner may think that this holds a stronger truth value; yet it does not, it conveys a “(lack of) commitment to the truth of the proposition being expressed” (Palmer, 1986, p. 51).

Raising learners’ awareness of how ‘epistemic possibility’ modal auxiliaries are used and the meaning messages they convey may help strengthen their writing and speaking in relevant contexts. Though Kennedy (2003) does not emphasise it in his work, he paraphrases “You *must* be joking” with “*I am almost certain you are joking*” (p. 186). The addition of “almost”

to this paraphrase would be beneficial to include when explaining the idea of being “certain” in epistemic modality.

11.3 Classroom

Though the classroom data comes from only part of one classroom in one program, observing the students and instructor in their classroom afforded me the opportunity to gain a better understanding of how CAN, COULD and BE ABLE TO are being used. Though comparisons were made to the BNC, my intention is not that the classrooms’ goal should be to use these modal auxiliaries in the same way as the BNC, but to make observations based on the BNC with the recognition of the context of the classroom.

11.3.1 Classroom high frequency of spoken CAN

As reported in Sections 8.4, 10.2.1.1 and 10.2.2.1, the overall frequency for spoken CAN was significantly higher in the students’ data than in the BNC. I attributed this to the students using only CAN in ‘directives’ and ‘commissives’ and neglecting to use COULD. Celce-Murcia and Larsen-Freeman (1999) assert, “Many ESL/EFL students, even at an advanced level, do not recognise that they are often perceived by native speakers of English as being abrupt and aggressive with their requests, given the social circumstances” (p. 145). While the interactions using ‘directives’ in the classroom were student-student interactions only, being non-native speakers of English, this “abrupt[ness] and aggressive[ness]” is most likely not noticeable, but may be to a native or native-like speaker of English. Raising awareness for the learners about the difference between CAN and COULD would help them to be better prepared to navigate various social settings.

One idea to help raise awareness comes from Celce-Murcia and Larsen-Freeman, who refer to an activity in Ur (1998) titled “Being polite”, which is also found in her second edition, Ur (2009). In this activity a less-polite dialogue is presented:

A: Hey, you! Open this door!

B: It’s locked. Want me to get the key?

A: Yeah. Get it. Fast.

and then discussed with the class how it could be more polite. For example:

A: Excuse me, could you open this door?

B: I'm afraid it's locked. Shall I get the key?

A: Please, if you wouldn't mind, as quickly as you can. (p. 138)

My own suggestion is to provide problematic settings to the students, such as:

You are having dinner at a restaurant with your friend. You ordered dinner 40 minutes ago and it has still not arrived and the server has not offered any reason why it is taking so long. How do you approach the server or manager to find out where your meals are?

This problematic setting would help students to think about what modal auxiliaries they would employ to ask about their meals, and also consider who they are addressing and where 'softer' requests may be appropriate.

11.3.2 Classroom "missing" categories

I identified two implications for the "missing" categories in the classroom data. First, if categories have not been previously identified in the literature, such as 'directives' / 'commissives', 'phrase' or 'volition', then these may not be on the radar of instructors to draw attention to when possible. Second, when these categories are not used in the classroom by either the students or instructor, as with 'phrase' and 'volition', there is no opportunity to raise students' awareness. Explicitly incorporating these into the classroom would be beneficial as it would draw attention to the complexities of the modal auxiliaries and the many hats they wear.

11.3.2.1 'Phrase'

'Phrase' was a category that was found in spoken and written CAN and COULD and written BE ABLE TO in the BNC, yet zero instances were present in my classroom data sets. The relevance of drawing attention to these 'phrases' becomes clear when examining the difference between instance pairs (a) / (b) and (c) / (d).

- (a) But he can't wait much longer. If you don't accept by the end of the month then he'll advertise. (BNC) (modal auxiliary)
- (b) I can't wait to hear them. (BNC) ('phrase'=I am excited to)
- (c) ...even when holding a large cake. Stands 15cm/6in high and can bear the heaviest fruit cake (BNC) (modal auxiliary)
- (d) I just can't bear the thought of her and the children having to live like that. (BNC) ('phrase' = I don't like)

Boers and Lindstromberg (2008) state that, “a significant proportion of FLT [Foreign Language Teaching] theoreticians see learning vocabulary, in the expanded sense of words and *phrases* [emphasis added], as being the key to attaining a high level of proficiency” (p. 4). Along with leading to a higher level of proficiency, this awareness could help avoid potential confusion for students interpreting, for example, “can't wait” as a modal meaning when the speaker or writer intends it as a ‘phrase’, and vice versa.

11.3.2.2 ‘Volition’

Similar to ‘phrase’, ‘volition’ was not found used in the classroom but was found in spoken and written CAN and COULD and written BE ABLE TO in the BNC. Knowing how to express different, more tactful ways of saying in English what we want and don't want is a skill where using CAN, COULD or BE ABLE TO can be useful. Using examples from real language use, such as the excerpt below from a conversation in the BNC (also found in Section 4.10), could aid in explaining the difference to students.

- (194) Speaker A (young girl): Hold me up.
 Speaker B (adult male): Oh no I can't Katie, I can't, you're too heavy.
 (BS2592) (S_conv)

In the instance above, it is not the case that the subject is not capable of holding the young girl up, or circumstances exist that make it impossible or that he is not permitted to, it is that he does not want to. Contextual support for him not wanting to is that he thinks “you're too heavy”. Instances like (194) could be a good segue into other reasons CAN, COULD and BE ABLE TO are used for ‘volition’ (e.g. I can't help you pack), such as politeness. Students could be asked to reflect on how they may or may not use these in their own communication.

11.3.3 High percentage of ‘epistemic possibility’ and ‘ambiguous’ in students’ written COULD

While there were many instances where students used written *could* as ‘epistemic possibility’ in a similar manner to the BNC, there were also instances in which hedging was not necessary. One example, which is also given in Section 8.4 and 10.2.2.3, is:

- (195) There are two possible reasons which could cause this change. The first could be the shift of their identities. (CDW-S-85)

In (195), I analysed the first instance of “could” as ‘epistemic possibility’; yet, the second, when stating the first possible cause, does not need to be hedged and actually obscures the writer’s meaning. Students used “could” much more frequently in writing than in speaking, while the instructor did the reverse. These differences are not unexpected as the students and instructor are writing and speaking for different purposes. In academic writing, the students would be expected to use more hedging while less hedging is more appropriate in instructive writing done by the instructor (see Sections 8.4 and 10.2.2.6). However, as evidenced with comparisons to the BNC, the students in this classroom use the meaning category ‘epistemic possibility’ at a much higher frequency.

Dissimilar to my findings, Hyland and Milton (1997) found in their study that students were not hedging enough with epistemic markers (including lexical verbs, etc.). In either case, the suggestions made by them could be applied to the students in this classroom: using “explicit instruction” to “identify particular items as conveying certainty, probability, possibility and approximation”, asking students to “discuss the epistemic effects of removing items from a text or of replacing them with the items from other categories” and “rewriting exercises which involve replacing certainty forms with hedges” (p. 201).

This ties into the ‘ambiguous’ instances from the students’ data for written COULD that are ambiguous between ‘external possibility’ and ‘epistemic possibility’, and is also what Coates (1995), Hyland (1996) and Leech and Coates (1980) found – there can be a very close reading between these two meaning categories, especially in academic writing. It is also worth pointing out to students that this ambiguity which exists in writing occurs less often in speech. Barnard and Scampton (2006) endorse this idea as well. They consider both writing and speaking and maintain, specific to modal expressions:

Such ambiguity is, of course, usually resolved by contextual clues, as well as intonation patterns, paralinguistic features and / or nonverbal language. Students' attention needs to be drawn to these issues if they are to express, and understand, the implications of modal expression. (p. 7)

As I will discuss below (see Section 11.6), I did not analyse “intonation patterns, paralinguistic features and / or nonverbal language” in my study, but this should not downplay the importance of these features to modal auxiliaries.

11.3.4 Appropriate and inappropriate use of CAN, COULD and BE ABLE TO in the classroom

Another insight to the way these modals were being used in the classroom was to examine when they were used appropriately and inappropriately by the students, as shown in Table 60.

Table 60: Appropriate and inappropriate use of CAN, COULD and BE ABLE TO in the classroom

Modal auxiliary	Appropriate use	Inappropriate use
CAN (spoken)	99	1
CAN (written)	43	9
COULD (spoken)	4	0
COULD (written)	21	10
BE ABLE TO (spoken)	6	0
BE ABLE TO (written)	4	0

The inappropriate (high) use of COULD in writing has been discussed previously in Sections 8.4, 10.2.2.3 and 11.3.3. Viewing these modal auxiliaries in the classroom with a different perspective, through Table 60, what stood out to me was the students' inappropriate use of CAN in writing. All nine instances specified in the table are cases where students are expressing a hypothetical situation and COULD would have been a better choice. Instance (196) is an example of this:

(196) If there would be any further research about this, there can be a new category for New Zealanders separated from “Other” category, and that can change the whole figures again. (CDW-S-48) (CDW-S-49)

Again, with a focus on academic writing, discussing the various uses of written COULD, including ‘epistemic possibility’ and communicating hypothetical situations, would be valuable for learners.

11.4 *New Headway*

While my goal in this research project is not to change the way coursebooks are written, I would like to make instructors aware of any inconsistencies that may exist in connection to CAN, COULD and BE ABLE TO, and perhaps, other modal auxiliaries as well. This would inform instructors about changes within their own materials they can make to help ensure that what is presented in the classroom covers a broader range of the English used by native and native-like speakers.

11.4.1 Differences in overall frequencies for CAN and BE ABLE TO

The frequency of CAN in NH was nearly double what was found in the BNC, for BE ABLE TO, nearly half, but for COULD there was no statistically significant difference. With regard to CAN, I think this high frequency connects back to the high frequency in the meaning category ‘ability’ and the coursebooks’ contrived conversations about what participants “can do” (see Section 10.4.2.2).

For BE ABLE TO, there is a lower representation of instances overall. None are present in the beginner or elementary level and in the pre-intermediate level, there are seven instances, followed by the intermediate level (13 instances), upper-intermediate level (39 instances) and advanced level (17 instances). Introducing BE ABLE TO in the first two coursebooks would help BE ABLE TO come closer to the frequency representation in the BNC and be beneficial to learners in that they would become more familiar with the quasi-modal and its relationship to CAN and COULD, especially given that its low frequency may cause it to go unnoticed in the classroom environment and students unexposed to how to use this quasi-modal.

11.4.2 High percentage of COULD in the ‘directive’ / ‘commissive’ category

In Table 56 (see Section 10.4.2.4) we saw a much higher percentage for COULD in the ‘directive’ / ‘commissive’ category in NH compared to the BNC. In the *New Headway Intermediate Student’s Book*, it states, “Could is a little more formal; can is a little more familiar. Could I ... ? and Could you ... ? are very useful because they can be used in many different situations” (p. 141). This ‘preference’ for the coursebook to use COULD over CAN for ‘directives’ / ‘commissives’ may be a contributor to this high meaning percentage, and also may be deliberate in recognition of the learners lower frequency use of “could” for directive purposes.

11.4.3 ‘Rational’ modality

Rational modality applies to the forms *can not/cannot/can’t* as discussed in Section 5.3.1. It is notable due to its message conveying that something is “not possible” when theoretically it “is possible”. This conflicting meaning should be explicitly taught to learners to help them identify the difference between the two. In my classroom and *New Headway* data, there were no instance using *can not*, *cannot*, or *can’t* in ‘external possibility’ that conveyed ‘rational’ modality. Because I found 10% of the ‘external possibility’ instances in the BNC conveying ‘rational’ modality, I think this frequency warrants this use being pointed out to students.

11.4.4 Inadequate explanation of modal auxiliaries

When describing modals overall, the text in the student’s upper-intermediate level coursebook says:

They are used with great frequency and with a wide range of meanings. They express ideas such as willingness and ability, permission and refusal, obligation and prohibition, suggestion, necessity, promise and intention. All modal auxiliary verbs can express degrees of certainty, probability, or possibility. (NH, Upper-Intermediate, p. 147)

I find this explanation to be flawed in that ‘possibility’ is not mentioned until the discussion of the ‘degrees of certainty’, which is more in the realm of ‘epistemic’ modality. There is no mention of ‘possibility’ in general circumstances, or what this study terms ‘external

possibility’. Though it may be confusing to introduce the idea of these two kinds of ‘possibility’, I don’t think that ignoring one is the best way to treat the issue, especially when the ‘possibility’ being ignored is so frequent. More genuine (e.g. corpus inspired) explanations and examples may help students uncover modal auxiliaries and get a better grasp of their various uses at an earlier level.

11.5 Summary of findings and clear points for instructors

In this section I succinctly reiterate the key findings from this study, along with the sections where they are discussed pedagogically in this chapter:

- (a) Context plays a central role in conveying and interpreting meanings of modal auxiliaries (see Section 11.1).
- (b) By far the most frequently used meaning for CAN, COULD and BE ABLE TO is ‘external possibility’ (see Section 11.2.2).
- (c) The categories used for CAN, COULD and BE ABLE TO as found in the BNC are displayed in Table 61.

Table 61: Categories used for CAN, COULD and BE ABLE TO in the BNC

Modal Categories	CAN	COULD	BE ABLE TO
external possibility	X	X	X
ability	X	X	X
epistemic possibility	X	X	
directive/commissive	X	X	
permission	X	X	X
phrase	X	X	X
volition	X	X	X
ambiguous	X	X	X
indeterminate	X	X	X

- (d) There are previously unidentified main categories - ‘directive’ / ‘commissive’, ‘phrase’ and ‘volition’ - which are relevant to how native and native-like speakers use CAN, COULD and BE ABLE TO (see Section 11.2.1).
- (e) There is a need in classroom contexts to explicitly explain ‘epistemic’ modality and the tools, including modal auxiliaries, in language to convey it (see Section 11.2.3).

- (f) Student awareness of the impact of using CAN/COULD in ‘directives’ and ‘commissives’ would be beneficial in helping them to navigate various social situations (see Section 11.3.1).
- (g) The categories of ‘phrase’ and ‘volition’ were not found in the classroom data which means students may not be getting exposure to these types of uses (see Section 11.3.2).
- (h) There is a need for instructors to explicitly demonstrate ‘epistemic’ modality in academic writing with students (see Section 11.3.3).
- (i) There is a high frequency of CAN in NH coursebook series and low frequency of BE ABLE TO which can be supplemented with other materials in the classroom (see Section 11.4.1).
- (j) There is a ‘preference’ for the coursebooks to use COULD for ‘directives’ and ‘commissives’ which neglects the role of CAN, and perhaps BE ABLE TO. There should be focus on contexts for using each (see Section 11.4.2).
- (k) There is a need for instructors to explicitly explain ‘rational’ possibility as it relates to negative forms of *can* in ‘external possibility’ due to its conflicting nature of being an imposed non-possibility, whereby the speaker/writer does not condone the situation (see Section 11.4.3).
- (l) The coursebook provides an inadequate explanation of modal auxiliaries. Overall explanations of their functions in English should be explained by instructors (see Section 11.4.4).

11.6 Limitations of this study

Though I am presenting a study that is as thorough and comprehensive as I could possibly make it, there are inevitable issues that limited what I was able to do which are discussed below.

11.6.1 Subjectivity

As discussed in Section 4.2.3, modal auxiliaries are subjective for speakers/writers and hearers/readers. In my examination of the BNC, this subjectivity was even greater for the spoken texts. A transcriber interprets what he/she hears with a certain amount of subjectivity, and then my layer of subjectivity is added when reading the text. While my analysis of the

classroom afforded me a closer view of the spoken and written texts, subjectivity was still present as it is my viewpoint of the situation I am transcribing. And though coursebooks are meant to be objective, in NH, and all coursebooks, subjectivity exists from the intention of the writers and in the students' and instructors' understanding of these books. In all cases, subjectivity in this study was unavoidable, yet I tried to account for this subjectivity by providing transparent explanations of and reasons for my analysis.

11.6.2 Sample instances

Given the time restriction on my study, it was impossible to examine all instances of CAN, COULD and BE ABLE TO in each data set, especially the BNC, as it is the largest. Therefore, I recognise that when I used 100 instances of each modal/form from a data source, it is a sample only, albeit a random one, and has the potential to miss categories used, or not represent frequencies with absolute accuracy.

11.6.3 Paralinguistic features

Barnard and Scampton (2006) draw attention to the difference between modal auxiliaries used in speech and in writing and how in speech there are more clues that go into understanding the meanings expressed, such as paralinguistic features (see Section 11.3.3); Holmes (1982) expresses a similar idea in her earlier work:

In face-to-face interaction native speakers may use a variety of paralinguistic signals, such as eyebrow movement, facial expression, eye gaze and gesture, to convey degrees of doubt or certainty. False starts, stutters, hesitations, pauses, grammatically incomplete or altered structures may equally be used for this purpose. (p. 11)

In my study, when analysing the BNC, I did not have access to such features. I was able to listen to audio at times in the spoken data, but even then, audio does not record all possible features. In turn, this means that my analysis of instances where this would have been helpful may not reflect the most accurate reading. In the classroom, though I did collect video recordings, I often found that because the camera was placed at the back of the room, the students were facing either the front of the room when the instructor was teaching, or one another in pair/group work, which in both cases did not provide me with a clear view of these

additional features. Therefore, I did not use the video data in my study for analysing paralinguistic features, yet did use it for other purposes (see Section 3.3.3.1).

11.6.4 Spoken data's stress and intonation patterns

Connected to the above, in my data analysis of spoken instances, I did not account for “stress and intonation patterns” (Coates, 1983, p. 21) as Coates did in her study. This is because with the BNC data, not all instances were available to listen to; therefore, if I were to do this with some but not all, my findings might not have been consistent. This extends to the classroom spoken data; again, if I did this for the classroom data set and only some on the BNC data set, consistency would not be maintained. However, I recognise the significance of stress and intonation patterns when a speaker conveys meaning and had my study been able to account for these for all data sets, my analysis could have been even more robust.

11.6.5 Small classroom sample sizes

Due to the small sample sizes found for some of the modals in the classroom data (e.g. four in total for *Be able to* in the written student data) I was not able to perform a comparison of meaning use to the BNC for the following categories: spoken instances of COULD from the students, written instances of COULD from the instructor, and spoken and written BE ABLE TO from the students and instructor. Furthermore, having such a small sample size means that that addition of one extra or one less can have a greater influence on the results. Having a larger sample size would eliminate this sensitivity.

11.7 Future research directions

During the course of my study, there were many times where I wished that I had more time or resources to pursue various avenues of my topic. The topics I wish I had more time to explore were:

- (a) Further investigate the categories for CAN, COULD and BE ABLE TO, with the intent to ‘validate’ them.

- (b) Explore “meaning” compared to “use” (Larsen-Freeman, 2003) and how these concepts may apply to CAN, COULD and BE ABLE TO.
- (c) Investigate MAY and MIGHT, as they also convey ‘possibility’.
- (d) Investigate “the rest” of the modal auxiliaries and quasi-modals (e.g. WILL, WOULD, BE GOING TO, SHOULD, SHALL, etc.) in the same manner as the present study to obtain a more complete view of the modal auxiliary system.
- (e) Further investigate the negative forms of COULD with regard to ‘epistemic possibility’ for a meaning analysis of where it sits on the scale of certainty – ‘possible’ or ‘certain’.
- (f) Examine the frequencies of lexical verbs, adverbials, nouns and adjectives – grammatical classes described in Holmes (1988) – which are associated with CAN, COULD and BE ABLE TO; this would provide a fuller picture of the tools native and native-like English speakers use to convey ‘possibility’.
- (g) Study the syntax around the modal auxiliary instances and look for patterns.
- (h) Examine the International Corpus of Learner English (ICLE) and Louvain International Database of Spoken English Interlanguage (LINDSEI) to establish how CAN, COULD and BE ABLE TO are used by a larger population of English language learners in spoken and written texts.
- (i) Examine the discourse of the students and instructor more closely, with the idea that if the instructor and students are supposed to write and speak differently, then we cannot say that the students should be like the instructor, so how do they learn and become native-like speakers of English?
- (j) Explore further the idea that modal auxiliary forms and meanings which are prevalent in native and native-like language use should have a lower frequency role in the classroom due to students gaining natural exposure to these items, compared to modal auxiliary forms and meanings which are used seldom in native and native-like language having a higher frequency role in the classroom due to students lack of natural exposure.

Taking this study and moving it forward would include performing the above and also observing a different classroom(s) and comparing findings, as this classroom was only one of many in New Zealand, and the rest of the world.

11.8 Summary of chapter

This study put context in the central role in identifying the meanings for CAN, COULD and BE ABLE TO and identified ‘possibility’ as the underlying meaning for all three with ‘external possibility’ identified as the most frequently used meaning. It also recognised ‘directive’ / ‘commissive’, ‘phrase’ and ‘volition’ as warranting their own category based on frequency findings. The meaning ‘epistemic possibility’ was highlighted as a meaning category that poses problems for native and native-like speakers and English language learners, due to its close relationship with ‘external possibility’ and its recognition as often being ambiguous between the two in written COULD. In the classroom, the categories ‘phrase’ and ‘volition’ were absent in the data, which raises the issue of whether or not and how students may be exposed to these meanings. There was also a ‘preference’ for the coursebooks to use COULD with ‘directives’ / ‘commissives’ at the expense of CAN and potentially BE ABLE TO.

It was the aim of the present study to identify the way CAN, COULD and BE ABLE TO are used by native and native-like speakers of English and investigate these findings in comparison to an English language classroom and coursebook series. Though it is not the recommendation of this study that classroom environments and coursebooks should match the BNC, it is the aim that these corpus-based findings will inform classroom instructors and coursebook writers in their decision making on what and what not to include in course materials.

Appendices

Appendix 1: Conventions used in this thesis

Terms and Acronym Conventions

Within this thesis, there are a number of terms and acronyms used conventionally. A list of the conventions and acronyms can be found in the table below, along with their descriptions.

Convention	Description	First noted in thesis
CAN	Includes forms: <i>can/can't/cannot</i> (spoken and written)	Section 1.2 (p. 2)
COULD	Includes forms: <i>could / couldn't</i> (spoken and written)	Section 1.2 (p. 2)
BE ABLE TO	Includes forms: <i>be able to / be unable to</i> (spoken and written)	Section 1.2 (p. 2)
BE	Includes forms: <i>am, is, are, was, were, been</i>	Chapter 4 (linguistic substitution checks) and Chapter 7: Frequency and meanings for BE ABLE TO in the BNC (BE able to)
spoken CAN	Includes forms: <i>can/can't/cannot</i> (spoken)	Section 1.2 (p. 2)
written CAN	Includes forms: <i>can/can't/cannot</i> (written)	Section 1.2 (p. 2)
spoken COULD	Includes forms: <i>could / couldn't</i> (spoken)	Section 1.2 (p. 2)
written COULD	Includes forms: <i>could / couldn't</i> (written)	Section 1.2 (p. 2)
spoken BE ABLE TO	Includes forms: <i>be able to / be unable to</i> (spoken)	Section 1.2 (p. 2)
written BE ABLE TO	Includes forms: <i>be able to / be unable to</i> (written)	Section 1.2 (p. 2)
central modal	central modal auxiliary	Section 1.2 (p. 2)
quasi-modal	quasi-modal auxiliary	Section 1.2 (p. 2)
modals	CAN, COULD and BE ABLE TO (as per this study)	Section 1.2 (p. 2)
BNC	British National Corpus	Section 1.5 (p. 6)
NH	<i>New Headway</i>	Section 1.5 (p. 6)
Superscript “s”	Random sample data set of 100	Section 3.3.1.2 (p. 41)
Superscript “w”	Weighted sample data set	Section 5.2 (p. 117)
can not (within a BNC instance)	cannot	‘ <i>can not</i> ’ below

can not

Within the BNC, there is no functionality to separate out *can not* and *cannot* when performing a search. The BNC is programmed to separate them into *can* + (space) + *not*. Therefore, a search performed on *cannot* yields no results. I also investigated this within BNCweb (CQP –Edition). Similarly, a search for *cannot* yields no results. Yet the resulting data for a search on *can*, which includes *can not/cannot* results, shows whether or not the original was *cannot* or *can* + (space) + *not*. In regards to the use of *cannot* versus *can not*, Quirk et al. (1985) say, “The spelling of *can not* as two words is unusual: it occurs where main verb negation...is intended, or where special emphasis on or separation of the negative word is required” (p. 136). This means that in my thesis when I include an instance using the form *can not*, it is most likely the case that its original form is *cannot*.

Conventions Specific to Example Instances

Each instance presented in this thesis has multiple identifying features, which varies for the source of data (BNC, Classroom and *New Headway*). I have included below an example instance from each, along with a table for its conventions.

BNC Example Instance (as in Wordsmith Tools 6.0)

- (1) From the start she was something quite exceptional, they all say that. They never saw a child who **<Lcould>could** read and ride so early. I mean ride, not write. Horses. (BW567) (W_fict_prose)

In this instance, **<Lcould>could**, is the tag I used to identify all modal auxiliaries in this study (e.g. **<Lcan>can**, **<Lbeableto>be able to**). See Section 3.3.1.2 (p. 41).

BNC Example Instance (as included in this thesis)

- (2) From the start she was something quite exceptional, they all say that. They never saw a child who **could** read and ride so early. I mean ride, not write. Horses. (BW567) (W_fict_prose)

Conventions Specific to Example BNC Instances	Description
(2): sequential ordering	This is the numbered instance.
BW	BNC Written
BS	BNC Spoken
(e.g. 567)	This is the unique identifier I have assigned to the instance.
(e.g.) (W_fict_prose)	assigned source as per BYU-BNC

Classroom Example Instance

(3) <STUDENT> But that's good, at least we're saying something so we can be heard. (CDS-S-67)

Conventions Specific to Example Classroom Data Instances	Description
(3): sequential ordering	This is the numbered instance.
CDS	Classroom Data Spoken
CDW	Classroom Data Written
S	Student
I	Instructor
(e.g) 67	This is the unique identifier I have assigned to the instance.

New Headway Example Instance

(4) You can't speak to Lisa. She's having a bath. (NH, Intermediate, p.136)

Conventions Specific to Example <i>New Headway</i> Instances	Description
(4): sequential ordering	This is the numbered instance.
NH	<i>New Headway</i>
Beginner, Elementary, Pre-Intermediate, Intermediate, Upper Intermediate, Advanced	NH level
p.	Page in NH coursebook level where instance can be found.

Appendix 2: Meaning category coding used in Wordsmith Tools 6.0 for analysis

The table below shows the codes I used in Wordsmith Tools 6.0 to identify the meanings for each instance. When required, these codes were used in combination (e.g. A-P, ability-prototypical).

Code	Description
A	ability
B	ambiguous
C	commissive
-C	command
D	directive
E	epistemic possibility
I	indeterminate
IP	phrase
M	permission
NP	non-prototypical
P	external possibility
-P	prototypical
R	request
S	suggestion
V	volition

NB: The “-C” and “-P” show when the code was used after the main meaning code (e.g. D-C, directive-command).

Appendix 3: Information for student participants in research

VICTORIA UNIVERSITY OF WELLINGTON

Te Whare Wānanga o te Ūpoko o te Ika a Māui



INFORMATION FOR STUDENT PARTICIPANTS IN RESEARCH

Date:

Dear Student,

My name is Lauren Whitty and I am a student here at Victoria University of Wellington. I am working on research which will lead to a PhD thesis in the School of Linguistics and Applied Language Studies. My research focuses on grammar and for part of my research, I would like to observe an English language classroom and examine the language used by the instructor and students.

The Victoria University Human Ethics Committee has granted ethics approval for this study. Therefore, I would like to ask you to take part in this research project. Your participation is voluntary. If you agree, I will observe your EPP class in Trimester 1 (2015) once a week. Each observation will be the full length of the class and will be a different day each week. I intend to observe only and will not interrupt your learning process. My observations will be done by video recording your class by using a camera placed at the back corner of the room, and audio recording by using a small digital recorder which your instructor will wear. Also, two to three audio recorders will be placed in areas where student groups will be working.

These observations will be part of the data for this research. The audio recordings will be written out by me and I will analyse them to look for patterns in the language that may help future instructors and students. The video data is for me to be able to better keep track of what is happening in the classroom and help me identify who is speaking. It may also be used for me to be able to see any gestures which may help me better understand my data. The actual audio and video recordings will never be made public; only written descriptions of what is said and occurs may be shared. Your video data will not be viewed by anyone other than myself and my supervisors.

In addition, I would like to collect some samples of your written work. This would include any assignments that are written only by you and I intend to photo copy or scan these and will not change them in any way.

The data you supply will be kept confidential and your real name will not be used so that you will not be able to be identified in any way in the research report. Instead, a pseudonym (false name) will be used. The actual data will only be seen by myself and my supervisors. It will also be used as part of the written report of my PhD thesis and the research, or parts of it, will be presented in academic journals, at conferences or at the oral exam as a requirement of a

PhD at Victoria University of Wellington. A copy of my PhD thesis will be given to the Library of Victoria University of Wellington, New Zealand.

You may withdraw yourself, or any information you have provided, from this study before 31 March, 2015 without stating a reason. If you have any questions or concerns, or would like more information about this research, please contact me at lauren.whitty@vuw.ac.nz, or my supervisors, Dr. Jean Parkinson at jean.parkinson@vuw.ac.nz or Dr. Elaine Vine at elaine.vine@vuw.ac.nz, both within the School of Linguistics and Applied Language Studies.

Thank you very much for your cooperation in advance.

Yours sincerely,

Lauren Whitty

Appendix 4: Information for instructor participants in research

VICTORIA UNIVERSITY OF WELLINGTON

Te Whare Wānanga o te Ūpoko o te Ika a Māui



INFORMATION FOR INSTRUCTOR PARTICIPANT IN RESEARCH

Date:

Dear Instructor,

My name is Lauren Whitty and I am currently a student here at Victoria University of Wellington. I am undertaking research which will lead to a PhD thesis in the School of Linguistics and Applied Language Studies. My research focuses on grammar, and for part of my research, I would like to observe an English language classroom and examine the language used by the instructor and students.

The Victoria University Human Ethics Committee has granted ethics approval for this study. Therefore, I would like to invite you to participate in this research project. Your participation is voluntary. With your agreement, I will observe your EPP class in Trimester 1 (2015) once a week. Each observation will be the full length of the morning class and will be a different day each week when you are teaching, and the schedule will be agreed upon with you ahead of time. I intend to observe only and will not interrupt your teaching process.

I will begin data collection in week three of the course and end in week eleven, though I plan to come in during week two to set up and trial equipment, and also give the students and yourself some time to adjust to having me and my equipment in the classroom.

I will video record your class by means of a camera placed at the back corner of the room, and audio record by means of a small digital recorder which you will wear and also two to three recorders which I will place in areas where student groups will be working.

These observations will be part of the data for this research. The audio recordings will be transcribed by me and I will analyse them to look for patterns in the language that may be beneficial for future instructors and students. The video data is only for me and my supervisors. It is solely for me to be able to better keep track of what happens in the classroom and will act as a 'back up' when I transcribe, so that I can clearly identify who is speaking. The actual audio and video recordings will never be made public; only written descriptions of what is said and occurs may be shared. It may also be used for me to be able to capture any gestures which may help me better understand my data.

In addition, I would like to collect students' written work as well. This would include any assignments that are written solely by the student and I would work with you on which samples are best to use, and most convenient for you. I intend to photo copy or scan these and will not alter them in any way.

The data you supply will be kept confidential and your real name will not be used so that you will not be identifiable in any way in the research report. Instead, a pseudonym will be used. Access to data will be restricted to me as the researcher, and to my supervisors. The data will be used as part of the written report of my PhD thesis and it is intended that the research, or parts of it, will be presented in academic journals, at conferences or at the oral exam as a requirement of a PhD at Victoria University of Wellington. A copy of my PhD thesis will be deposited at the Library of the Victoria University of Wellington, New Zealand.

You may withdraw yourself, or any information you have provided, from this study before 31 March, 2015 without stating a reason. If you have any queries or concerns, or would like to be further informed about this research, please contact me at lauren.whitty@vuw.ac.nz, or my supervisors, Dr. Jean Parkinson at jean.parkinson@vuw.ac.nz or Dr. Elaine Vine at elaine.vine@vuw.ac.nz, both within the School of Linguistics and Applied Language Studies.

Thank you very much for your cooperation in advance.

Yours sincerely,

Lauren Whitty

Appendix 5: Student consent to participate in research

VICTORIA UNIVERSITY OF WELLINGTON
Te Whare Wānanga o te Ūpoko o te Ika a Māui



STUDENT CONSENT TO PARTICIPATE IN RESEARCH

Research topic: A Study of English Grammar Use in the Classroom

Researcher: Lauren Whitty, School of Linguistics and Applied Language Studies,

Victoria University of Wellington, New Zealand.

By signing the below, you agree to take part in this research and consent to the following:

- a. I have been given and have understood an explanation of this research.
- b. I have had opportunities to ask questions and my questions have been answered to my satisfaction.
- c. I understand that I will be observed and audio and video recorded in class and that some of my writing samples will be scanned and/or copied for the researcher.
- d. I understand that my real name, my classmates' real names and my teacher's real name will not be used or able to be identified in any way in the research; pseudonyms (false names) will be used instead.
- e. I understand that all the data I provide will be kept confidential and access to it will be granted only to the researcher and the supervisors.
- f. I understand that the data I supply will be used as part of the written report of the researcher's PhD thesis and it is intended that the data will be presented at academic journals or conferences or at the oral exam as a requirement of a PhD at Victoria University of Wellington.

- g. I understand that a copy of the researcher's PhD thesis will be given to the Library of the Victoria University of Wellington, New Zealand.
- h. I understand that I may withdraw myself, or any information I have provided, from this study before 31 March, 2015 without stating a reason.
- i. I understand that if I withdraw from this study, all the data I have supplied will not be included in this study.
- j. I understand that all the data will be destroyed five years after the conclusion of the study or will be returned to me as a participant if I request it.
- k. I wish to receive a summary of the findings of this study. My email address is

Name of student: _____

Signature: _____

Date: _____

Appendix 6: Instructor consent to participate in research

VICTORIA UNIVERSITY OF WELLINGTON
Te Whare Wānanga o te Ūpoko o te Ika a Māui



INSTRUCTOR CONSENT TO PARTICIPATE IN RESEARCH

Research topic: A Study of English Grammar Use in the Classroom

Researcher: Lauren Whitty, School of Linguistics and Applied Language Studies,

Victoria University of Wellington, New Zealand

By signing the below, you agree to take part in this research and consent to the following:

- a. I have been given and have understood an explanation of this research.
- b. I have had opportunities to ask questions and my questions have been answered to my satisfaction.
- c. I understand that I will be observed and audio and video recorded in class.
- d. I understand that samples of my students' written work will be scanned and/or copied by the researcher.
- e. I understand that my real name and my students' real names will not be used or able to be identified in any way in the research; pseudonyms will be used instead.
- f. I understand that all the data I provide will be kept confidential and access to it will be granted only to the researcher and the supervisors.
- g. I understand that the data I supply will be used as part of the written report of the researcher's PhD thesis and it is intended that the data will be presented in academic journals, conferences or at the oral exam as a requirement of a PhD at Victoria University of Wellington.

- h. I understand that a copy of the researcher's PhD thesis will be deposited at the Library of the Victoria University of Wellington, New Zealand.
- i. I understand that I may withdraw myself, or any information I have provided, from this study before 31 March, 2015 without stating a reason.
- j. I understand that if I withdraw from this study all the data I have supplied will not be included in this study.
- k. I understand that all the data will be destroyed five years after the conclusion of the study or will be returned to me as a participant if I request it.
- l. I wish to receive a summary of the findings of this study. My email address is

Name of instructor: _____

Signature: _____

Date: _____

Appendix 7: Ethics approval memorandum



Phone 0-4-463 5676
Fax 0-4-463 5209
Email Allison.kirkman@vuw.ac.nz

MEMORANDUM

TO	Lauren Whitty
COPY TO	Jean Parkinson
FROM	Dr Allison Kirkman, Convener, Human Ethics Committee
DATE	15 December 2014
PAGES	1
SUBJECT	Ethics Approval: 20138 Quasi-Modal and Central Modal Use within an EPP Classroom

Thank you for your application for ethical approval, which has now been considered by the Standing Committee of the Human Ethics Committee.

Your application has been approved from the above date and this approval continues until 16 December 2016. If your data collection is not completed by this date you should apply to the Human Ethics Committee for an extension to this approval.

Best wishes with the research.

Allison Kirkman
Human Ethics Committee

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