

**Evaluative Meanings and Disciplinary Values:  
A Corpus-based Study of Adjective Patterns in Research Articles  
in Applied Linguistics and Business Studies**

by

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A thesis submitted to  
The University of Birmingham  
for the degree of  
DOCTOR OF PHILOSOPHY

Department of English  
School of English, Drama, American  
and Canadian Studies  
College of Arts and Law  
The University of Birmingham  
September 2010

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## **ABSTRACT**

The purpose of this study is to investigate disciplinary variation in academic writing, focusing in particular on the use of adjective patterns followed by prepositions. The analysis proceeds through a detailed quantitative and qualitative analysis of these patterns in two large corpora of authentic texts. The analysis focuses not only on the specific adjectives found in the patterns themselves, but also on collocations within and around each pattern. The empirical focus of the study will be on two 'soft-applied' disciplines (Becher & Trowler, 2001), applied linguistics and business studies, as represented by two corpora of research articles drawn from 16 leading journals in each field. Comparison of the results for each corpus shows that there are many differences in form and meaning between the two disciplines: it is argued that the features revealed by my analysis are indicative of the epistemological characteristics of these two different disciplinary discourses. The thesis argues that these differences reflect the different academic cultures and norms of applied linguistics and business studies.

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## CHAPTER 1. Introduction

### 1.1. General aim of the thesis

The general aim of the research reported in this thesis is to carry out a comparative, corpus-based study of the discourses of two academic disciplines: applied linguistics and business studies. The specific focus of the thesis will be on the kinds of evaluative meanings that writers of research articles (hereafter, RAs) in these two disciplines typically make. How similar or different are the evaluative meanings expressed in RAs across two different disciplines, and what do these meanings tell us about the epistemological values of these two fields of study? These questions will be pursued by means of a large-scale corpus-based analysis of lexico-grammatical patterns in which an adjective is followed by a preposition and a noun phrase (hereafter, ADJ PREP N). This analysis will be both quantitative and qualitative. Quantitatively, the thesis will employ a form of multivariate statistical analysis known as correspondence analysis. Qualitatively, the analysis will consist of a concordance-based study of adjective patterns in two large corpora of RAs from each discipline. This analysis will focus in particular on the semantic properties of the adjectives that occur in each pattern, and on collocations within and around each pattern. The aim of the analysis is to identify features that indicate the epistemological characteristics of these two disciplinary discourses.

It is important to establish from the outset that the relationship between the quantitative and qualitative analyses should be understood as complementary, rather than linear. That is, the aim is not for the quantitative analysis to identify features for the human analyst to explain, or for the human analyst to identify features which then need to be validated by the computer. Rather, each approach should be seen as having its own integrity, and the key question is whether and to what extent there is any continuity between what the computer sees on the one hand, and what the human analyst sees on the other.

### 1.2. Key terms and concepts of the thesis

The term *discipline* is generally understood as referring to different subject areas in higher education. That is, biology, economics, computer science and history are all disciplines. Among disciplinary discourse researchers, however, the concept of discipline is understood in a rather more complex and precise way. In particular, academic disciplines are seen as being “defined and differentiated by distinct and often radically different conceptions of what

knowledge is, where it is located, how it is to be constructed, and what the process of knowledge construction is for” (Groom, 2007, p. 1-2). In other words, each discipline has its own *epistemology*, epistemology being defined here in sociological rather than philosophical terms (Hyland, 2002b, p. 389).

Next, *phraseology* is an increasingly central issue in the field of corpus linguistics and lexical semantics, and is seen by many corpus researchers as “the tendency of words to occur in preferred sequences” (Hunston, 2002a, p. 138), or “the particular linguistic sequences through which such preferences or tendencies manifest themselves” (Groom, 2007, p. 1). The term *phraseology* in this study, however, will be originally defined to describe the preferred sequences of words in naturally occurring language data of a particular disciplinary discourse: it is closely linked to disciplinary culture and epistemology. The term *pattern* will also be used to indicate the subordinate term for *phraseology*, which will be used in this thesis to describe formulaic language based on sequences of words that are routinely used by English speakers, and which are therefore deemed to be indicative of “the preferred way of saying things in a particular discourse” (Gledhill, 2000, p. 1). My definition of ‘pattern’ will include, but not be restricted to, the kinds of lexico-grammatical pattern identified by Hunston and Francis in their major research monograph *Pattern Grammar* (1999). Whereas Hunston and Francis restrict themselves to studying the complementation patterns of individual verbs, nouns and adjectives, I will also focus on sequences of words that co-occur with particular grammatical categories. While lexico-grammatical patterning is generally interpreted at the colligational level as the combination of grammatical categories (e.g. ADJ PREP N) or of grammatical categories with a particular grammatical word (e.g. ADJ *about* N), I will also distinguish the combination of one grammatical category with specific words (i.e. a lexical word + a grammatical word + a grammatical category) as a specific sub-type of pattern (e.g. *optimistic about* N) in the current study. Accordingly, in this study I will make a distinction between patterns like ADJ *about* N, which I will refer to as Colligational Patterns (hereafter, CP), and patterns like *neutral about* N, which I will refer to as Lexically Specific Patterns (hereafter, LSP). This will be discussed in more detail in Chapter 3

Finally, whereas the term *collocation* is generally understood as referring to strings of specific lexical items co-occurring with a mutual expectancy greater than chance, the current study treats *collocation* as co-occurring word combinations irrespective of the degree of mutual expectancy. This is largely because the corpus and the dataset utilized in the current

study are still not large enough for calculating and identifying the figure *greater than chance*. It should also be noted that the term *collocation* in this study also includes not only mere word combinations but also the combinations of a particular pattern and a particular set of words.

### **1.3. Motivation of the thesis**

The initial impetus for this research was practical, and stemmed from my own experiences and observations as a learner and teacher of English for Specific [Academic] Purposes (ES[A]P). English is now firmly established as the de facto international language of academia. This can be problematic for English non-native speaker (NNS) researchers: academic papers that they have submitted to international journals are often rejected by reviewers because of a lack of academic English skills rather than because of any weaknesses in their actual research content (Flowerdew, 2000).

However, it is important to state here that the notion of ‘academic English skills’ is not restricted to mere grammatical knowledge, but also includes other kinds of knowledge relevant to the disciplinary culture, since each academic discipline is characterised by preferred forms of argumentation and preferred ways of expressing its own particular epistemological values in linguistic form (Charles, 2004). To take one simple example, Swales and Feak (2004, p. 196) note that the evaluative meanings of evaluative adjectives such as *simple* and *complex* differ dramatically from one discipline to the next. Scholars working in ‘pure’ science fields such as physics apprehend *simple* as a term of high praise, indicating that a piece of research is well planned or clearly designed, whilst *complex* is a term of abuse, equating to “confused” or “messy”. In contrast, social scientists and scholars in humanities fields such as history and literary criticism use the adjective *simple* to describe work that they regard as simplistic and unsophisticated, and reserve the adjective *complex* for work that is regarded as being worthy of the highest praise. It is an analysis of precisely this kind of disciplinary difference that the current study proposes to undertake, although our focus will be on multi-word adjective patterns rather than just on individual adjectives.

The practical motivation of the thesis, then, is to contribute to a greater understanding of the complex and subtle ways in which expert writers use particular linguistic forms to signal their membership of particular disciplinary discourse communities. As Hyland (2000, p. 391-3) points out, “expertise in a subject means being able to use its discourses in the specific

ways that one's readers are likely to find effective and persuasive". Charles (2006) likewise suggests that disciplinary differences in characteristic linguistic choices are ultimately reflective of differences in the ideology and epistemology of each discipline. As Charles' own work demonstrates, ways of organizing ideas in each academic discourse community differ especially in the type of lexico-grammatical patterning used, and such patterns are an important linguistic resource for encoding disciplinary culture. This being the case, it is necessary for EAP teachers to present their students with detailed accounts of the specific linguistic features of the academic disciplines that they are being apprenticed into. This thesis aims to make a practical contribution to this end, by providing new information about the kinds of evaluative meaning that are expressed by adjective patterns in the two disciplines of applied linguistics and business studies.

Although this thesis was initially motivated by practical and pedagogic concerns, as stated above, it has also become increasingly strongly informed by issues of a more general theoretical and methodological nature. In particular, this thesis proposes a new methodology for identifying the complex associations between a discipline and its pattern use. Pattern Grammar (hereafter, PG) has been used successfully to analyse academic specialized discourses (e.g. Charles, 2004, 2006; Groom, 2005). However, some linguists have criticised PG for lacking methodological sophistication; in particular, it has been described as lacking a quantitative dimension (e.g. Gries, 2008).<sup>1</sup> Thus, the current study attempts to show not only PG's sophistication as a qualitative approach to discourse analysis but also how PG can be used in a quantitatively sophisticated manner, by utilizing the methodology of multivariate analysis.

#### **1.4. Research questions**

The current study investigates how the pattern ADJ PREP N is used in RAs in the academic fields of applied linguistics and business studies. In particular, the current study attempts to reveal both linguistic and cultural differences through the behaviour of this pattern in these two 'soft-applied' disciplines.

The three main research questions (hereafter, RQs) in the current study are presented as follows:

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<sup>1</sup> Gries (2008) has particularly stated, "a combination of words needs to be "relatively frequent" to qualify as a pattern is so vague as to be practically vacuous" (p. 18).

- RQ1) Is it valuable to apply a new methodology (viz. correspondence analysis) to disciplinary discourse research?
- RQ2) What sort of differences are quantitatively and qualitatively identified in the pattern use between two disciplinary corpora through a corpus-based approach?
- RQ3) What sort of insights into disciplinary culture can be gained and generalized from an investigation of the pattern ADJ PREP N in applied linguistics and business studies?

In terms of RQ1, I attempt to test whether the computer's eyes can identify clear differences in the adjective choice in the pattern ADJ PREP N across two corpora representing two academic disciplines. Here, I assume that discipline, context, pattern and word are closely interrelated, and that the computer will thus to a certain extent be able to distinguish the tokens and types of adjectives in the pattern between two disciplines. Although RQ1 may seem to be a peripheral question, I believe that the agenda in question is relatively important in the field of academic discourse analysis, since previous studies in this field have tended to prioritize qualitative findings but have paid little attention towards developing a correspondingly more sophisticated quantitative methodology. The hypothesis underlying RQ2 is that phraseology is quantitatively and qualitatively biased towards a particular discipline, since disciplinary culture affects people's language use in academic discourse. I attempt to reveal language features peculiar to applied linguistics and business studies. In terms of RQ3, my hypothesis is that disciplinary culture is reflected in the textual meaning expressed by patterns in each academic discipline. Thus, I attempt to delineate a picture of the disciplinary cultures of applied linguistics and business studies based on the findings of my pattern investigation.

In order to answer these questions, quantitative and qualitative data about phraseologies having the pattern ADJ PREP N will be extracted from two corpora of RAs in applied linguistics and business studies. If it is the case that a disciplinary culture affects its language use in discourse, my claim will be that it is the corpus-based approach that can best measure the differences in the behaviour of lexico-grammatical patterns between the distinct disciplines.

## 1.5. Outline of the thesis

The current study is divided into 11 chapters. Chapter 2 introduces the concept of discipline, showing how this concept brings together knowledge, communication, language and epistemology. It also summarizes previous disciplinary research in applied linguistics and related fields. The chapter begins by arguing that there is an association between knowledge, communication and discipline. I then move on to discuss the close relationship between language and discipline, and provide a short introduction to disciplinary discourse research before introducing and defining the disciplines of applied linguistics and business studies, which form the empirical focus of the thesis.

Chapter 3 deals with the major features analysed in the current research. Taking the idiom principle proposed by Sinclair (1991) at the outset for the discussion, the concepts of lexico-grammatical patterning, collocation and evaluation are discussed. It is argued that all of these features are ideal targets for identifying disciplinary differences between applied linguistics and business studies.

Chapter 4 reviews quantitative approaches in text analysis and presents the rationale for the application of multivariate analysis in the current study. It also summarizes the mechanism of correspondence analysis as used in the current study.

Chapter 5 outlines the process of corpus creation, and the general methodology of the current study.

The aim of Chapter 6 is to provide a case study example of the methodology in action, focusing on the pattern ADJ *about* N. The basic approach presented in this chapter is repeated for each prepositional type of the pattern ADJ PREP N, but for reasons of space the results of each of these pattern analyses cannot be presented in full. Instead, those findings are developed, expanded and generalized in the analyses given by subsequent chapters 7, 8 and 9.

Chapter 7 presents the results of the data analysis for each variant of the pattern ADJ PREP N, focusing in particular on the quantitative data yielded by the correspondence analysis results obtained for each pattern.

Chapter 8 discusses the attitudinal meanings expressed by the patterns studied in each discipline. The term ‘Attitude’ here is borrowed from appraisal theory (Martin & Rose, 2003, 2007; White, 2004), and my analysis follows this general approach insofar as it distinguishes between subcategories of *judgement*, *affect* and *appreciation* in discourse. The qualitative analysis presented in this chapter shows that there are clear disciplinary differences

in the way each of these evaluative meanings is realized in applied linguistics and business studies.

While one would of course expect to find attitudinal evaluative meanings to be of central importance in a study focusing on adjective patterns, such meanings are not the only meanings identified by the current analysis. Chapter 9 presents and discusses a second major theme identified in my data, which focuses on the concept of *relation*. As the name suggests, *relation* patterns describe connections within and between things in applied linguistics and business studies. In more detail, my analysis shows that *relation* meanings can be subdivided into two kinds, namely *connection* and *attribute*. Disciplinary differences in the frequency and distribution of these two kinds of meaning will also be identified.

Chapter 10 attempts to make generalizations about the disciplinary cultures peculiar to applied linguistics and business studies, drawing together the main findings from both quantitative analysis (i.e. correspondence analysis) and qualitative analysis (i.e. discourse analysis). I particularly point to differences in eight kinds of disciplinary values (e.g. animacy—the degree to which each discipline conceptualises phenomena as animate or non-animate) as expressed by the pattern preferences of the two disciplines, before finally delineating a broad picture of what each discipline is like.

Chapter 11 brings the current study to a conclusion. I summarize the research as a whole, and then provide detailed answers to each of the research questions that were posed in this Chapter. Finally, I discuss the limitations of the current study, and consider some possibilities for further research, and the implications of my study for ESP teaching.

## **CHAPTER 2. Discipline and genre**

“A communication situation that recurs regularly in a society (in terms of participants, setting, communicative functions, and so forth) will tend over time to develop identifying markers of language structure and language use, different from the language of other communication situations” (Ferguson, 1994, p. 20).

### **2.1. Introduction**

This chapter outlines the concept of discipline in higher education, establishes the nature of applied linguistics and business studies as disciplinary formations, and reviews the RA genre in order to provide a justification for the empirical focus of the current study.

The chapter begins by dealing with the relationship between discipline and knowledge. Specifically, it introduces the theoretical categorization of disciplines developed by Becher (1987a, 1987b) and Becher and Trowler (2001). I then demonstrate how discipline and language are associated with each other, and how linguistic analysis can cast light on the meanings and values of particular disciplinary cultures. Following this is a discussion of the epistemological categorization of applied linguistics and business studies and offer several reasons for regarding both disciplines as multi-disciplinary in nature. Finally, I justify why the current study prioritizes the RA genre among others in order to investigate disciplinary differences in the use of pattern between the two academic disciplines.

### **2.2. Discipline and knowledge**

Knowledge is socially constructed as an output of community consensus, theories, beliefs, preconceptions, and schemes of perception produced not by the individual but by a group of people who share ideas interactively with one another (Kuhn, 1970; Rorty, 1979; Journet, 1990a, 1990b). We may refer to such a group of people as a discourse community (Swales, 1990). Discourse communities that are centred on a particular area of academic knowledge and that are associated with particular bodies of theory, research and methodological procedures are known as disciplines. A discipline is created out of the knowledge shared by people who belong to the same discourse community. In other words, ‘discipline’ is the delineation of a particular intellectual subculture, and it is through language that this culture first establishes itself and develops over time (for further discussion see Section 2.3).

Since discipline and knowledge are closely connected to each other, different

disciplines feature different bodies of knowledge and draw on different sets of skills. For example, it is important to both analyse and synthesise multiple sources in humanities and social sciences disciplines, whereas activity-based skills (such as defining objects, describing procedures, and planning solutions) are more often required in science and technology disciplines (Casanave & Hubbard, 1992). Bridgeman and Carlson (1984) have pointed out that “descriptive skills (e.g. describe apparatus, describe a procedure)” are prioritized in engineering, computer science and psychology, whereas “skill in arguing for a particular position” seems important in business studies and psychology (Bridgeman & Carlson, 1984, p. 278).<sup>2</sup> Hence, knowledge in each disciplinary field may be realized differently.

Following this view, several epistemologists have attempted to categorize academic disciplines based on knowledge. Perhaps the best known work in this field is that of Becher (1987a, 1987b, 1989a, 1994; Becher & Trowler 2001; Neumann, Parry, & Becher, 2002), who has developed a theory of disciplinary categorization based on Biglan’s (1973a, 1973b) earlier works. In Becher’s model, disciplinary culture is divided into four categories depending on the nature of knowledge. These categories, which Becher terms *knowledge domains*, are pure science (or hard-pure), humanities and pure social sciences (or soft-pure), technologies (or hard-applied), and applied social sciences (or soft-applied). Becher’s schematic representation of knowledge is illustrated in figure 2.1 and the nature of knowledge depending on the disciplinary group is provided in figure 2.2.

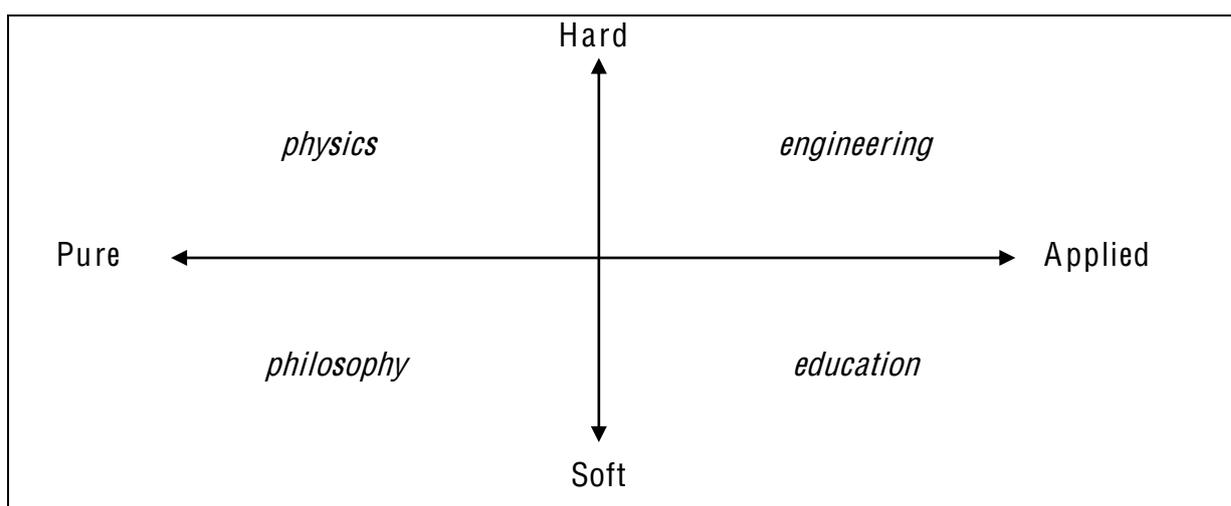


Figure 2.1. Becher’s schematic representation of knowledge domains (Source: Groom, 2007, p. 18)

<sup>2</sup> ‘Skill in arguing for a particular position’ in business studies and psychology, for example, indicates “organizing arguments from several sources” and “analyzing and criticizing ideas, excerpts, or passages” (Bridgeman & Carlson, 1984, p. 263).

Disciplinary group	Nature of knowledge
Pure sciences (hard-pure)	Cumulative; atomistic, concerned with universals; impersonal; value-free; clear criteria for knowledge verification and obsolescence; consensus over significant questions to address, now and then in the future; result in discovery/explanation
Humanities and pure social sciences (soft-pure)	Reiterative; holistic; concerned with particulars; qualities, complication; personal; value-laden; dispute over criteria for knowledge verification and obsolescence; lack of consensus over significant questions to address; results in understanding/interpretation
Technologies (hard-applied)	Purposive; pragmatic; concerned with mastery of physical environment; applies heuristic approaches; uses both qualitative and quantitative approaches; criteria for judgement are purposive, functional; results in products/techniques
Applied social sciences (soft-applied)	Functional; utilitarian; concerned with enhancement of [semi-] professional practice; uses case studies and case law to a large extent; results in protocols/procedures

Figure 2.2. The nature of knowledge and disciplinary grouping in Becher and Trowler (2001, p. 36)

Kolb (1981) has categorized disciplines in a similar way to Becher. However, there is a difference between Becher's and Kolb's approaches: Becher's study focuses on the subject matter of research whilst Kolb's study focuses on the styles of intellectual enquiry. Since I regard disciplines primarily as areas of content specialisation, Becher's approach will be more relevant for the purposes of the current study.

To sum up the discussion thus far, disciplines are closely related to social organizations as well as epistemology, and are also conceptualised as discourse communities (Swales, 1990), in which "membership entails conformity to a distinctive set of discursive conventions" (Groom, 2007, p. 4; see also Bartholomae, 1986; Borg, 2003). While some disciplines are clearly delineated in their boundaries, others are in most cases rather ambiguous and problematic (Becher, 1981, 1989a, 1989b, 1990). This is largely because several disciplines or sub-disciplines often cross over disciplinary boundaries: it would be rather difficult to achieve clear distinctions among disciplines such as these. For instance,

White and Liccardi (2006) have shown that the recent range of computer analyses (e.g. data processing, statistical analyses, corpus investigation with personal computers) in linguistics has changed parts of this discipline from being characterized as soft into being seen rather as hard, in epistemological terms. Thus, a discipline itself is not static, but active and dynamic, and changing over time.

### **2.3. Discipline and language**

Language is inextricably tied to disciplinary knowledge and its modes of communication (Hall, 1959), and in fact constitutes the most important medium for the exchange of information among discourse community members. As Hall (1959) also points out, language is, in other words, a reflection of culture: certain similarities naturally occur among academics interested in similar questions, and it is precisely these similarities that enable academics to talk to each other and share their knowledge (Bailey, 1977). That is, to speak of different disciplines implies distinct ideas, distinct research problems, distinct theoretical propositions, distinct paradigms, distinct presentations and distinct evaluations of knowledge (Clark, 2003). Building on this view, Becher and Trowler (2001) propose that any investigation of vocabularies, codes, and disciplinary discourses in communicative written language is useful in order to reveal disciplinary differences and cultures; the words in a disciplinary text are schematically interrelated to both meaning and reality, thereby defining the culture of a particular discourse community (Swales, 1990; Widdowson, 1998). That is, linguistic analysis in disciplinary contexts may provide meaningful information on both the cultural features and knowledge implied in a disciplinary community.

The professional language of each discipline (e.g. in RAs, book reviews, textbooks, oral interaction) contributes to the creation of an academic culture and assists in establishing what a discipline is like. It has now become an established methodology to investigate disciplinary discourses in order to understand how each scientific community constructs its knowledge, assertions and negotiations. This is because “the ways that writers present their arguments, control their rhetorical personality, and engage their readers reflect preferred disciplinary practices” (Hyland, 2002b, p. 391). The linguistic analysis of disciplinary discourses also enables researchers to define its ideological domain, modes, and values in question, which makes it possible to ascertain the nature of the texts it creates (Journet, 1990a, 1990b; Koutsantoni, 2003). Such research is also clearly important for EAP practitioners, who

need to introduce students to the particular linguistic characteristics of their chosen academic disciplines.

As mentioned above, language is a means through which members of a discourse community share schematic knowledge of ideational patterns of communal views, assumptions, conventions, beliefs, and even values of a shared culture constructing particular discourse communities (Widdowson, 1998). In the current study, I define discipline as the specific discourse community in which participants can share their knowledge interactively through language based on common interests. My fundamental assumption is that language sometimes informs not only obvious opinions but also implied claims through certain linguistic items— patterns, which are likely to vary from one disciplinary culture to another. This is largely because such patterns are samples of the *cultural code* in a discipline and its discourse.

#### **2.4. Disciplinary research in language studies**

Knowledge and language are, as previously mentioned, closely connected with each other. Knowledge differs through the use of language, which results in how each academic discipline differs epistemologically. Groom (2007) illustrates the contrast of knowledge between pure sciences and humanities as follows:

“For the scientist, knowledge is a series of objective facts about the external world. These facts are ‘out there’, waiting to be discovered; all that the scientist needs to do is formulate the right questions, and to perform the right experiments. For the humanities scholar, in contrast, knowledge resides not so much in the external world as in the subjectivity of the observer; knowledge is a matter of personal understanding and interpretation, and is therefore likely to vary considerably from individual to individual” (Groom, 2007, p. 21-22)

As Becher (1987b) and Charles (2006) also propose, linguistic forms and their meanings vary in their characteristics depending on discipline. This is because scholars in different disciplines discuss different content, structure different types of arguments, express different attitudes and perceive knowledge in different ways. Knowledge and language are, thus, “mutually constitutive”, and these “complementary and interconnected perspectives” are encapsulated in the now well-established term *disciplinary discourse* (Becher, 1987b; Hyland, 2000; Charles, 2006; Groom, 2007).

However, it was not possible to clarify such a robust link between knowledge, language and discipline as presented in the work cited above until the computer corpus emerged. Language studies previously conducted primarily through discourse analysis were to a large extent limited to a manual approach: the size of research samples and the research methodology were limited by the capacities of the lone human analyst. The findings in the early studies particularly lack both sophistication and replicability: there is no way to confirm whether such findings based on a few samples and one researcher's subjective interpretations represent the consistent characteristics of each discipline being investigated. Indeed, Bazerman pointed out precisely these limitations of small-scale manual disciplinary discourse research in the early 1980s:

“We cannot even begin to speculate on what uniformities with what variations exist within disciplines or whether patterns of differences emerge among disciplines until many more examples have been examined and statistical indicators found to test the generality of conclusions.” (Bazerman, 1994, p. 180; originally written in 1981).

Bazerman's own study was based on only three academic articles, from the fields of molecular biology, sociology, and literary criticism respectively, representing the three traditional divisions of the academic fields (i.e. sciences, social sciences, and humanities).<sup>3</sup> Now, however, Bazerman's concerns have been addressed through the advent of computer corpora and user-friendly corpus analysis software, both of which can be utilized on a personal computer.

Discipline-specific corpora are easily compiled to investigate the language features peculiar to particular disciplines. According to Swales (2004), corpus linguistics and its software are invaluable for disciplinary and genre studies in comparing language, knowledge, experience, attitude and culture. With self-compiled corpora, for instance, Hyland (2000) is able to make large-scale comparisons across eight disciplines – philosophy, applied linguistics, marketing, sociology, physics, biology, electrical engineering and mechanical engineering; Conrad (2001) and Cortes (2004) are able to compare history and biology; and Charles (2006) is able to compare politics and materials science. A series of studies conducted by Hyland (1998), for example, revealed that writers in the fields of marketing and applied linguistics are

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<sup>3</sup> Bazerman (1994; originally written in 1981) investigated the texts in these articles in four aspects: ‘the object under study’, ‘the literature of the field’, ‘the anticipated audience’, and ‘the author's own self’ (p. 160).

likely to use interpersonal metadiscourse features such as hedging to persuade readers to accept their arguments, while researchers in microbiology and astrophysics are likely to use overt intertextuality to minimize their own authorial presence in texts. Hyland's findings (1998, 2000) lead to the conclusion that hedges occur very frequently in soft disciplines, but are less used in hard disciplines because subjective ideas are the primary feature of the former while objective and structural features dominate in the latter. In other words, the ability to study large corpora enables the analyst to demonstrate empirically Becher and Trowler's (2001) claim that the construction of knowledge in social science is overtly personal, whereas in the natural sciences it is presented as impersonal and objective.

As Charles (2004) has pointed out, comparative studies are important for revealing linguistic characteristics of different disciplines. However, one of the challenges that the new generation of corpus-based researchers face is the choice of which discipline to compare. As should be clear from the above, most studies have tended to compare disciplines from very different epistemological traditions (e.g. history and biology). However, it could be objected that we can easily predict the existence of differences between language used in soft and hard disciplines even before undertaking in-depth research. Differences within the same epistemological field (i.e. hard or soft) are harder to predict, and it is perhaps for this reason that such research is quite rare. Groom (2005) examined history and literary criticism, two soft disciplines, and found that although there were certain continuities between the two fields, each discipline nevertheless has its own unique phraseological profile. What this study shows is that the in-depth study of epistemologically similar disciplines is valuable not only in that it contributes to our understanding of disciplinary differences, but also because it presents a more stringent test for the disciplinary differences.

More specifically, several researchers (e.g. Hyland, 2000; Becher & Trowler, 2001; Atkinson, 2004) have considered disciplinary communities as 'sub-cultures' with distinct internal norms and practices which are shared and constructed by their members. Such disciplinary conventions seem to constrain writing conventions (i.e. the writer's choice of language in the discourse) (e.g. Hyland, 1998, 2002a; Breivega, Dahl & Fløtum, 2003). Following this assumption, one of my interests in the current study is to analyse pattern variation and behaviour between distinct disciplines. In particular, the current study attempts to extend the approach used in Groom's study of looking at two soft disciplines. This is largely because the construction of knowledge in the natural sciences (i.e. hard disciplines) is

typically presented as impersonal and objective, that is, as the result of empirical procedures carried out by teams of disinterested researchers, whereas that in the social sciences (i.e. soft disciplines) is explicitly personal and subjective, and the result of individual interpretation (Hyland, 1998; Becher & Trower, 2001). This being the case, it is reasonable to assume that the soft disciplines are better suited than hard disciplines for investigating writers' personal attitudes inscribed in the discourse.

According to Carter and McCarthy (2006), for example, attributive adjectives (as adjectives of classification or as pre-modifiers of nouns) occur frequently in scientific and technical writings (i.e. hard disciplines), whilst predicative (or evaluative) adjectives occur frequently in humanities (i.e. soft disciplines) as obvious evaluative markers, often pre-modified by degree adverbs. In other words, it is reasonable to hypothesize that such evaluation (or stance) markers are more likely to occur in soft disciplines than those in hard disciplines. In particular, such predicative adjectives are often used in 'patterns' in academic discourse to express specific meanings and functions such as judgements, feelings, and so on (cf., Hunston, 2000). Hunston and Sinclair (2000), for example, introduce sample patterns of adjectives expressing evaluation (e.g. *(it)* v-link ADJ *that/wh-/to-inf*, *there* v-link *something/anything/nothing* ADJ *about/in* N/-ing). Since such attitudinal markers reflect both writing style and play an important role in constructing personal opinions in the discourse, the investigation of such markers is invaluable in ascertaining and identifying the construction of knowledge, style and function in academic discourse, all of which will serve to identify aspects of disciplinary culture.

The two soft disciplines selected in the current study are applied linguistics and business studies. Once a somewhat neglected discipline in academic discourse studies (Flowerdew, 2000), applied linguistics has been the subject of a growing number of studies in the last decade (e.g. Yang & Allison, 2004; Atai & Falah, 2005; Vázquez, Lafuente, Lorés & Mur, 2006; Peacock, 2002). However, although some of these studies have made use of corpus tools and methods, they have tended to be based on rather small collections of data. A further problem with these studies is that they may not be representative of current issues in the discipline of applied linguistics, given the fast-moving and rapidly-developing nature of this discipline (Groom & Littlemore, 2011).

A similar situation applies in the case of business studies. Here, the main problem is that data samples in previous studies of this discipline tend to be restricted to the particular

sub-disciplines of Marketing and Management (e.g. Peacock, 2002; Hyland, 1999, 2001, 2002a; Hemais, 2001).<sup>4</sup> An interesting case in this regard is Hyland (1999), which studies the link between academic citation practices and the construction of disciplinary knowledge in 80 RAs across eight disciplines. A potential problem with Hyland's approach is that some of the subjects he identifies (e.g. marketing, molecular biology and magnetic physics) do not seem to be at the same level of generality as others (e.g. applied linguistics, philosophy and sociology). One of the exceptions to this tendency (i.e. not targeting only a few business sub-disciplines) is the work of Nelson (2006). The Business English Corpus (hereafter, BEC) compiled in his study is well-designed; it is comparatively large, standing at 1,023,000 tokens altogether, and comprises both written (56%) and spoken (44%) texts. However, although the range of texts in the BEC is adequate for it to be called "well-designed" (e.g. faxes, email, reports, annual reports, contracts, telephone conversations, newspapers, journals and so on), the size of each sample is relatively small. This is largely because Nelson (2006) attempted to make his corpus representative of the whole population of business activities.

In order to fill a gap in these past studies, the current study attempts to achieve some degree of representativeness of language use in each discipline by adhering to several standards (e.g. size, current language use, balance; see details in Section 5.2). Unlike Nelson (2006), it is also my belief that the texts of a particular genre and at a certain size are more reflective of what a particular disciplinary discourse is like. I will argue this point further in Section 2.7. My first aim, then, is to build corpora upon which reasonably valid comparisons can be made between language use in applied linguistics and business studies. I will then attempt to reveal both linguistic and cultural differences through the behaviour of adjective patterns in the academic contexts of soft-disciplines— applied linguistics and business studies— as case study exemplars. The results of this study may be useful to learners of academic English pursuing higher studies in the fields of applied linguistics and business studies, to teachers of academic English, and to researchers in these fields. Both fields are 'soft-applied' (in Becher's terms) and multi-disciplinary, as will be discussed in the following two sections.

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<sup>4</sup> Research samples in Peacock (2002) are 252 RAs discussion sections from the distinct seven disciplines, that is, Physics and Material Science, Biology, Environmental Science, Business (Marketing and Management), Language and Linguistics, Public and Social Administration and Law. In Peacock study, communicative moves are investigated in detail.

## **2.5. Applied linguistics and business studies as soft-applied fields**

The epistemological investigation into knowledge structure reveals an overall tendency towards distinctiveness among various disciplines (i.e. researchers distinguish disciplines into categories) (Becher, 1987a, 1987b, 1994; Neumann et al., 2002). Biglan (1973a, 1973b), for example, subcategorizes 36 disciplines into four fields epistemologically, based on the view of 168 university faculty members: pure-soft, soft-applied, pure-hard and hard-applied. While the content and method used in soft fields, for example, in humanities subjects such as linguistics, are idiosyncratic, it is also suggested that business studies is perhaps best classified as a soft science as well, largely because scholars in this field struggle for a paradigm but have yet to achieve one.

The knowledge of soft-pure fields, such as philosophy and linguistics, is qualitative and holistic in nature. Teachers generally conduct their lessons face-to-face with their students through tutorials, discussions, and debates in which creative thinking is particularly required in student learning. Although sharing some of these characteristics, applied linguistics is somewhat different in that its focus is largely on the “enhancement of semi-professional practice” (Becher & Trowler, 2001, p. 36). In addition, due to recent advances in the use of computers (e.g. statistics, data processing, corpus linguistic analyses with personal computers), applied linguistics may now be understood as not fully a soft-pure discipline but rather as a soft-applied discipline. Likewise, business studies is also a soft-applied discipline due to its focus on practice, as commonly seen in its use of case studies and its interest in case law (Becher & Trowler, 2001, p. 36). Teaching methods are quite similar to those of the soft-pure sciences, and unlike the teacher-centred methods favoured in the hard sciences (Lueddeke, 2003). Therefore, both applied linguistics and business studies can be grouped in the same category as soft-applied disciplines from the epistemological viewpoint.

## **2.6. Applied linguistics and business studies as multi-disciplinary fields**

Thus far, we have argued that both applied linguistics and business studies can be grouped in the same category as soft-applied disciplines from the epistemological viewpoint. This section argues that both applied linguistics and business studies are also highly eclectic in both theoretical and methodological terms, and are thus best seen as essentially *multi-disciplinary* in nature.

### **2.6.1. Applied linguistics**

Applied linguistics, as an academic discipline, has developed rapidly since its inception in the 1950s. Its aim is to provide solutions to real-life language and communication problems (Cook, 2003). Unlike other branches of linguistics, applied linguistics is a theorizing rather than a theoretical discipline, or an activity not producing theories but consuming, using and developing them by putting them to practical use (Corder, 1973; Bell, 1981; Davies, 1999). It could be perceived as a bridge between theory and practice and of value to language teachers and language learners, for example. In addition, one of the major differences between linguistics and applied linguistics is in their research targets. The former decontextualizes language from reality while the latter recontextualizes language and attempts to reconstruct reality in the process. This suggests that linguistics sees itself as a scientific mode of study in the same vein as physics or biology, whereas applied linguistics has certain affinities with technological forms of study such as engineering (Widdowson, 2000). Thus, linguistics is construed as pure science but applied linguistics is rather an applied science, as its name suggests.

In addition, the International Association of Applied Linguistics (AILA) provides the following explanation on the disciplinary position of applied linguistics on its website (<http://www.aila.info/about/index.htm>):

Applied Linguistics is an interdisciplinary field of research and practice dealing with practical problems of language and communication that can be identified, analysed or solved by applying available theories, methods and results of Linguistics or by developing new theoretical and methodological frameworks in Linguistics to work on these problems.

For AILA, the largest worldwide organization of applied linguistics, applied linguistics is clearly an inter-disciplinary field. AILA illustrates problems treated in applied linguistics in its discussion: various issues intermingle within the field, such as language acquisition, literacy, language disorders, language variation, linguistic discrimination, multilingualism, language conflict, language policy, and language planning. These problems can also be conceptualized as problems treated in other academic fields, such as psychology, medical science, politics, sociology and so on. Thus, the nature of applied linguistics results in mingling and collaborating with other fields. It can thus be said to be multi-disciplinary in nature.

### **2.6.2. Business studies**

Business communication develops from many ideas, agendas, interests, methodologies, theories, applications and practices (Shaw, 1993). The purpose of business studies is to seek for methods and approaches towards the development and maintenance of business relationships, the ways in which business management can be made effective, the achievement of fundamental goals in business, understanding the quality of economic life in a business community and the maximization of shareholders' wealth (Smeltzer, 1996; Reinsch, 1991, 1996). In other words, the primary purpose of business studies is to aid businesses, companies, employers, and employees to perform more effectively in their social environments. Although the purpose of business studies itself is rather fixed like other disciplines, one of the problems in business studies—that of business communication—is not clear in its disciplinary delineation (Hagge, 1987). Some scholars have even remarked that business communication is not a subject, but a methodology—much like corpus linguistics in linguistics—largely because business communication focuses more on acquiring skills rather than producing knowledge (Daniel, 1983; Graham, 1998).

On the other hand, several scholars maintain that business communication is a hybrid discipline, an inter-discipline or a multi-discipline (Shaw, 1993; Locker, 1994, 1998); for instance, some recent aspects of the business studies agenda, such as business ethics, cross-cultural business communication, and business management presentations, seem to be based on theories and research from other disciplines such as philosophy, linguistics, psychology, sociology, and many others. In other words, the discipline of business studies is constructed from parts of other disciplines (as the plural noun 'studies' in the title 'business studies' seems implicitly to acknowledge), resulting in researchers labelling business as a multi-discipline (Shaw, 1993) or a "homeless" discipline (Smeltzer, 1996, p. 10). As a result, seeking a clear delineation of the business discipline may be pointless because the nature of business studies as an academic field is obviously multi-disciplinary (Shaw, 1993; Locker, 1994).

## **2.7. Genre and research articles**

### **2.7.1. Genre: Communicative purpose and frames for social action**

The emergence of genre as a research topic has its origins during the 1960s and 70s from works by researchers such as Barber (1962), Herbert (1965), Ewer and Latorre (1969), Ewer

(1971), Ewer and Hughes-Davies (1972), Lackstrom, Selinker and Trimble (1972) and others. Inspired by these pioneering works, Swales (1990) developed a more thorough approach to applied genre analysis, with a particular focus on English academic and research genres. Swales defines 'genre' in 1990 as follows (all emphases are my own):

A genre comprises a class of communicative events, the members of which share some set of communicative purposes. These purposes are recognized by the expert members of the parent discourse community, and thereby constitute the rationale for the genre. This rationale shapes the schematic structure of the discourse and influences and constrains choice of content and style. Communicative purpose is both a privileged criterion and one that operates to keep the scope of a genre as here conceived narrowly focused on comparable rhetorical action. In addition to purpose, exemplars of a genre exhibit various patterns of similarity in terms of structure, style, content and intended audience. (p. 58)

As Swales (1990) points out, each genre has its own communicative purpose (or set of communicative purposes) (see also Askehave & Swales, 2000). Such communicative purposes reside only “within the framework of socially recognized purpose(s)” (Bhatia, 1993, p. 13) in which expert members of the discourse community can “achieve private intentions” (p. 13). Bex (1996) also stresses the social aspect of genre: a genre is “an aggregation of communicative events that fulfil a common social function” (p. 137). A similar (if not identical) view is taken by Systemic-Functional linguists such as Martin (1992). Thus, genre itself is a frame for ‘social action’. Swales (2004) further elaborates on this idea by drawing on the characterizations of genre developed by Bazerman (1997):

Genres are not just forms. Genres are forms of life, ways of being. They are frames for social action. They are environments for learning. They are locations within which meaning is constructed. Genres shape the thoughts we form and the communications by which we interact. Genres are the familiar places we go to create intelligible communicative action with each other and the guideposts we use to explore the familiar. (p. 19)

Swales (2004) thus offers a rather broader concept of genre than that originally proposed in his 1990 monograph: as he puts it himself, “genres are seen metaphorically as *frames* for social action, not as social actions themselves” (p. 61). At the same time, Swales assumes that genre is a *frame*, providing “only a relatively small part of what might in the end be needed for fully effective communicative action” (p. 62).

While this broad social view of genre is clearly relevant and important in terms of the present research, the strongly empirical and linguistically-focused nature of my study means that this view needs to be supplemented by a more linguistically-delineated definition of genre. For this, we turn to the basic description of ‘genre’ proposed by Biber (1988; 1993c):

“I use the term ‘genre’ to refer to categorizations assigned on the basis of external criteria. I use the term ‘text type’, on the other hand, to refer to groupings of texts that are similar with respect to their linguistic form, irrespective of genre categories.” (Biber, 1988, p. 70) [In later work, Biber changed the term ‘genre’ to ‘register’]

What is particularly useful about Biber’s definition is that it makes a clear distinction between the concept of genre and the concept of text type. To summarize his ideas, ‘genre’ is the variety of texts contained in a culture, such as scientific writing, science fiction, letters, press periodicals, conversation etc. Text types, in contrast, differ at the linguistic level. While genre is a more general concept than text type, it is naturally assumed that genre includes text type, or that genre is superordinate to text type.

In summary, then, the view of ‘genre’ adopted in this thesis is one that sees genres as determined and delineated not only by external cultural features but also by internal linguistic features, which are identifiable by means of a corpus-driven approach, and which can then be further codified through a qualitative analysis of linguistic patterns and styles. My claim, therefore, is that internal linguistic features and external cultural features are closely linked. In this regard, the thesis aims to build on Groom (2005), in which an analysis of linguistic and evaluative differences led to the identification of epistemological difference between two disciplines (i.e. history and literature criticism) across two genres (i.e. RAs and review articles) based on a corpus linguistic approach. Thus, I assume that, as an alternative to concepts of genre as *a priori* listings of textual variety, both discipline and genre emerge as a

topic for quantitative and qualitative researches in corpus linguistics.

### 2.7.2. Research articles

We now turn to the question of why the RA genre has been selected as the empirical focus on this thesis. Over 350 years has already passed since the first scientific journal *The Philosophical Transactions of the Royal Society* emerged in 1665 (Swales, 1990). The genre of the scientific RA developed from “the informative letters” written by scientists (Swales, 1990, p. 110), in order to share their academic knowledge with each other. This communicative purpose has remained the same ever since.

The RA genre is a highly social genre in another key respect. According to Swales (2004), the RAs published in academic journals are the final outcome in a written form, introducing knowledge and ideas and presenting the results of a particular academic research through a complex process: they are produced from many drafts reflecting “multiple inputs” (i.e. advice or comments) from discourse community members such as co-authors, colleagues, reviewers, editors, supervisors (if the authors are post-graduate students), or many anonymous audiences at academic colloquia (p. 218). For this reason, it is naturally understood that “RA texts are richly persuasive rather than flatly expository” (p. 218).

The RA is now widely regarded as “the key genre” in many scholarly or research-driven discourse communities. As Swales (1990, p. 177) points out, this is not only because the RA acts as the main conduit of new research knowledge, but also because it “has a dynamic relationship with all the other public research-process genres”, and the RA is “at the centre of a spider’s web” as follows:

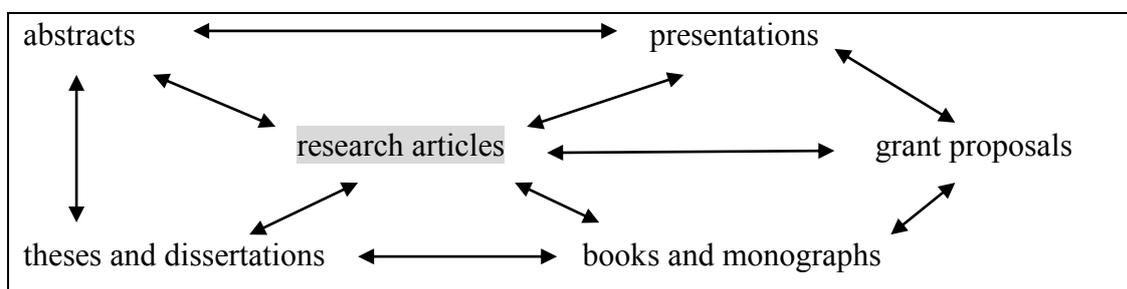


Figure 2.3. The RA and other research-process genres (quoted from Swales (1990, p. 177))

In summary, the RA genre is traditionally the fundamental genre deepening the quality of academic research and developing each disciplinary culture. For this reason, this

genre has come increasingly under the spotlight over time, as “the main channel of scientific or scholarly communication” in every academic discipline (Holmes, 1997, p. 322). At the same time, RAs are increasingly being seen as one of the principal means by which discourse communities are produced and sustained:

“the writers of RAs need to manifest deference to and solidarity with their respective research communities, which, through their various gatekeeping roles, exert considerable power and influence” (Swales, 2004, p. 218)

As Swales (2004, p. 240) points out, the “unfinished business” in current research on the RA genre is the concept of “disciplinary variation”, and a particular corpus of RAs allows us to examine the “disciplinary proclivities” in linguistic and stylistic features. By accumulating the knowledge together with other members in the same discourse communities, a mere note on a particular research topic is thus finally expanded into an RA that is finely attuned to disciplinary conventions. For this reason, this genre is ideally suited to the investigation of disciplinary differences.

Since the RA is the key genre in academic discourse, it is not surprising that it has already been the subject of a great deal of research in the field of ESP. For instance, Thetela (1997), which is in many respects similar to the current study, studies how evaluation works through a text in order to transmit the writer’s purpose in four disciplines (i.e. history, economics, psychology, and applied linguistics). Kuo (1999) quantitatively investigated personal pronouns in a corpus of scientific RAs of three disciplines (i.e. computer science, electronic engineering, and physics). Varttala (1999) investigated ‘hedging’ in popular scientific publications and specialist RAs on medicine. Hyland (2001) examines the strategy of self-mention (i.e. the use of self-citation and exclusive first person pronouns) in a corpus of 240 RAs in eight disciplines (i.e. physics, marketing, biology, philosophy, applied linguistics, sociology, electronic engineering, and mechanical engineering) in order to reveal “how self-mention is used and perceived as a way of understanding more about writing in the disciplines and the kinds of options available to students” (p. 208). Martinez (2001) reports on the way in which impersonal constructions encoded in transitivity structures are used in a corpus of 21 experimental RAs in the fields of physical, biological and social sciences. Other notable studies on this genre focus on features such as evaluation and stance (e.g. Groom,

2005, 2007; Hunston, 1993; Thompson & Ye, 1991), reporting conventions (Hyland, 2000; Thomas & Hawes, 1994), and hedges (Hyland, 1996, 1998). All of these studies attempt to reveal the ways in which the interaction between a writer and target readers are realised in the RAs of some academic disciplines.

## **2.8. Conclusion**

This chapter has attempted to show that knowledge and language are closely connected to discipline, that language plays a crucial role in delineating each disciplinary culture, and that language functions as a communicative device to transmit the understanding of knowledge to discourse community members (Parry, 1998; Ylijoki, 2000). I then introduced both applied linguistics and business studies as soft-applied disciplines that are multi-disciplinary in nature. Finally, I attempted to show that the RA is an ideal locus for investigating the ways in which writers in different disciplines express disciplinary meanings and cultural values.

In Becher's model of academic disciplinary cultures, a discipline is conceptualised as a discourse community in which people share and create common interests, concepts, styles, and structures. Since applied linguistics and business studies researchers may belong to the same 'knowledge domain', a more precise and detailed analysis from a linguistic perspective is required to reveal similarities and differences between these disciplines. The aim of the current study is, thus, to investigate such features using a corpus linguistic methodology. It is hoped that such an analysis will cast light on how and to what extent the two soft-applied disciplines of applied linguistics and business studies differ in epistemological and cultural terms.

The following chapter introduces the main linguistic features that will be analysed in the current study—lexico-grammatical patterns, collocations, and evaluative meanings—in detail.

## CHAPTER 3. Pattern, meaning and evaluation: Major features analysed in the current research

“Pattern is ... an important site of investigation with regard to variation, because it represents a link between lexis, grammar and meaning. Identification of the significant patterns in a given variety, or register, of English helps to indicate the meanings that are prevalent in that variety or register”. (Hunston, 2002b, p. 167)

### 3.1. Introduction

This chapter has two aims. First, I will establish the general theory of language that underpins the research reported in the current study. I will then introduce the major features that will be studied in the empirical analysis and that are reported and discussed in the current study. The chapter begins by outlining the concept of idiom principle as introduced by Sinclair (1991). I then provide an overview of the concept of lexico-grammatical patterns, before going on to set out a novel approach to the relation between collocation and pattern, which will inform the empirical research conducted in the current study. Each of these phenomena will be exemplified in section 3.4. Following this, I consider the relationship between pattern and evaluation in section 3.5.

### 3.2. A phraseological theory of language

Since de Saussure (1986), it has been a central assumption of mainstream linguistics that *language structure*, namely *langue*, should be the target of linguistic investigation rather than *language in use*, namely *parole*. (N.B. Saussure, the founder of ‘structuralism’ in linguistics, construed language as a system of signs. Typical examples of language structures he investigated are syntax (or grammar) rather than mere vocabulary use: his studies prioritized sign systems and their rules over particular expressions used in the system. Since Saussure also placed more high value on rules of narrative than linguistic style, it can be said that he attempted to formalize language and linguistic phenomena.) This axiom was reinforced and developed by Noam Chomsky (esp. since Chomsky (1957)), who calls the former *competence* and the latter *performance*.<sup>5</sup> Since language is interpreted as a biologically determined mental process in Chomsky’s generative grammar theory, social factors are excluded from his linguistic analysis. Accordingly, *competence* is seen as the sole object of analysis, whereas

<sup>5</sup> *Langue* and *Competence* are not identical terms; in particular, whereas Saussure conceptualizes *langue* as a social phenomenon, Chomsky locates *competence* within the mind of the individual speaker.

*performance* is regarded as irrelevant. These attitudes are further reinforced by Saussure's distinction between the syntagmatic and paradigmatic dimensions of language: syntagmatic relations indicate the combination of linguistic items, whereas paradigmatic relations express substitution among items. Although generative grammarians have tended to focus on paradigmatic relations, syntagmatic relations in language should not be avoided in the language study. As Fellbaum (1998, p. 9) has pointed out, "a substantial proportion of speakers' associations to word stimuli are syntagmatic". This is the position that many corpus linguists hold.

Corpus linguists look at *language in use* (or *parole* or *performance*) in contrast with the Saussurean research stance. This school of linguistics has its origins in the works of J.R. Firth (1935, 1957a, 1957b). In Firth's theory, language should be conceptualized and investigated as a social process. This stance is also supported and developed by M.A.K. Halliday (1973, 1975, 1994, 2003, 2005). In his theory of functional grammar, grammar is associated with both semantics (viz. meaning) and function (viz. how language is used) (cf. Bloor & Bloor, 1995). John Sinclair, the pioneer of the first corpus-based general English dictionary—Collins COBUILD English Language Dictionary (Sinclair, 1987), also claims that both meaning and use should be placed at the heart of linguistic theorizing, and not relegated to the periphery as they are in Chomskyan generativist models of language. In a syntagmatic view of language, meaning and form (which some researchers call sense and syntax) are closely associated with each other.<sup>6</sup> This argument fundamentally rests on two pieces of evidence, both of which emerge from large-scale observations of corpus data: that meanings are likely to be divided by different patterns; and that words with the same pattern are likely to share a particular meaning (cf. Hunston & Francis, 1999). Each of these key ideas will be further explored later on in this chapter.

In the syntagmatic view of language, the concept of co-selection is also a key issue. One of the earliest and most frequently cited statements to this effect is Firth's observation that words conventionally and habitually keep company with certain other words. Firth's insight into meaning through collocation was formalized and consolidated by John Sinclair. Sinclair (1991, p. 170) defines collocation as "the occurrence of two or more words within a short space of each other in a text". Many researchers have tended to draw a line between the co-selection of lexical items and that of grammatical items: the former is regarded as

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<sup>6</sup> Sinclair (1991) uses "sense and syntax", and Hunston and Francis (1999) "meaning and pattern".

collocation and the latter as colligation (e.g. Palmer, 1968; Stubbs, 2001). Sinclair himself implicitly admits that the property of collocation is the relationship between lexical items: “collocation in its purest sense recognises only the lexical co-occurrence of words” (1991, p. 170).<sup>7</sup>

On the basis of the vast amount of language evidence extracted from large-sized corpora (e.g. the Bank of English), corpus linguists conclude that human linguistic communication is constructed by interpreting and producing pre-stored prefabricated sequences of words to a far greater extent than had been previously thought (Erman & Warren, 2000) (i.e. the use of traditional grammar is, to a certain extent, not very operative in real-time linguistic communication). The superordinate term for such sequences of words in naturally occurring language data is *phraseology*<sup>8</sup> (some researchers call them *prefabs* or *chunks* of language), and it is phraseology that is increasingly the central issue and feature in the field of corpus linguistics and lexical semantics. Phraseology is also defined as “the preferred way of saying things in a particular discourse” (Gledhill, 2000, p. 1), “the tendency of words to occur in preferred sequences” (Hunston, 2002a, p. 138), or “the particular linguistic sequences through which such preferences or tendencies manifest themselves” (Groom, 2007, p. 1). However, this idea is far from new; for example, Saito (1915) pointed out a very similar notion to this in the preface to his *Idiomological English-Japanese Dictionary* as follows:

“Words are nothing in themselves, and everything in combination. In the case of words, combination comprises constructions and association....By association are meant the *idiomatic*, and *proverbial*, and *conventional* expressions in which each word occurs.”

Saito’s claim seems to have much in common with the ideas of J.R.Firth:

“...the complete meaning of a word is always contextual, and no study of meaning apart from a complete context can be taken seriously.” (1957a, p.37)

“You shall know a word by the company it keeps” (1957b, p.11)

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<sup>7</sup> The derived term ‘collocate’ generally refers to lexical items in collocational relationship and I refer to it in this sense in the current study.

<sup>8</sup> The term phraseology has two meanings: the first is “the words and phrases used in a particular profession or activity” as defined by Macmillan English dictionary for advanced learners (2nd ed.) (Rundell, 2007); and the second is ‘the study of phrases’ (personal communication, Dr. Maggie Charles). Here, I use this term in its former meaning.

Corpus linguistics has demonstrated that both Saito (1915) and Firth (1957a, b) are correct: the significant findings gained from corpus linguistics have led to the formulation of the *idiom* and *open choice* principles, both so termed by Sinclair (1991).<sup>9</sup> In the open-choice principle, language is a result of many complex choices on which virtually all grammars are based: “At each point where a unit is complete (a word, phrase, clause), a large range of choice opens up and the only restraint is grammaticalness” (Sinclair, 1991, p. 109). In the idiom principle, however, language is produced and interpreted as large prefabricated chunks constructed from combinations of specific words: “At its simplest, the principle of idiom can be seen in the apparently simultaneous choice of two words, for example, *of course*. This phrase operates effectively as a single word” (Sinclair, 1991, p. 110).<sup>10</sup> Thus, the open choice principle broadly corresponds to paradigmatic choice restricted by grammaticality, whereas the idiom principle corresponds to syntagmatic choice restricted by all lexical, grammatical and/or semantic aspects of language.

Words do not occur at random in a text; this being the case, the open-choice principle does not provide for substantial enough restraints on consecutive choices. It can therefore be concluded that “we would not produce normal text simply by operating the open-choice principle” (Sinclair, 1991, p. 110). Instead, one of the main principles inherent in language seems to be the idiom principle: the choice of one word affects the choice of others in its vicinity, so much so that it becomes doubtful whether many linguistic choices are made at the level of individual words at all. In this view, only creative expressions are ‘normally’ generated by grammar and semantics, namely the open choice principle; the variable expressions and fixed expressions that make up the bulk of what native speakers of any language say and write are generated by the idiom principle. Erman and Warren (2000) attempted to quantify the relative proportions of open-choice and idiom principle operations in authentic texts. Even though they adopted a very limited view of idiomatic language, they still found around 55% of the texts they studied to be based on the idiom principle, and the remaining 45% to be analysable on the open-choice model. In other words, the existence of the idiom principle is scientifically supported by empirical research. The idea of the idiom principle is therefore the driving force for the current study.

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<sup>9</sup> The idiom principle and the open choice principle are superficially different but fundamentally related ideas, both of which are developed by Sinclair (1991) in the Firth-Halliday tradition, on the basis of his analysis of authentic data obtained from the huge computerized corpus, the Bank of English (Minamide, 2003).

<sup>10</sup> Or, the idiom principle can be also paraphrased as the phraseological tendency, whereby words are co-selected by speakers / writers which gives rise to collocation and other features of idiomaticity.

### 3.3. Lexico-grammatical patterns

#### 3.3.1. Theoretical viewpoint

As discussed in section 3.2, the advent of computerized corpora and corpus analysis software has enabled us to see a great amount of formulaic language utilized by native speakers. Among the more frequently used terms for these chunks or sequences of words are *holophrases* (Corder, 1973), *prefabricated routines* (Bolinger, 1976), *routine formulae* (Coulmas, 1979), *gambits* (Keller, 1979), *conventionalized language forms* (Yorio, 1980), *lexical phrases* (Nattinger & DeCarrico, 1992), *lexical chunks* (Lewis, 1993), *patterns* (Hunston & Francis, 1999), *lexical bundles* (Biber, Johansson, Leech, Conrad, & Finegan, 1999), *formulaic sequences* (Wray, 2002, 2008), *multi-word units[items]* (Zgusta, 1967; Cowie, 1992; Moon, 1997) and many others.

Nattinger and DeCarrico (1992, p. 118), for instance, define “lexical phrases” as “patterned sequences, usually consisting of a syntactic frame that contains slots for various fillers, and [which] run the gamut from completely fixed, unvarying phrases to phrases that are highly variable.” In particular, Nattinger and DeCarrico (1992) assume that a lexical phrase expresses both grammatical and pragmatic competence on the part of the language user. Pawley and Syder (1983) also assume that (mature) native English speakers stock a large number of lexical chunks, each of which is used to perform a particular social function. The lexical chunk therefore has a clear-cut functional role. As Huebner (1983a, 1983b) comments, routines and patterns used by language acquirers for both L1 and L2 are sensitive to the contexts in which they are used. Thus, such sequences of words (i.e. phraseology) are regarded as essential knowledge for pragmatic competence in specialized discourses, where they are typically used to structure arguments and express a writer’s point of view in a manner that is recognized as valid by other members of that specialized discourse community.

Sinclair (1991), Nattinger and DeCarrico (1992), Stubbs (1996, 2001), Lewis (2000), Hunston (2002a, 2002b), and many others have voiced support for the concept of phraseology as one in which 1) words have a preference to occur as a part in phraseologies, 2) phraseology and meaning are closely interrelated, and 3) lexis and grammar are not independent phenomena but closely interrelated as lexico-grammar. Many corpus linguists and discourse analysts (e.g. Francis, 1993; Hunston & Francis, 1999; Hunston & Thompson, 2000; Charles, 2004, 2006; Groom, 2005) assume that lexico-grammatical patterning is a significant feature in identifying the characteristics of context (or textual meaning) because it is typically used to

structure, argue and evaluate a writer's/speaker's discussion on a given topic in a given context. Studies such as Sinclair (1991, 2004), Francis (1993, 1995) and Nattinger and DeCarrico (1992) have also argued that phraseology and meaning are closely interrelated because phraseology is closely associated with both lexicon and syntax simultaneously, hence the frequently-used term 'lexico-grammar' or 'lexico-grammatical pattern'.

Knowledge of lexico-grammatical patterns is significant in producing fluent and authentic language (Hunston & Francis, 1999). As Pawley and Syder (1983, p. 191) put it, such "fixed [linguistic] elements form a standard label for a culturally recognized concept". Successful language learners, for instance, acquire not only the independent meaning of a single item / word, but also the patterns it occurs in (e.g. *anxious about/on/for/to-inf N* for the adjective *anxious*) (cf. Hornby, 1954) and the broader units of meaning associated with it (e.g. Sinclair, 2004), in order to construct authentic discourse. In particular, the word choice in the free slots in such patterns is the starting point for raising conscious awareness of the linking between patterns and contexts. While Levin (1993) and Sinclair (1991, 1996) support the theory that begins with lexis and extend its meaning into pattern, Francis (1993, 1995), Hunston and Francis (1999), Francis, Hunston and Manning (1996, 1998), Hunston and Sinclair (2000), and Hunston (2002b) begin with pattern and its meaning and then extend this view into lexis. Indeed, investigations in large-sized corpora such as the British National Corpus and the Bank of English suggest that there are certain advantages to this pattern-first approach. This is largely because many words with similar meanings do not share similar patterns, whereas words sharing a pattern do generally share a certain aspect of a similar meaning (Thompson & Hunston, 2000; Hunston, 2002b). Looking at words from the point of view of patterns rather than at patterns from the point of view of words is therefore a suitable strategy for revealing the units of meaning in a text, which can be the starting point for identifying the ideological stance of each disciplinary culture within academic contexts. Following this assumption, the current study examines disciplinary differences from a pattern-first perspective. In more detail, I propose to start with patterns, then look at the adjectives within these patterns, then their collocates, and finally their contextual meanings.

### **3.3.2. Semantic sequences**

The particular language pattern reflects the particular meaning and value of particular disciplinary discourse (Charles, 2004). Widdowson (2000), for example, points out that 1) all linguistic usage encodes representation of the world, 2) the systematic use of different

syntactic patterns encodes different points of view, and 3) the different use of grammatical resources expresses differences in ideological stances.<sup>11</sup> The investigation of the distinct use of lexico-grammatical patterns in each discipline thus reveals distinct worlds and values contained in each disciplinary culture. This may be because language patterns themselves help to define or shape the disciplinary culture in their use in the books, RAs and other acts of disciplinary communication. This cultural patterning can be extracted, for example, by looking at the *semantic sequences* associated with particular patterns (Hunston, 2008). Hunston (2008) defines the semantic sequence as follows:

“Semantic sequences are recurring sequences of words and phrases that may be very diverse in form and which are therefore more usefully characterised as sequences of meaning elements rather than as formal sequences.....The sequence will consist of the core word, the complementation pattern or patterns associated with that word (such as a *that*-clause, *wh*-clause, or a prepositional phrase with a specific preposition), and a number of phrase types occurring before the core word which are, in spite of being diverse in form, consistent in terms of meaning.” (2008, p. 271-2)

To illustrate this, Hunston (2008, p. 279) presents two semantic sequences with “*the observation that*-clause” found from the New Scientist corpus in the Bank of English as follows<sup>12</sup>:

- THEORY/ARGUMENT + ARISES FROM + *the observation* + *that*-clause
- *the observation* + *that*-clause + CONSISTENCY + THEORY/ARGUMENT

As another example, Hunston (2008, p. 285) also notes that the familiar sequence *it is clear/apparent/obvious/evident that* typically frames a claim on the part of the writer. In her observation, for instance, the pattern *it is clear that* occurs in three distinct semantic sequences, as follows:

- LOGICAL BASIS + *it is clear that* + CLAIM
- CONSENSUAL INFORMATION + *it is clear that* + CLAIM
- *It is clear that* + CLAIM + EXCEPTION/CAVEAT

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<sup>11</sup> It should be noted that Widdowson is using the term ‘patterns’ here in the general sense of grammatical structures, and not in the more specific sense as established by Hunston and Francis (1999).

<sup>12</sup> This corpus consists of just less than 8 million words from the weekly journal *New Scientist* (Hunston, 2008, p. 293).

Like the examples above (which Hunston takes from a previous piece of research by Charles (2004)), semantic sequences are likely to occur with a pattern (e.g. a complementation pattern to show writer's stance) in a text and also are easily identified through the concordance examination with human eyes. Groom (2007), for example, identifies such sequences in corpora of RAs in History and Literary Criticism via the analysis of single grammatical or closed-class words like prepositions. As seen in these studies, semantic sequences are likely to occur in (a corpus of) a particular type of text (viz. particular genre or/and discipline) since both Charles (2004) and Groom (2007) use corpora compiled from specific academic disciplines. Hunston (2008, p. 272) concludes that the grammatical words are "the best starting point for identifying semantic sequences in specialized corpora, and that such sequences identify 'what is often said' in those corpora". This is largely because patterns that include grammatical words, especially prepositions, are vital for the meaning of a text:

"This is demonstrated by the role of small words, especially prepositions, in grammar patterns, and the non-random association between such patterns and the groups of words that occur with them. ...[P]repositions in particular serve to classify semantically the lexical words with which they frequently occur. For this reason it is not surprising that grammar patterns form an integral part of semantic sequences." (Hunston, 2008, p. 272)

Hunston (2008) goes on to argue that semantic sequences represent "what is often said" in corpora representing specific discourse communities, which is "most useful when linked to epistemology in disciplinary discourse" (2008, p. 290). In other words, investigating semantic sequences is also the key to the identification of the textual meaning linked to the disciplinary culture. This is the main reason why prepositional patterns rather than complementation patterns are focalized in the current study. One of the samples of semantic sequences triggering the author to do the current study is, for example, the case of the LSP *based on* N. As will be discussed in more detail in Chapters 9, my analysis of this LSP reveals that the following sequence is more common in applied linguistics:

- STUDY/ANALYSIS *based on* DATA/THEORY

and the following sequence occurs more commonly in business studies:

- RESULT/DATA *based on* DATA/THEORY

In applied linguistics, then, this pattern is more likely to be used to describe the theoretical or empirical basis of a piece of research, whereas in business studies this pattern tends to be used to specify the result or data obtained by the research. As I hope this example analysis shows, semantic sequences contribute to the identification of the particular construction of academic discourses peculiar to applied linguistics and business studies.

Before moving on, it is worth noting one further concept related to semantic sequences; this is the concept of semantic motifs. This concept has been put forward by Groom (2007), who describes them as recurrent themes that occur in specialized corpora, and which can be (and in fact usually are) expressed by a variety of different types of phraseology. For example, in Literary Criticism texts, Groom found many phraseologies which, while often very different on the surface, could all be grouped together in that they all expressed the broad semantic motifs of 'conceptualization' and 'relationship between phenomena'. In History texts, in contrast, there were more phraseologies which expressed the motifs 'cause and effect' and 'phenomenon in social context'. The concept of semantic motif emerged in response to the need for a superordinate term that would allow Groom to make claims about semantic or conceptual similarities underpinning different phraseologies. The 'conceptualization' motif, for example, includes superficially distinct semantic sequences such as:

- CONCEPTUALIZATION + of + PHENOMENON

(e.g. *a tidal wave of immigration*)

- CONCEPTUALIZING PROCESS + of + ENTITY + as + CONCEPTUALIZATION

(e.g. *Derrida's conceptualisation of writing as a spatio-temporal structure*)

- CONCEPTUALIZER + CONCEPTUALIZING PROCESS + ENTITY + as + CONCEPTUALIZATION

(e.g. *Kennedy described Nehru's visit to Washington in 1961 as 'the worst head of state visit I have had.'*)

In the current study, semantic sequences rather than semantic motifs are focalized for practical purposes since specific CPs are targeted, namely the pattern ADJ PREP N. However, I believe that the findings of this study may provide a starting point for the identification of semantic motifs as well, because semantic motifs represent the commonality among the different phraseologies including the patterns treated in the current study.

### 3.3.3. Relevant research and the pattern ADJ PREP N

Verbs and nouns have been thus far prioritized in disciplinary discourse analyses (e.g. Thompson & Ye, 1991; Shaw, 1992; Hunston, 1993; Swales & Feak, 2004; Charles, 2004, 2006; Nelson, 2006). Verbs mainly express an assertion toward things and nouns present information of research contents in most cases. Both parts of speech are essential to construct academic arguments. For example, Butler (1990) investigated modal verbs used in biological and physical sciences, revealing that writers in physics texts tend to use the modal verb *can* in a more epistemic way than those in botany and physiology texts, but the opposite is true concerning *may*. Hyland (1999) also examines textual *attribution* (Sinclair, 1988; Hunston, 1995, 2000) in eight disciplines, and finds that people in hard fields frequently use verbs of ‘research acts’ such as *discover*, *notice* and *observe*, whereas those in soft fields are likely to use verbs expressing ‘discourse acts’ such as *claim*, *discuss* and *argue*. Charles (2004) also investigated writers’ stances in politics and materials science corpora by looking at nouns occurring in particular lexico-grammatical patterns (e.g. shell-noun patterns, for example N of N, in the noun section).<sup>13</sup>

Whereas verbs and nouns have attracted considerable attention among academic discourse analysts, much less attention has been paid to adjectives. This is somewhat surprising, given the important role that adjectives play in meaning construction. Adjectives enhance the information provided by a noun when used attributively, and express evaluations of things when used predicatively (Biber et al., 1999, p. 515). Attributive adjectives are more frequently used in academic contexts as compared to predicative adjectives since the predicative adjectives often include the personal (or writer’s) judgement, emotion or attitude that are inconsistent to the academic arguments (see figure in Biber et al., 1999, p. 506).

Some applied linguists are now beginning to pay attention to adjectives in predicative use, especially those analysts who study patterns as a means of investigating disciplinary differences in academic discourse (e.g. Charles, 2004, 2006; Groom, 2005). For example, Charles (2004) and Groom (2005) investigated the patterns *it v-link ADJ to-inf / that-clause*, to see if a qualitative difference could be identified between two disciplines (viz. Politics and Materials Science in Charles’s work, and History and Literary Criticism in Groom’s work). However, the analysis of other adjectival patterns, namely adjectival prepositional patterns, remains a worthy endeavour since adjectives function to “expand and elaborate the

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<sup>13</sup> Charles (2004) also investigated the lexico-grammatical patterns of other word classes such as verbs, adverbs and adjectives (e.g. *it v-link ADJ to-inf / that-clause* pattern in the adjective section).

information presented in a text” (Biber, 1988, p. 237). Indeed, Chafe and Danielewicz (1986) and Chafe (1982, 1985) have pointed out that not only adjectival subordination constructions but also adjectival prepositional phrases are devices for integrating and expanding what they call ‘idea units’. The current study thus targets the pattern ADJ PREP N since I assume that this pattern provides meaning, function, structure and evaluation peculiar to the specific academic discourse, all of which may cast light on the particular disciplinary culture of applied linguistics and business studies. In other words, the current study aims to develop the studies of both Charles and Groom from a different angle.

### **3.4. Collocation**

Since Firth (1957a, b), at least, it has been increasingly widely recognized that a word is characterized by the company it keeps, and that it does not exist as a semantic unit in isolation. Today, this assumption has strong support from corpus investigation, further revealing that meaning can exist only in some larger entities, such as collocations, phrases, or lexico-grammatical patterns, all of which are involved with what Sinclair (2004) calls units of meaning. Although Firth did not live to see the revolution in language studies brought about by the emergence of the computer corpus (in a modern sense), corpus linguists have developed and consolidated his theory from a quantitative viewpoint. In particular, collocation has become the essential linguistic unit in present-day corpus linguistics, especially contributing to a new view of lexical semantics (Nattinger & DeCarrico, 1992; Stubbs, 2001; Hunston, 2002a; Sinclair et al., 2004). Pawley and Syder (1983) have especially pointed out that the correct choice of collocations is fundamental to the concept of ‘native-like selection’.

Corpus linguists define collocation as the co-occurrence of more than two words in a certain span with significant frequency above chance (cf. Stubbs, 2001; Hunston, 2002a; Sinclair, Jones, & Daley, 2004). Lewis (1997, p. 8)— an applied linguist— also assumes that collocation is “the readily observable phenomenon whereby certain words co-occur in natural text with greater than random frequency”. As Bolinger and Sears (1968) point out, there are very many perfectly grammatical word combinations that native speakers simply do not use, simply because such combinations feel ‘unnatural’ in particular contexts. In other words, the relationship between collocates cannot be explained in terms of linguistic rules; rather, they can be explained only in terms of their perceived appropriateness and naturalness in a particular discourse. Thus, collocation is not determined by logical theory, but is rather arbitrary, decided only by linguistic – or, more specifically, sociolinguistic – convention. At

the same time, collocation is fully fixed in some cases (e.g. *food aid, holistic approach*), while it is less fixed in other cases: collocation is produced in a relatively small number of ways.

In the current study, a lexico-grammatical pattern indicates not only the combination of grammatical (or word class) combinations, but also word classes with particular words. At the same time, in the current study, a collocation expresses not only the specific combination of two or more individual words, but also the particular words with the pattern. (N.B. Although collocation generally indicates the relationship between words, the relationship between words and a pattern is also regarded as ‘collocation’ in the current study, as defined in Section 1.2.) This view of collocation as occurring both inside and outside patterns shares some similarities with the concept of *collexeme* in the *collostructional* approach to analysis developed by Stefanowitsch and Gries (2003). Stefanowitsch and Gries define their collostructional analysis as follows:

“...we propose a type of collocational analysis which is sensitive not only to various levels of linguistic structure, but to the specific constructions found at these levels. We will refer to this method as *collostructional analysis*. Collostructional analysis always starts with a particular construction and investigates which lexemes are strongly attracted or repelled by a particular slot in the construction (i.e. occur more frequently or less frequently than expected)” (Stefanowitsch & Gries, 2003, p. 214)

In the 2003 study from which this quotation comes, they attempt to extract collocation data from several language constructions using a sophisticated procedure centering on the Fisher exact test of significance. They term the collocates identified by this procedure as ‘Collexemes’:

“Lexemes that are attracted to a particular construction are referred to as *collexemes* of this construction; conversely, a construction associated with a particular lexeme may be referred to as a *collostruct*; the combination of a collexeme and collostruct will be referred to as a *collostruction*.” (Stefanowitsch & Gries, 2003, p. 215)

It should be stressed that the approach to be adopted in my study differs in important respects from that of Stefanowitsch and Gries (2003). In particular, I attempt to identify variations in the use of patterns in a disciplinary specific discourse from a more sociological point of view, whereas they focus on rather the methodological aspect of corpus linguistics and the cognitive

aspect of language use. For these reasons, I use raw frequencies rather than statistical scores in my qualitative analysis. Nevertheless, their attempt to identify both the internal and external collocates of particular linguistic constructions is strongly akin to what the current study attempts to find.

The concept of collocation is also an important feature of English language pedagogy and second language acquisition research as well as purely linguistic theorizing. The importance of collocation in foreign language education has been underscored by many corpus linguists and applied linguists (e.g. Kennedy, 1998; Kjellmer, 1991; Stubbs, 1995). Stocking such authentic collocational knowledge is probably the only way to enable non-native speakers to approach a native-like level of second language proficiency. As many applied linguists and corpus linguists have argued, the research evidence suggests that individual lexical items should not be taught independently, but learned with their accompanying items in a context, by focusing the learner’s attention on these accompanying items and away from seeing words as independent and isolated units.

The current study especially focuses on collocates of lexico-grammatical patterns in order to reveal the collocational behaviour of the patterns and the role of this behaviour in the academic discourse of applied linguistics and business studies. In other words, in the current study, I will define collocation not only as word combinations in a general linguistic sense, but also as the association between patterns and words, as stated earlier. This is because I assume a top-down hierarchy in academic writing, as shown in Figure 3.1 below:

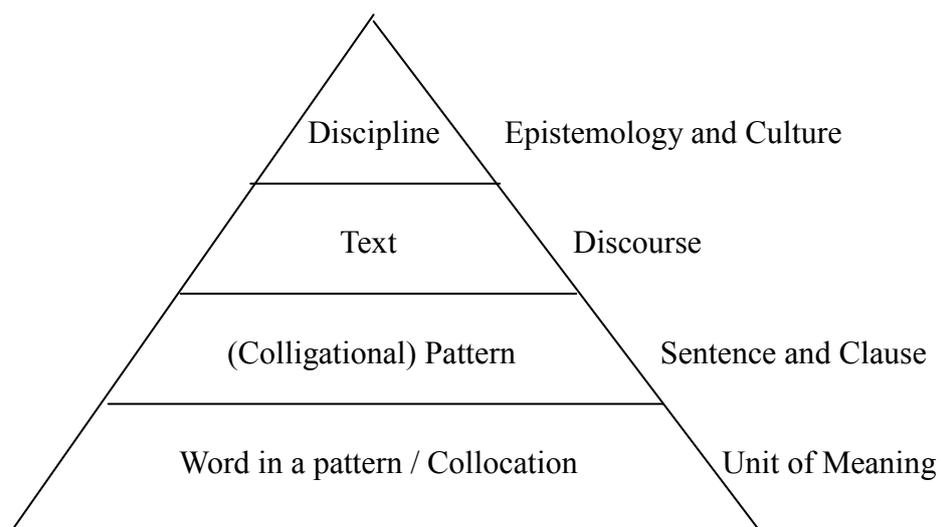


Figure 3.1. Hierarchy in academic writing of a particular discipline

*Discipline* is closely associated with epistemology and culture; *text* is the linguistic manifestation of discourse, conceived as a process of meaning-making; *pattern* represents the systematic aspect of language identified within a sentence or a clause; and *word* and *collocation* in and around patterns play an important role in creating the minimum unit of meaning. In this assumed top-down hierarchy above, a discipline affects the construction of text. A discipline prefers specific patterns used in its contexts, and the pattern triggers a specific word inserted in the free slot plus its collocates: the epistemology of the discipline finally triggers not only the choice of pattern but also the words (or collocates) co-occurring within and around patterns. In particular, several kinds of collocates occur with ADJ PREP N patterns: nouns, adverbs, (modal) verbs and –ing/wh- clauses, as follows:

N1 (modal/v-link) (ADV) ADJ PREP N2/-ing/wh- clause

Each word class underlined above, namely N1, modal/v-link, ADV, N2/-ing/wh-, is a collocate position of the pattern ADJ PREP N.

As previously mentioned, Francis (1993, 1995), Hunston and Francis (1999), Francis et al. (1996, 1998), Hunston and Sinclair (2000), and Hunston (2002b) have supported the theory that begins with patterns and then extends into lexis. I would like to develop this theory further by proposing that the pattern comes first, then the specific lexis and collocates of the pattern. Such internal features of a pattern are strongly affected by the external features of context, a discipline and its culture.

### 3.5. Evaluation

The appropriate use of particular linguistic items in a text is interrelated with the purpose and style of the context. Academic writers express their own opinions with the choice of particular items in tune with disciplinary norms (Charles, 2004). Many linguists use different terms to refer to the linguistic indication of a writer's opinion, including *connotation* (e.g. Lyons, 1977), *affect* (e.g. Ochs, 1989), and *attitude* (e.g. Halliday, 1994; Tench, 1996). Although *connotation* is restricted to a single linguistic item / word, *affect* and *attitude* relate to the writer's attitude (see also, Thompson & Hunston, 2000).<sup>14</sup> In addition, other terms are also used with similar meaning, such as *intensity* (Labov, 1984), *evidentiality* (Chafe & Nichols,

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<sup>14</sup> However, Backhouse (1992), for example, discusses *situational*, *cultural* and *expressive* forms of connotation: *situational* connotation is relevant to 'register', but *expressive* connotation is more or less relevant to 'evaluation'. Thus, the definition of connotation varies among researchers.

1986), *hedging* (Holmes, 1988; Hyland, 1996), *stance* (Biber & Finegan, 1988, 1989; Charles, 2004; Conrad & Biber, 2000), *modality* (Bybee & Fleischman, 1995; Halliday, 1994; Perkins, 1983; Stubbs, 1996), *appraisal* (Martin, 2000; Martin & Rose, 2003, 2007; White, 2004), and *evaluation* (Thompson & Hunston, 2000).

The concept of each term, however, differs in some respects. For example, Chafe and Nichols (1986) define the meaning of *evidentiality* as the evidence for creating factual claims owned by a person. Stubbs (1996) used the term *modality* to describe a writer's commitment and detachment to a proposition. Conrad and Biber (2000), and Biber and Finegan (1989) use the term *stance* covering epistemic stance, attitudinal stance and style stance, focusing on the speaker's/writer's comment with regard to the information in a clause (e.g. *frankly*). Martin's concept of *attitude* in *appraisal* is divided into three functional sub-types—affect, judgment and appreciation. Bybee and Fleischman (1995) also divide *modality* into three types: epistemic, deontic and evaluation: in their sense, evaluation shows the writer's attitude toward something as desirable or undesirable.

For the purposes of the present study, the term *evaluation* will be preferred. As Thompson and Hunston (2000, p. 5) have pointed out, evaluation is a theoretically generous superordinate term covering similar concepts (e.g. *connotation, stance, attitude*) focusing on writer/speaker claims in discourse:

“[E]valuation is the broad cover term for the expression of the speaker or writer's attitude or stance towards, viewpoint on, or feelings about the entities or propositions that he or she is talking about. That attitude may relate to certainty or obligation or desirability or any of a number of other sets of values.”

Likewise, evaluation expresses the writer's opinion with regard to positive/negative, good/bad, certain/uncertain or “why, when, how, and what speakers and writers evaluate” (Thompson & Hunston, 2000, p. 6). At the same time, evaluation plays an important role in informing the writer's claim “this happened, and this is my opinion about it” and “this is how the argument fits together” to her or his target readers (Thompson & Hunston, 2000, p. 10).

In addition, evaluation also presents and constructs “a communal value-system” around such parameters as good/bad, happen/not-happen, and true/untrue, which can be construed as “a component of the ideology which lies behind every text” (Thompson & Hunston, 2000, p. 6-8). In other words, evaluative meanings in individual texts reflect the

ideology of the discourse community; ideologies are constructed and transmitted only through texts, and only texts can reveal their nature. The notion that ideologies are produced and reproduced in and through texts is quite common among linguists in this field (e.g. Caldas-Coulthard & Coulthard, 1996; Fairclough, 1989, 1992; Fowler, 1990; Hodge & Kress, 1993; Meinhof & Richardson, 1994; Stubbs, 1996). As Hunston (1993, p. 57) points out, “the ideology within which a text is written constrains choices in discourse organization, grammar and lexis” (cf. Kress & Hodge, 1979; Martin, 1986; Fairclough, 1988; Stotesbury, 2003). This being the case, it is reasonable to suppose that such constraints will also operate at the level of phraseological patterning, as discussed in Section 3.3 earlier.

If it is the case that academic texts reproduce and are reproduced by disciplinary ideologies, it is also reasonable to hypothesise that “different disciplines would use evaluation in different ways” (Stotesbury, 2003, p. 331). Indeed, Burgess and Fagan (2001) succeed in showing disciplinary differences in RAs between younger disciplines and older disciplines in that the former may show greater internal variation in discourse practices than the latter. Rongen Breivega, Dahl, and Fløttum (2002) also find that cultural identity in academic prose differs between disciplines, and that these differences may outweigh those differences that are attributable to general linguistic differences, that is, between, say academic written English and academic written Spanish (cf. Stotesbury, 2003, p. 332). One of the main purposes in the current study is to reveal differences in the phraseological manifestations of evaluation in applied linguistics and business studies, with a particular focus on lexico-grammatical patterns and their behaviours in disciplinary texts.

Before moving on, it is important to clarify that although the current study adopts a PG approach to discourse analysis as established in the *evaluation* theory of Hunston and Sinclair (2000), it also makes use of a classification scheme borrowed from another approach to evaluation analysis: *appraisal* theory, developed by Martin and Rose (2003, 2007) and White (2004). Specifically, I will appropriate the general category label *attitude* and its three sub-classifications, *judgement*, *affect* and *appreciation*, from Appraisal theory. However, my own analysis will not employ or be constrained by the particular approach to analysis or the detailed set of theoretical assumptions that the Appraisal framework puts forward.

### **3.5.1. Evaluative properties of ADJ PREP N patterns**

Evaluation is inclined to be expressed through not mere lexical items such as verbs and

adverbs but rather in certain patterns in particular contexts (Hunston & Francis, 1999). Biber et al. (1999, p. 969) propose that such patterns (or “stance devices”, as they term them) can be divided into two components: one representing the writer’s own stance and the other giving the proposition constructed by that stance. For instance, Hunston and Francis (1999, p. 188-189) pointed out that the pattern *(there) (be) (-thing) ADJ about N* is defined as the lexico-grammatical pattern evaluating the situation given by nouns following *about*; adjectives occurring in this pattern are conceptualized as evaluative adjectives. In the statement *A is negative about B*, the adjective *negative* indicates the attitude of A while simultaneously presenting the evaluation of B. In other words, A is the evaluator, and B is the thing evaluated, according to Hunston and Sinclair (2000). This evaluative relationship is demonstrated in the following table as samples of the pattern *ADJ about N*:

A(N1)		B(N2)	
evaluator	hinge	evaluative category	item evaluated
noun group	V-link verb	adjective group	prepositional phrase
<i>He</i>	<i>is</i>	<i>anxious</i>	<i>about the result.</i>

Table 3.1. Evaluative relationship in the pattern *ADJ PREP N*

The same pattern often shows evaluative differences depending on the discipline, since it is differently perceived through the norms and concerns of each academic discipline (e.g. the LSP *optimistic about N* presents such differences in evaluative meanings between in academic discourse of applied linguistics and business studies, as will be shown in Section 8.2.1). An important observation on the relationship between evaluation and adjective behaviour is made by Hunston and Sinclair (2000, p. 91-97), who comment that adjectives tend to appear at the predicative position since evaluation is related with the evaluator’s attitude towards the thing evaluated. As can be seen in Table 3.1 above, the noun at position A is the evaluator while the noun at position B is the thing evaluated. The case of the *-ing* clause by which the adjective is followed also shows the same evaluative relation. For example, Hunston and Sinclair (2000) give an example sentence, *There is something ironic in seeing the Dalai Lama*, in which the adjective *ironic* is construed as the evaluative category and the *-ing* clause *seeing the Dalai Lama* as the item being evaluated.

Since meaning, collocation and pattern are closely interrelated, the investigation of meaning is the investigation of collocation and pattern used in a text, and vice versa. N1 and

N2 in this pattern, as in table 3.1 above, are identical to the evaluator and the thing evaluated respectively, according to Hunston and Sinclair (2000). The investigation of nouns in the pattern, that is, two evaluative entities—evaluator and thing evaluated—is, thus, one of the primary factors for ascertaining the disciplinary difference of evaluation. In addition, adverbs, particularly *-ly* adverbs at L1 position, modify the claim of adjectives or evaluation, revealing the disciplinary difference from its manner in the context. This is largely because many stance adverbs occur in academic texts (Biber et al., 1999).

However, there are also quite often cases where nouns in the pattern are not regarded as ‘evaluator’ or ‘the thing evaluated’. The pattern ADJ *on* N, for instance, expresses relations between things rather than evaluations about things in academic discourse. For this reason, I claim that the table 3.1 above is only applicable to limited prepositional types of the pattern ADJ PREP N; specifically, patterns featuring the prepositions *about*, *for*, *in* and *against*. This selection will be discussed further in Chapter 8.

Given that “different disciplines ... use evaluation in different ways” (Stotesbury, 2003, p. 331), I assume that collocating nouns, adverbs and even *-ing/wh*-clauses are of principal interest in identifying the manner of the pattern and the nature of the evaluation in a particular disciplinary context. Specifically, I hypothesise that even if the same N1 (viz. evaluator) is used in two disciplines, N2 (viz. the items being evaluated) or other collocates may be quite different from one discipline to another because of the different subject matter in each discipline. Furthermore, even if both evaluative entities are identical, further collocates or their implied meaning and function would be clearly distinguishable in a cross-disciplinary analysis, because applied linguistics and business studies represent different cultures and subject matters respectively.

### 3.5.2. Disciplinary differences in evaluation

It is often the case that the same word or phrase has a very different meaning depending on the context in which it occurs. Contexts vary according to such variables as genre, register and discipline, leading to the differences in evaluation systems. For example, Becher (1987a, 1987b) investigated such evaluative terms of *praise* and *blame* among historians, sociologists, and physicists in Britain and the United States, and discovered significant differences among the three groups. Firstly, good work is described as *scholarly* or *original* in humanities, as *perceptive* or *rigorous* in social sciences, and as *elegant* or *economical* in physics. Secondly,

average work is described as *sound* in humanities, as *scholarly* in social sciences, and as *accurate* in physics. Thirdly, poor work is described as *thin* in humanities, as *anecdotal* in social sciences, and as *sloppy* in physics. In short, what Becher found was that each of the three disciplinary cultures he studied appeared to have its own evaluation system, and that these evaluation systems were signalled by distinctive lexical choices.

Disciplinary difference in evaluation systems is, in some cases, linguistically manifested (i.e. ‘inscribed evaluation’ in Martin (2000, p. 142)) and such examples are manifested as *semantic prosody* in the discourse of a particular discipline (Nelson, 2006). (For further discussion of the connection between evaluation and semantic prosody, see Hunston (2007c)).<sup>15</sup> For instance, the manifestation of positive emotion in people is regarded positively in applied linguistics, whereas it is regarded more negatively in business studies (e.g. the discourse in which an adjective *optimistic* in the pattern occurs is likely to be imbued with the positive semantic prosody in ALC data, whereas it has a negative semantic prosody in the BC data, as will be seen in Section 8.2). Semantic prosody generally indicates the semantic aura of a word or phrase in a particular context; it thus indicates the attitude and function of a discourse provided by the writer/speaker in a certain language environment (Louw, 1993; Sinclair, 1991, 1996, 2004; Stubbs, 1995, 2001; Tognini-Bonelli, 2001). Morley and Partington (2009, p. 141) have pointed out, semantic prosody is “an expression of the innate human need and desire to evaluate entities in the world they inhabit as essentially *good* or *bad*” (N.B. I would rather treat semantic prosody as ‘the typical linguistic manifestation of discourse community convention, evaluating entities in a particular world’ in the current study).

In particular, Louw (1993, p. 157) defines semantic prosody as “the consistent aura of meaning with which a form is imbued by its collocates.” Morley and Partington (2009, p. 150) have also pointed out that semantic prosody expresses itself in “the collocational patterns of items in a text.” In other words, semantic prosody is an additional layer of perceived meaning above lexical and grammatical patterning such as semantic preference, colligation and collocation (Stubbs, 2001).<sup>16</sup> Thus, semantic prosody is “a fundamental aspect of the *idiom* or *phraseological* principle of language production and interpretation, in particular providing convincing evidence of how elements of meaning ‘hunt in packs’” (Morley &

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<sup>15</sup> Martin (2000, p. 142) terms other cases as ‘evoked appraisal’. Evoked appraisal is rather implicitly manifested in the contexts than inscribed appraisal.

<sup>16</sup> Morley and Partington (2009, p. 142) have also pointed out, “the overall semantic prosody of an item is both shaped by and expressed in its semantic preferences (Partington, 2004)”.

Partington, 2009, p. 140).

To take a famous example from Sinclair (also cited in Tognini-Bonelli, 2001, p. 104), the sequence ‘barely visible to the naked eye’ reflects an expression of semantic prosody—difficulty experienced implied by *barely*, a lexical choice— the notion of seeing, and the requisite colligation— *to the*. Another frequently-cited example is provided by Stubbs (1995, p. 247-248), who notes that the verb *cause* is typically followed by negative collocates such as *crisis*, *cancer*, and *delay*, while the verb *provide* indicates positive meanings, co-occurring as it does with nouns such as *help*, *relief*, and *support*. Sinclair (2004, p. 142-147) also demonstrates that the word *budge* is likely to be used in a negative sense by occurring in an extended phrasal unit in context, leading to the understanding that a word functions not as an independent object but in a sequence; that is, in what he calls a *unit of meaning*. While Sinclair largely focuses on positive and negative connotations in ‘general English’, Nelson (2006) makes the important point (from the point of view of the current study) that semantic prosody can be discourse-specific as well. In his own analysis of business English, for example, Nelson found that *boss* typically co-occurs with negative words or co-text, such as *old-fashioned boss*, *meanest boss* or *the boss is a Neanderthal*, but the use of *manager* in business English contexts contains neutral or positive meanings.

To summarise the discussion thus far, then, semantic prosody may be paraphrased as a “label” for the broad attitudinal meaning with which a unit of meaning is imbued (Hoey, 1997, p. 2). Semantic prosody also stands at a more abstract level than collocation and (colligational) pattern, because it depends on contextual and discourse meanings (Stubbs, 2001). However, as some scholars have begun to point out, the concept of semantic prosody may be vulnerable to the variable interpretation of textual meanings. For example, Hunston (2007b) illustrates an example of ambiguity in semantic prosody in the use of the adjective *persistent*. She points out, “[f]rom the viewpoint of the thieves, ‘persistence’ has enabled them to achieve the goal of obtaining the figure” but “from the viewpoint of the manager, ‘persistence’ has prevented him from achieving his goal of protecting the store’s property” (Hunston, 2007b, p. 10). Thus, in her view, it is possible for the predicative adjective *persistent* to occur in the discourse of both a desirable and an undesirable quality. Using this assumption in examining other examples (e.g. the noun *destruction*) as well, she found that the choice of animacy of collocates also affects the implied meaning and semantics given by the sequence of words. In other words, the properties of collocates and contextual meanings

are also interrelated.

In an attempt to resolve this interpretative problem, Hunston (2007b, 2007c) divides the concept of semantic prosody into two ideas, derived from Partington (2004) and Sinclair (1991) respectively. In Partington's view, semantic prosody is still the semantic property of a word, presenting the positive or negative attitudinal meaning. On the other hand, in Sinclair's view, both the attitudinal discourse function and semantic feature are created not by a single word, but by a phrasal unit or unit of meaning. Hunston (2007b) supports Sinclair's view that semantic prosody is identified by collocation and phraseology and could be renamed "semantic preference" or "attitudinal preference" because its feature is not simply distinguished between positive and negative value, but indicates "a particular evaluative meaning" (p. 24). In other words, evaluation in a text can be retrieved and interpreted from semantic prosody.

However, such discussion may be of no value in the case of investigation in a particular academic discourse. Semantic prosody should be changeable in a general English corpus because various genres and types of texts construct such a general reference corpus whereby the aura of a lexical item should vary in different ways. On the other hand, it is reasonable to assume that the tendency (I would rather say 'probability') of semantic prosody is likely to be more consistent (and less ambiguous) in a particular discourse, largely because the structure, content and phraseological expression of discourse-specific argumentation is more constrained by convention and shared understandings that make up disciplinary custom and culture. In other words, my hypothesis is that semantic prosody is more consistently realized in a specialized discourse than it is in general English.

### **3.6. Conclusion**

This chapter has introduced and discussed the theoretical underpinnings of the major features that will be analysed in the current study: lexico-grammatical patterns, collocations, and evaluations—*attitude* in my term. It has been argued that lexico-grammatical patterns are closely connected to textual meaning and evaluation (Hunston & Sinclair, 2000; Hunston, 2002b, 2007a), that patterns, meanings, and discourse are interrelated to one another, and that their interaction plays a major role in constructing the discursive identity in a disciplinary specific discourse. In other words, to identify patterns and their meanings is to identify features of a particular discourse and its (disciplinary) culture. This is the main aim of the

current study.

The analysis of patterns to be conducted in the current study will take two forms: the first is a quantitative analysis (i.e. correspondence analysis) and the other is a qualitative analysis (i.e. discourse analysis). The next chapter introduces the methodology of correspondence analysis as it will be utilized in the current study.

## CHAPTER 4. Correspondence analysis

“[It] would not be possible using tests such as the chi-squared test to examine the vocabulary relations between five different genres, except on a word-by-word basis. To perform such holistic comparisons for large numbers of variables we need a different type of statistical technique – a multivariate one.” (McEnery & Wilson, 2001, p. 88)

### 4.1. Introduction

In the current study, the form of multivariate analysis known as *correspondence analysis* is adopted in order to visualize the complex interrelationship between linguistic patterns and disciplinary discourses. The aim of this chapter is to explain what correspondence analysis is, how it works, and why it is particularly well suited to the research described in this thesis. The chapter begins by reviewing previous quantitative approaches to text analysis, focusing in particular on the ‘multidimensional’ approach popularized by Douglas Biber and his associates (e.g. Biber, 1988; Biber et al., 1999). I also present arguments for preferring to use correspondence analysis in the current study. Finally, I show what actually happens in a correspondence analysis, in order to clarify the workings of this particular statistical ‘black box’.

### 4.2. Quantitative corpus-based approaches to discourse analysis

Many researchers have used quantitative methods in order to study specialized discourses, genres and text types from a corpus-based perspective. Of these, two statistical approaches have proved particularly popular in recent years. The first of these is commonly known as keywords analysis. Keyword analysis is strongly associated with the work of Mike Scott (1997, 2002; Scott & Tribble, 2006), whose software suite *WordSmith Tools* (which includes a keyword analysis tool) is largely responsible for the current popularity of this approach. Basically, the aim of keyword analysis is to use quantitative procedures to identify words that are deemed to be particularly associated with the corpus under analysis, and which therefore can serve as points of departure for further (usually qualitative) study. There are two main stages to keyword analysis. Firstly, computer software is used to generate two word lists – one taken from the corpus under investigation, and the other from a larger and more general ‘reference corpus’ against which the research corpus can be compared. Then, the computer compares the relative frequencies of each word in each word list, using a statistical test such

as chi-squared or (more commonly) log-likelihood. If this algorithm finds that a word occurs significantly more frequently in the research corpus than it occurs in the reference corpus, this word is given a statistical ‘keyness’ score and is added to a list of designated ‘keywords’ which forms the final output of the process. The researcher then performs other kinds of analysis (usually concordance analysis) on these words in order to make claims of a more qualitative and interpretative nature about the corpus and about the discourse community, genre or text type that the corpus has been compiled to represent.

The other approach to quantitative discourse analysis that has gained a particularly high profile in recent years is multidimensional analysis (MDA). This approach was first popularized by Biber (1988, 1993a, 1993c) as a means of discovering the different linguistic characteristics of spoken and written genres (also sometimes called ‘register variation’ in his work) in English. In Biber’s work, MDA follows three main stages. In the first, the analyst draws up a (usually very long) list of language *features* for analysis. These usually include both grammatical features such as tense and aspect markers, pronouns, question forms and subordinating features (e.g. *that*- clauses and *wh*- clauses), and more lexical features such as adverbials of time and place (e.g. “immediately” or “indoors”), attributive and predicative adjectives and specialized verb classes (e.g. ‘public’ verbs such as SAY and MENTION, and ‘private’ verbs such as KNOW and BELIEVE). Next, complex sets of interrelationships among these features are discovered using the statistical procedure known as factor analysis. The constellations of co-varying features identified by the computer are thus unsurprisingly known as *factors*. The advantage of using factor analysis at this stage is that it can identify negative as well as positive co-occurrence patterns in corpus data. That is, it can detect not only which features tend to appear together but also which features tend to disappear together in different text types. Finally, each factor is redesignated as a *dimension*, which means that it is interpreted qualitatively “through assessment of the communicative function(s) most widely shared by the features constituting” it (Biber, 1988, p. 64). For example, the second of the seven factors identified by Biber (1988) includes positive co-occurrence scores for past tense verbs and third person pronouns, and negative co-occurrence scores for present tense verbs and attributive adjectives. Biber (1988, p. 109) interprets this set of covariances as “distinguishing narrative discourse from other types of discourse”, and relabels it as *Dimension 2: narrative versus non-narrative concerns*. The advantage of establishing dimensions such as this is that individual text types and genres can be placed on a cline. In

Biber's Dimension 2, for example, prose fiction would be located at or near the 'narrative' end of the continuum, while technical descriptions would occur towards the 'non-narrative' end.

Although there is no doubt that the MDA approach has brought about a revolution in text analysis, some researchers have expressed serious doubts about it. McEnery and Xiao (2005, p. 63), for example, argue that MDA is unnecessarily complicated, and that much the same results can be obtained using far simpler means, such as the keywords analysis method mentioned previously:

“MDA is undoubtedly a powerful tool in genre analysis. But associated with this power is complexity. The approach is very demanding both computationally and statistically in that it requires expertise not only in extracting a large number of linguistic features from corpora but also in undertaking sophisticated statistical analysis. ... [U]sing the keyword function of WordSmith can achieve approximately the same effect as Biber's MDA. This approach is less demanding as WordSmith can generate wordlists and extract keywords automatically.”

While I agree with McEnery and Xiao's comment above, I would argue that keywords analysis is no better than MDA in visualizing the complex interrelation between texts and linguistic items, since both are based on a monolithic one-dimensional visualization (of course, it is possible to produce plots in MDA though). While both identify characteristics of language use in each text, the complex interrelation between various texts and their characteristics is not plotted at once. (N.B. The process of plot production in MDA is extremely complex). While Biber's MDA has proved effective for corpus-based analyses of genres, text types and disciplines, it is by no means the only approach currently available to applied linguists.

Compared to the time when text analysis (particularly genre analysis) originated, it is now easy to compile the large-scale specialized corpora required to conduct quantitative text analysis (e.g. Flowerdew, 2002). Table 4.1 below provides a brief and selective summary of quantitative analyses of this kind.

Researcher	Topic focus
Ure (1971)	Lexical density
MacDonald, Frase, Gingrich, & Keenan (1982)	Readability statistics: sentence length, type: token ratios and FOG analyses
Biber (1988)	Multi-dimensional approach
Forsyth & Holmes (1996)	Style markers: letters, most frequent words and digrams, two methods of most frequent substring selection approach
Baayen, Van Halteren, & Tweedie (1996)	Vocabulary richness and the frequency of the top 50 high frequency words
Hyland (2000; 2002a)	Tokens and ratio of discourse-based features; hedges, boosters, metadiscourse markers, directives
Stamatatos, Fakotakis, & Kokkinakis (2001)	sentence length, punctuation mark count, a set of style markers, percentages of rare or foreign words
Oakey (2002)	Token and ratio of <i>it v-link v-ed that-clause</i> pattern
Charles (2004, 2006)	Frequency and ratio of POS indicating writer's stance
Coniam (2004)	Content words, keywords, n-gram, personality, passives, hedges
Can & Patton (2004)	Word length, type length and token length
Groom (2005)	Ratio of tokens of <i>it v-link ADJ to-inf/that-clause</i>
Tabata (2006)	Multivariate analysis-Correspondence Analysis (with U.S. presidential addresses)
Nishina (2007a)	Comparison of three Multivariate approaches to Genre Analysis – Cluster Analysis, Principle Component Analysis and Correspondence Analysis
Nishina (2007b)	Keyword Analysis with Log-Likelihood Scores (in Accounting Texts)

Table 4.1. Historical survey of quantitative approaches to text analysis

In the current study, I will adopt another approach to multivariate analyses (viz. correspondence analysis) as the methodology for the quantitative part of my research. In the remainder of this chapter, I will attempt to show how correspondence analysis is a superior method of visualizing the interrelation between samples, variables, and samples and variables, and that it is particularly well suited to revealing any similarities and the differences that might exist in the use of the pattern ADJ PREP N among the sub-disciplines of applied linguistics and business studies as represented by the two corpora compiled for the current study.

### 4.3. Correspondence analysis

The current study tests my assumption that phraseological pattern use differs in each academic discipline. In particular, I attempt to answer the basic question, “Is it possible to draw a clear line in terms of pattern use between two different disciplines that have been categorized as epistemologically similar fields?”. To test my assumption, I automatically classify the pattern use (i.e. ADJ PREP N) into two disciplines, using the approach to the multivariate analysis known as *correspondence analysis*. As the name suggests, the principal

appeal of multivariate analysis is that it enables the researcher to investigate a large number of variables at once. In so doing, it offers to reveal the interrelation between (sub-)disciplines and their language use through the eyes of the computer. Since a general significance reference test (e.g. the chi-squared test) cannot compute the complex interrelation of languages (viz. variables) and disciplines (viz. samples) across large numbers of texts, it is necessary to adopt a multivariate analysis to perform such computationally intensive studies.

Multivariate analysis is computed on the basis of a calculated value derived from cross-tabulation, showing the statistical similarities and differences across the sample categories. A multivariate analysis can, thus, be used in various language studies to investigate lexical items across a large number of texts. Language studies that often use multivariate analysis include authorship attribution, stylistics, text typology, variation studies, register variation, regional variation, social variation, authorial variation, chronological variation and so on. Burrows (1987), for instance, investigated Jane Austen's novels based on a multivariate analysis (viz. Principle Component Analysis) of the 30 most common words occurring in them, and succeeded in revealing a particular narrative style, character differentiation through idiolects, and free indirect discourse in Jane Austen's novels. The output in this study also showed that a multivariate analysis enables us to use computer technology to assist the study of literary criticism and literary/linguistic stylistics to identify a stylistic 'fingerprint', which can be used for the purposes of authorship attribution, stylistic imitation and register variation (Tabata, 2002). Both Biber's MDA and multivariate analysis are based on the assumption that multiple parameters of variation will be operative in any discourse domain.

Although Biber's MDA approach is certainly one of the most powerful methods in automated text analysis, the current study will prefer to use a correspondence analysis among various multivariate analyses (e.g. a principle components analysis, a factor analysis, and a cluster analysis). This is largely because a correspondence analysis is superior to others in both data processing and the simplification of its output. The emergence of correspondence analysis dates back to the 1960s in the research of a statistician, J.P. Benzecri. His followers then continued to develop its basic method; the work of another statistician, Greenacre (1984) has particularly contributed to its growing popularity all over the world. Recently, correspondence analysis has come increasingly under the spotlight in linguistic research. Tabata (2006), for example, adopted correspondence analysis to ascertain the similarities and differences among the inaugural addresses of U.S. presidents based on their vocabularies. His

research found 1) that presidential addresses before 1900 and after 1900 form two distinct and differentiated groups; 2) that the *I*-style is diachronically moving into the *WB*-style; 3) that the use of embedded relative clauses has steadily decreased over time; and 4) that genitive markers have correspondingly increased. Another recent study using correspondence analysis is Nishina (2007a). This study was able to classify three written genres in English (viz. academic prose, newspaper journalism and literature) automatically, based on a correspondence analysis of the top 100 contents words in each corpus.

What, then, does it mean to do a correspondence analysis? According to McEnery and Wilson (2001, p. 89-90), a correspondence analysis is designed to “summarise the similarities between larger sets of variables and samples in terms of a smaller number of ‘best fit’ axes”. In the discussion that follows, I will attempt to flesh out this rather abstract definition by opening up the black box of what happens in a correspondence analysis. My discussion will draw on examples from Murakami (1994), who describes the process of correspondence analysis in much fuller detail. To begin with, let us consider the sample response pattern in table 4.2 below. Let us imagine that this table represents the occurrence of certain colour terms in nine different literary works. The literary works are numbered from 1 to 9 respectively in the vertical column on the left, and the colour terms are given as letters A to H across the top. This tells us a number of facts about our data; for example, the colour terms A and D occur in the literary work numbered 2, whereas the colour terms C, D, F and H occur in the literary work numbered 7.

	A	B	C	D	E	F	G	H
1			○			○		○
2	○			○				
3		○		○			○	
4			○	○		○		
5		○			○		○	
6	○	○						
7			○	○		○		○
8		○					○	
9			○					○

Table 4.2. Sample response pattern

While such observations might be interesting to some degree, we can only identify individual relationships at this stage; that is, it is impossible to get a clear picture of the overall response pattern from table 4.2 above. By shuffling rows and columns of the table 4.2 above, however, it is possible to gather together some literary works which have similar colour term usage patterns along the diagonal line, as shown in table 4.3 below.

	C	E	D	H	B	G	E	A
7	○	○	○	○				
4	○	○	○					
9	○			○				
1	○	○		○				
8					○	○		
5					○	○	○	
2			○					○
3			○		○	○		
6					○			○

Table 4.3. Sample shuffle (1)

By shuffling the rows and columns of the contingency table in this way, it is easy to grasp the true pattern hidden there. In the case that there are a large number of rows and columns in the contingency table, however, it is impossible to visualize all patterns with one shuffle (i.e. the scale of the first dimension), because patterns hidden in the matrix are too complicated to be computed all at the same time. Because of this, it is necessary to shuffle the information (or data) in the contingency table several times. This, in essence, is what happens in a correspondence analysis. Table 4.4 below shows the kind of result obtained by shuffling rows and columns based on a second shuffle (i.e. the scale of the second dimension).

	C	H	G	F	E	B	A	D
5	○				○	○		
7		○	○	○				○
8	○					○		
9		○	○					
1		○	○	○				
3	○					○		○
6						○	○	
2							○	○
4			○	○				○

Table 4.4. Sample shuffle (2)

In other words, the term ‘dimension’ in a correspondence analysis is paraphrased as ‘the shuffle of rows and columns in a contingency table to see the interrelationship among samples, among variables, and between samples and variables’. Since it is impossible to trace the mark ○ along the diagonal line by shuffling rows and columns of the matrix manually, it is necessary to compute the data shuffles mathematically by the assistance of statistics and the use of computer programs. In other words, the operation of a correspondence analysis allows the researcher to maximize the correlation between the information contained within different rows and columns.

As described, measuring the association between two qualitative variables is a complicated computation because it requires the data to be transformed many times until the final output is gained (N.B. however, computer statistical software such as SPSS can do this process with just a few mouse clicks). Here, I summarize the mechanism of a correspondence analysis more specifically. The first transformation consists of recoding the two qualitative variables V1 and V2 as two disjunctive tables T1 and T2. For each category of a variable, there is a column in the respective disjunctive table. Each time the category of variable V1 occurs for an observation  $x$ , the value of  $T1(x, c)$  is set to one and the same rule is applied to the V2 variable as well. When there are only two variables, it is sufficient to study the contingency table of the two variables; namely, the table T1 and T2. The chi-square distance has been suggested to measure the distance between two categories. To represent the distance between two categories, it is not necessary to start from the T1 and T2 disjunctive tables. It is enough to start from the contingency table that algebraically corresponds to T1 and T2.

The contingency table has the following structure:

V1 \ V2	Category 1	• • • •	Category y	• • • •	Category z
Category 1	n(1,1)	• • • •	n(1, y)	• • • •	n(1, z)
• • • •	• • • •	• • • •	• • • •	• • • •	• • • •
Category x	n(x,1)	• • • •	n(x, y)	• • • •	n(i, z)
• • • •	• • • •	• • • •	• • • •	• • • •	• • • •
Category z	n(z,1)	• • • •	n(z, y)	• • • •	n(z, z)

Figure 4.1. Contingency table

In the above structure,  $n(x, y)$  indicates the frequency of observations that shows both characteristic  $x$  for variable  $V1$ , and characteristic  $y$  for variable  $V2$ . Inertia, a measure derived from physics, is often used in a correspondence analysis. The inertia of a set of points is the weighted mean of the squared distances to the centre of gravity. In other words, the aim of correspondence analysis is to represent as much of the inertia on the first principal axis as possible, a maximum of the residual inertia on the second principal axis and so on, until all the total inertia is represented in the space of the principal axes. In addition, the number of dimensions of the space is equal to  $\min(m1, m2)-1$  (e.g.  $\min(20, 85)-1 = 19$ ). The result of correspondence analysis is generally displayed in a two-dimensional plot: the plot visualizes the association between variables (and samples) based on the two kinds of dimensions highly contributing to the computations.

From the point of view of corpus linguistic analysis, one of the biggest advantages that correspondence analysis has over other approaches to multivariate analysis is that it can be computed with raw frequency data (e.g. a principle components analysis needs to begin with the ratios of frequency). According to Tabata (personal communication, November 12, 2006), for example, correspondence analysis maximizes the inter-correlation matrix in its computation, and thus the result gained from raw frequency and from ratio of frequency (e.g. per 1,000 or per 1 million) gives almost the same outcome.<sup>17</sup> On the other hand, principle component analysis is based on correlation coefficients and covariance coefficients, and so this analysis cannot compute raw frequencies: the different corpus size affects the outcome of raw frequency in this analysis, although this does not apply to equal-sized corpora.<sup>18</sup> The fact

<sup>17</sup> Tomoji Tabata is currently an associate professor at Osaka University in Japan. I would like to acknowledge his invaluable comment here.

<sup>18</sup> As in the table of the basic statistical data of the self-compiled corpora in the current study in Chapter 5, each

that correspondence analysis is not affected by text or corpus size is a further reason why I have chosen to adopt correspondence analysis for the purposes of the current study.

#### **4.4. Conclusion**

The aim of this chapter has been to introduce correspondence analysis, and to demonstrate its suitability to the current study. A correspondence analysis visualizes the complex interrelations between qualitative variables and samples obtained by corpus-based language studies. This means that correspondence analysis is particularly well suited to automatic text categorization. Accordingly, I propose to utilize a correspondence analysis for 16 kinds of data matrices for the pattern ADJ PREP N in the current study. It is hoped that the output in a two-dimensional plot will present a complex and detailed picture of the interrelations within and between sub-disciplines of two academic disciplines (i.e. applied linguistics and business studies) and their pattern use (see the details in Chapter 7). Such an analysis will also tell us in more general terms whether a clear line can be drawn between the two disciplines in terms of their adjective pattern usage.

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sub-disciplinary corpus is somewhat different in its size respectively. Thus, I decided to use a correspondence analysis with raw frequency data in the current study.

## CHAPTER 5. Corpus creation and methodology

### 5.1. Introduction: Summary of this chapter

This chapter presents the corpus compilation and the research methodology of the current research. The chapter begins by introducing what sorts of decisions are made in the corpus creation of two academic disciplines, focusing in particular on the issues of corpus representativeness and corpus size. Then, I will describe the methodology adopted in the current study in detail.

### 5.2. Corpus creation

It is becoming increasingly standard practice for academic discourse researchers to adopt a broadly corpus-based approach to the linguistic study of particular disciplines. This is because corpora aid us to quantitatively observe “linguistic fact[s]”, how linguistic items (e.g. vocabulary, collocations, patterns) typically occur in a particular discourse (Gavioli & Aston, 2001; Christie, 1999; Conrad, 2000; Lewis, 2000). In this sense, corpus-based study may reveal the linguistic norms and cultural values peculiar to a particular discipline. For these reasons, I compile and analyse corpora peculiar to specific disciplines in the current study.

#### 5.2.1. Corpus representativeness and size

One of the most intractable and controversial questions in corpus linguistics concerns whether and to what extent any corpus can be said to be representative of a particular language variety. As Kennedy (1998, p. 52) suggests, “[w]e cannot be confident we know all the possible text types nor their proportions of use in the population, a ‘representative’ sample is at best a rough approximation to representativeness, given the vast universe of discourse.” Kennedy uses the word *approximation*, implying the idea about the imperfectness of representativeness for a language in the corpus compilation; this is not exceptional, even for a specific discipline. Therefore, the current study attempts to compile disciplinary specific corpora by approximating the representativeness of each discipline as much as possible based on several standards.

As Hunston (2002a, p. 26) points out, a corpus cannot be judged as “good” or “bad” in itself, but only as “suited” or “not suited” to particular research purposes. In this sense, a specialized corpus is still more reliable than a general reference corpus regarding the matter of representativeness and thus need not to be as large as the general reference corpus, if the

sampling standard is well designed (Bowker & Pearson, 2002; Pérez-Paredes, 2003).<sup>19</sup> Indeed, many studies have produced successful and convincing results by using relatively small, highly specialized corpora (Beaugrande, 2001; Ghadessy, Henry, & Roseberry, 2001; Coniam, 2004). Simpson (2000), for instance, uses a one-million-word corpus of spoken academic English compiled from four 250,000-word sub-corpora respectively. The Hong Kong Corpus of Conversation English (HKCCE) compiled by Cheng and Warren (1999) stands at 500,000 tokens. Gavioli (2002) works with an English medical corpus of 258,622 tokens compiled from five specialist sub-domains of similar size, while the U.S. accounting corpus compiled by Nishina (2007b) is even smaller, standing at 245,424 words. All of these researchers attempted to extract keywords, collocations, patterns or fixed expressions peculiar to texts in a specific genre or/and discipline, and all were successful in achieving this aim.

However, Biber et al. (1998) have argued that not only the size, but also the number and range of texts are primary factors for assessing the representativeness of a corpus. According to Engwall (1994, p. 51), "...no scientific criteria exist for determining the size of any corpus. It has to be decided simply with reference to a balance of depth and breath, but the lack of resources sometimes restricts the desired design". Biber (1993b) however suggests that around 60 texts are sufficient for retrieving reliable linguistic characteristics concerning high frequency items, and 1,190 texts are needed when analysing low frequency items. Calculating the number of words using "2000 words in one text" standard, this would equate to 2,380,000 running words (cf. Saito, Nakamura, & Akano, 2005, p. 68).<sup>20</sup> Thus, this corpus size is adopted as the standard in the current study by also considering a number of sub-disciplines and their size. Due to the reason that each full text in an article is extracted for my corpora, however, the "2000 words in one text" standard is not applied for the design of my corpora.

### **5.2.2. Corpus design**

The first step in the current study was to compile discipline-specific corpora of applied linguistics and business studies: my corpora represent the genre of RAs in these two academic disciplines based on uniform standards in terms of their total size, and in terms of the number

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<sup>19</sup> Bowker and Pearson (2002, p. 48) comment on the corpus size for a specific purpose: "even corpora of between a few thousand and a few hundred thousand words have proved useful for language for special purposes (LSP) studies." Pérez-Paredes (2003) supports this stance that the small corpora need not to be as large as the general reference corpus if the corpus design is well considered.

<sup>20</sup> The standard "2000 words in one text" is, for example, adopted in the corpus design of LOB, BROWN, FLOB and FROWN.

of sub-disciplines contained within them.

Each sub-discipline and its leading journal are selected based on a relatively broad cross-section of research specializations within each academic discipline. It is however difficult and perhaps impossible to specify all possible sub-disciplines of the two disciplines, and it is practically impossible to collect and include such all data for an individual research project like the current study. According to the Council for International Exchange of Scholars (CIES) website,<sup>21</sup> there are 24 sub-disciplinary variants for applied linguistics, 55 for business administration, 15 for economics, and 35 for law (including business law) and so on. For this reason, I decided to simply select the same numbers of sub-disciplines (i.e. each 8 sub-disciplinary variants) from these variants of the two disciplines and to include the data from the journals being representative of these sub-disciplines in my corpora. Sub-disciplines and their journals included within applied linguistics are 1) testing (Language Testing), 2) the analysis of speech (Language and Speech), 3) language learning (Language Learning), 4) English for specific purposes (Journal of English for Specific Purposes), 5) corpus linguistics (International Journal of Corpus Linguistics), 6) cognitive processes (Language and Cognitive Processes), 7) second language acquisition (Studies in Second Language Acquisition), and 8) teaching English as a foreign language (TESOL Quarterly). Those included within business studies are 1) accounting (Journal of Accounting Research), 2) business law (American Business Law Journal), 3) society (Business and Society), 4) economics (Quarterly Journal of Business and Economics), 5) finance (Journal of Business Finance and Accounting), 6) business strategy (Journal of Business Strategy), 7) marketing (Journal of Business and Industrial Marketing), and 8) management (Journal of (Small) Business and Management). Articles were selected at random from those published after 2000, thereby representing current topics, questions and issues in each field. In particular, I attempted to extract data from data-based RAs, which is one of four genres of RAs suggested in Swales (2004, p. 213) (viz. Swales divides RAs into Theory Pieces, Review Articles, Data-based RAs and Short Communications), since they are popular in both disciplines.

These journals were selected because they are all internationally renowned and cover a wide range of topics in the field of applied linguistics and business studies.<sup>22</sup> RAs in each of these journals are subject to a strict and rigorous peer review process before being published.

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<sup>21</sup> The website of CIES is at [http://www.cies.org/specialists/Joining\\_The\\_Roster/Sub\\_Discipline.htm](http://www.cies.org/specialists/Joining_The_Roster/Sub_Discipline.htm).

<sup>22</sup> The decision to limit the number of journals in each corpus to only eight was due to practical purposes; it does not mean that other journals are less prestigious than those selected in the current study.

Most of these journals are also registered in Journal Citation Reports (JCR), indicating that they are of high academic quality and have an impact on their academic fields. Some journals in Table 5.1 below have high 5-year impact factor scores (5YIF), but some others are not registered in JCR at all. In these cases, I checked with experts in these fields to ensure that these journals are nevertheless internationally recognised and can be seen as representative of each sub-discipline of the two disciplines.<sup>23</sup> This is largely because such journals (i.e. International Journal of Corpus Linguistics, Language Testing, Quarterly Journal of Business and Economics, Business and Strategy, and Journal of Business Strategy) tend to be in comparatively new subfields within each discipline, and are thus more ‘niche’ oriented.

To compile each corpus of applied linguistics and business studies, the articles were collected in their electronic version. The retrieved data are restricted to ‘true’ RAs in the designated journals; that is, editorials, prefaces, review articles, book reviews and editor’s notes were not included. For the purposes of assembling only authors’ work in the paper as much as possible, irrelevant features in articles were commonly removed, including references, authors’ names, authors’ affiliations, appendices, endnotes, and acknowledgements. Explanatory and topic-focused footnotes and endnotes in the papers were considered to be the authors’ work and were thereby included in the corpus.

I extracted data from articles in HTML or PDF format by copying them and pasting them into plain text files. In particular, I preserved the data in each text file in the Unicode (UTF-8) format since some concordancers cannot handle other formats; Unicode is the most versatile text format for any corpus concordance program. When extracting language data from journal articles, another point must be carefully noted: erasing the line feed in each data. For instance, data from most articles in the PDF format include the unseen line feed at the end of each line (not at the end of sentence). Let us consider the following figure:

A general reference corpus includes academic texts, newspaper and literature as significant ↓  
parts. For example, Baby-BNC, a 4 million word corpus, is compiled from 4 sections: written ↓  
academic prose; written fiction; written newspaper and spoken demographic; each section is about ↓  
one million running words. Thus, for written language texts, these can be divided into three broad ↓  
categories: academic, newspaper and literature.

Figure 5.1. Line feeds

<sup>23</sup> I would like to thank the specialist informants who reviewed my selection of journals for the two disciplines.

As Figure 5.1 illustrates, regardless of whether a sentence finishes or not, line feed codes are automatically inserted at the end of each line. Since data in PDF files are inherently designed in this format, a corpus concordancer may compute each line feed code as each end of sentence (viz. a corpus concordancer regards each line feed code as each period of the sentence, indicating *significant*, *written*, *about* and *broad* are interpreted as the last words in each sentence in Figure 5.1 above, even though they are clearly in the middle of each sentence).<sup>24</sup> This may be a trivial issue of data preparation if the aim of the study is to extract and count each individual word in order to, for example, create a (key)word list. However, this may well cause problems of a more serious nature with some software including the one used in the current study, when the goal is to extract two or more word units, such as collocations, phrases and patterns. For example, it is impossible to extract word units, *significant parts*, *written academic prose*, *about one million*, and *broad categories* from the context above, largely because the computer interprets the line feeds in each of the phrases as unseen periods. (N.B. In particular, this is a problem with the software used in the current study which cannot cope with the data as it is). Therefore, after extracting data from academic journals, the data were adjusted by erasing each line feed and changing it into a single space, thereby allowing valid and meaningful collocates, phrases, and patterns to be extracted.

Having described the procedures and guidelines that informed the corpus building process, I now turn to the final composition of the two corpora themselves. My corpus of journal articles in applied linguistics (hereafter, ALC) comprises 289 published papers from 8 leading journals in each sub-discipline. Each sub-disciplinary sub-corpus includes approximately 330,000 words tokens, giving a total number of running words for the whole corpus of approximately 2,667,000 words. Meanwhile, my business studies corpus (hereafter, BC) comprises 436 published papers from 8 leading journals in each sub-discipline. Each of these sub-corpora also contains approximately 330,000 words each, yielding a total of 2,668,679 running words for the corpus as a whole. In short, the two corpora are almost equal in size, in word token terms, thereby enabling a direct comparison using only raw frequency figures. (N.B. The two corpora are not equal in terms of the number of texts that they contain, since the token size of each article is different in the two disciplines.) Table 5.1 below summarizes the basic figures for ALC and BC. The table provides: 1) the journal name; 2)

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<sup>24</sup> I confirmed this phenomenon in the use of the corpus concordancer used in the current study.

published year of the journal articles; 3) the number of texts; 4) the number of tokens; and 5) the number of types.

Journal Name (Applied Linguistics)	Published Year	Texts	Tokens	Types
Language and Cognitive Processes (LCG) [5YIF: 2.233]	2005-6	36	338,256	11,287
International Journal of Corpus Linguistics (LCP)	2005-6	34	314,375	17,061
Journal of English for Specific Purposes (LES) [5YIF: 1.102]	2005-6	39	312,483	14,252
Language Learning (LLL) [5YIF: 1.738]	2005-6	35	364,731	14,655
Studies in Second Language Acquisition (LSL) [5YIF: 2.881]	2004-5	34	348,910	12,515
Language and Speech (LSP) [5YIF: 1.124]	2003-4	29	322,596	11,732
TESOL Quarterly (LTS) [5YIF: 1.563]	2005-6	43	341,187	16,194
Language Testing (LTT)	2003-5	39	324,462	11,722
Subtotal (ALC)	2003-6	289	2,667,000	50,279
Journal Name (Business)	Published Year	Texts	Tokens	Types
Journal of Accounting Research (BAC) [5YIF: 3.069]	2005	27	332,721	9,470
Quarterly Journal of Business and Economics (BEC)	2000-5	63	304,420	9,914
Journal of Business Finance and Accounting (BFI)	2005	66	407,018	11,874
American Business Law Journal (BLA) [5YIF: 1.136]	2000-5	34	362,292	15,157
Journal of (Small) Business and Management (BMN) [5YIF: 1.689]	2000-5	65	334,237	14,256
Journal of Business and Industrial Marketing (BMK) [5YIF: 0.930]	2004-5	54	296,501	11,611
Business and Society (BSO)	2003-5	44	336,610	15,314
Journal of Business Strategy (BST)	2001-5	83	294,878	15,527
Subtotal (BC)	2000-5	436	2,668,679	41,975

Table 5.1. Journal name, published year, number of texts, tokens and types

These metrics were computed using WordSmith (ver.4.0) (Scott, 2004). The ‘Tokens’ column indicates the number of words used for word lists created by this corpus concordancer.<sup>25</sup> ‘Types’ shows the number of different words used in the corpus. In particular, the chi-square test shows a significant difference in Types between ALC and BC at 0.1 % level ( $\chi^2=747.46$ ,  $df=1$ ,  $P<0.001$ ).

### 5.3. Methodology

#### 5.3.1. Summary of research procedures

The current study attempts to reveal disciplinary differences in language and culture between two soft disciplines— applied linguistics and business studies— using a combination of quantitative and qualitative corpus-based methods.

In particular, I will conduct an in-depth study of the pattern ADJ PREP N from different angles, namely through both the computer’s eyes, using the methodology of correspondence analysis, and through my own human eyes, using the methodology of

<sup>25</sup> WordSmith (ver. 4.0) gives two figures of tokens: one is running words used in text and another is words used for WS4 word list. The table 5.1 adopted the latter one.

corpus-based discourse analysis. The correspondence analysis will focus on surface patterns, and will visualize complex interrelations between sub-disciplines of the two disciplines in terms of their use of the pattern ADJ PREP N. Through this analysis, I test whether the computer can be used to make an epistemic distinction between the two disciplines based on observations of adjective choice in the pattern ADJ PREP N as it occurs in each discipline. On the other hand, discourse analysis reveals what a computer cannot so easily identify automatically: the different semantic behaviours of the same pattern across the two disciplines. Through this analysis, I attempt to reveal how academic discourse peculiar to applied linguistics and business studies is constructed from the pattern ADJ PREP N, by subdividing my findings for the pattern ADJ PREP N into several semantic groups. By investigating the pattern ADJ PREP N thoroughly, the current study looks at the behaviour of this pattern in terms of what adjectives occur in it, what local features (e.g. collocates) co-occur with it, and their discourse features (e.g. attitude, relation, semantic sequences). It will also be interesting to see whether and to what extent there is a discernible overlap between what the computer sees and what the human analyst sees in the same basic data.

### **5.3.2. Extraction of ADJ PREP N patterns**

ADJ PREP N patterns were extracted from ALC and BC, using regular expressions to compute each adjective as listed in Francis et al. (1998) with the preposition as the search word. This was done using TXTANA standard edition ver.2.53 (Akasegawa, 2004). As Francis et al. (1998) include ADJ PREP ~ing/wh-clause (e.g. *Figure 3b shows that these listeners were equally good at distinguishing the high vowels.../We were especially interested in how the syllables would be perceived when the falling or the rising portions of the F0 contours of Tone 3 and Tone 2 stimuli were neutralized...*) and ADJ PREP N ~ ing (e.g. *I am not aware of any study inquiring into how young learners of modern languages apply them when solving test tasks...*) as variants of the ADJ PREP N pattern, the current study also incorporated these two patterns without distinguishing them from the main pattern. In addition, the pattern ADJ PREP N has two types: the first type is N1 v-link (ADV) ADJ PREP N2 (e.g. *[A]nalysts may be optimistic about earnings*); and the second is N1 ADJ PREP N2 (e.g. *[T]he uncertain equity values implicit in the stock payment method accounts for the reduced success rate*) (cf. Francis et al., 1998). Since relative clauses such as “that is/are” and “who is/are” are recoverable between N1 and ADJ in the second type, adjectives in this abbreviated pattern are interpreted as predicative ones. For this reason, the current

study incorporated the second type into the data of the pattern ADJ PREP N.

After the patterns were extracted, a back-check was conducted in order to remove any irrelevant examples (e.g. N *about* N). This was achieved by manually checking instances using a concordancer. Two particular sources of irrelevant examples in both corpora were detected when examining the patterns ADJ *of* N and ADJ *on* N: *good, kind, characteristic, net* and *top* in the pattern ADJ *of* N (e.g. *[T]o do this successfully, an efficient net of anaphoric and cataphoric link is essential.*) and *firm, kind* and *light* in the pattern ADJ *on* N (e.g. *[T]hen firm F is as efficient as any other firm on the frontier.*). These words are listed in Francis et al. (1998) as adjectives appearing in each pattern, but my concordance investigation found that some examples were more accurately judged as nouns and were thus removed. It is also worth noting at this point that this is the reason why my corpora are not annotated with part-of-speech tags. Originally, I had hoped to extract the adjective patterns semi-automatically by using tags to search for adjective patterns. To this end, I annotated parts of my corpora with Go Tagger (Goto, 2005), and Q-tag (ver. 3.1) (Mason, 2003). However, when I checked through these data manually I found that there were big differences in the number of adjective patterns identified by manual and tag-driven analyses. I therefore decided to adopt a manual approach for the current study. (N.B. Although Dr. Pernilla Danielsson assisted me in tagging my corpora and extracting the patterns from them, she also had no idea why there were such big differences between manual and tag-driven analyses.)

The 16 patterns described in Francis et al. (1998) were found to form two clearly distinguishable groups in ALC and BC with regard to the pattern frequency. One group consisted of 8 high-frequency patterns, and the other group consisted of 8 low-frequency patterns. The high-frequency group includes the patterns ADJ *about/for/in/of/of/on/to/with* N; the low-frequency group includes the patterns ADJ *against/as/as to/at/between/by/over/toward(s)* N. (N.B. For practical reasons, the cut-off point is at 200 occurrences of the total tokens in both corpora combined). Since the most significant findings are found in the high-frequency group, I will focus mainly on these patterns in the analysis and discussion that follows. However, in cases where interesting data are found in the low-frequency patterns, these will also be included.

### **5.3.3. Correspondence analysis procedure**

As explained in Chapter 4, the aim of correspondence analysis is to visualize the interrelationships among samples and variables. In the current study, a correspondence

analysis was conducted with the matrix data of adjectives in the pattern ADJ PREP N used in 16 sub-disciplines of applied linguistics and business studies. Similarities and differences in pattern use among the 16 sub-disciplines were visualized based on tokens and types of adjectives in the pattern ADJ PREP N. By reducing the complexity of the data into smaller dimensions, a correspondence analysis enables us to visualize the relationship between samples, between variables, and between samples and variables. As seen in Table 5.1, each sub-disciplinary corpus is somewhat different in size. Since a correspondence analysis is not likely to be affected by the different size of corpora (unlike other approaches to multivariate analyses such as cluster analysis and principle component analysis), I decided to use a correspondence analysis with raw frequency data.

In correspondence analysis, the basic calculation [the number of columns – 1] indicates the number of dimensions: there are 15 dimensions (viz. 16-1) in each pattern. During this process, row scores and column scores are computed based on correlation coefficient, eigen value, contribution ratio and accumulated contribution ratio.<sup>26</sup> The summary of each statistical score is as follows:

<CC> The correlation coefficient indicates the relationship between (two) random variables. It provides a measure of the strength and the direction of the correlation varying from -1 to +1. Positive values indicate that the (two) variables are positively correlated: the (two) variables vary in the same direction. Negative values indicate that the (two) variables are negatively correlated: the (two) variables vary in contrary directions. Values close to +1 or -1 indicate the (two) variables are highly related.

<EV> The eigen value is most commonly reported in multivariate analyses. It is the core figure computed for identifying the contributions of each dimension. It is also used in deciding how many dimensions are used in the overall multivariate analyses.

<CB> The contribution is the index used to identify a way of condensing the information contained in a number of original variables into a smaller set of dimensions with a minimum loss of information. Generally, two dimensions of the two highest CBs are selected to project variables into the two-dimensional plot, because they most highly contribute to finding the interrelationship among variables, among samples, and between variables and samples.

<ACB> The accumulated contribution indicates the total contribution scores. For instance, ACB up to dimension 5 is the accumulation from the contribution 1 to the contribution 5.

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<sup>26</sup> I used the EXCEL add-in software XLSTAT for my correspondence analysis. Since the XLSTAT only gives eigen value, contribution and accumulated contribution scores, I calculated correlation coefficient manually in EXCEL. (N.B. the squared score of correlation coefficient is the eigen value.)

Next, I created the contingency table of adjectives in the pattern and sub-disciplines of the two disciplines. Table 5.2 below shows the sample contingency table for adjectives in the pattern ADJ *from* N.<sup>27</sup>

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
absent		1		2	1	2		3	1	1	6	1	1	5	3	1
alienated															2	
apparent			2	4		1					2					2
available	7	9	12	1	5	1	2	5		3	2	3			4	5
consistent		1			1											
constant		2					1									
detachable															1	
detached							1									
different	50	75	63	14	24	8	21	10	33	13	19	36	33	46	39	25
disengaged					1											
invisible										1						
.....																
missing	1	2			1	1	1			1	1	1	1			2
obtainable		1														
predictable									10				2	6		
remote					1											
secure							1									
separable									3						1	
separate	2	1	1	6	1		1	3	4	2	3	2		1	5	1
separated	1	1	1		3			2	1	2	3	3			3	2
unchanged	2			1									1			

Table 5.2. Contingency table for the pattern ADJ *from* N

I created 16 contingency tables, one for each ADJ PREP N pattern respectively, following the example above. I then conducted a correspondence analysis with them in order to identify any associations in the use of adjective patterns among the 16 sub-disciplines quantitatively.

A correspondence analysis will categorize these sub-disciplines into two groups of applied linguistics and business studies separately, if my assumption is correct: the specific disciplinary culture would be reflected in the particular language use in its discourse. It is thus possible to test the validity of my assumption through a correspondence analysis.

<sup>27</sup> Each complete contingency table is attached in Appendix B. Each column label indicates: BAC = accounting, BEC = economics, BFI = finance, BLA = business law, BMN = business management, BMK = business marketing, BSO = business society, BST = business strategy, LCG = cognitive process, LCP = corpus linguistics, LES = ESP, LLL = language learning, LSL = SLA, LSP = speech, LTS = TESOL, and LTT = testing.

#### 5.3.4. Discourse analysis procedure

The discourse analytic methodology employed in the current study involved using concordancing software to inspect each individual instance of each adjective pattern in each corpus in order to establish and classify its semantic and discursual properties. Initially, I set out to categorize each pattern according to the semantic groups proposed by Francis et al. (1998). However, in practice there turned out to be many cases in which the semantic groups described in Francis et al. (1998) did not correspond exactly to the adjective patterns found in ALC and BC. Thus, it was necessary for me to recategorize most of the semantic groups and the adjectives included in them, and to rename them in such a way that they were more in tune with the findings of the current study.

Once this highly labour-intensive classificatory work had been done, I then separated the data for each semantic group into broader groups reflecting different discourse functions. In practice, two such broad groups were revealed by my analysis — I have termed these *attitude* and *relation* respectively. The term *attitude* refers to discourse functions that express a writer's claims — that is, how a writer sees things within her or his particular disciplinary specialization. *Attitude* is thus used in a similar sense to the way it is used in the branch of Systemic-Functional linguistics known as *appraisal theory* (Martin, 2000; Martin & Rose, 2003, 2007; White, 2004). As we will see in Chapter 8, my more detailed analysis of patterns expressing *attitude* meanings is also consistent with appraisal theory in that it finds that this broad semantic category can itself be divided into three subtypes, which (again borrowing terms from appraisal theory) I will refer to as *judgement*, *affect* and *appreciation*. Through a detailed concordance-based qualitative investigation of *attitude* patterns, the current study will identify, and then compare and contrast, how subjective assessments are manifested in the two academic discourses of applied linguistics and business studies.

Interestingly, this qualitative investigation revealed another broad semantic function expressed by the pattern ADJ PREP N, which could not readily be incorporated under the general rubric of *attitude*. This other group describes relations among and between things, and (as I shall argue later) forms an equally important resource for structuring academic argument. I will refer to this broad domain as *relation*. As was the case with *attitude* meanings, my qualitative analysis found that *relation* meanings could also be divided into clear-cut subcategories, although in this instance two rather than three such categories were identified. I will refer to these as *connection* and *attribute* respectively. My analysis of *relation* meanings

expressed by ADJ PREP N patterns in Chapter 9 of this thesis will focus on showing that there are clear and important differences in the kinds of relationships construed by these patterns as they occur in my two corpora of applied linguistics and business studies RAs .

On a related issue, it is also worth noting that, although I sometimes use the term ‘applied linguistics’ and ‘business studies’ in a case study in Chapters 6, data analyses in Chapter 7, and discourse analyses in Chapters 8 and 9, my claims and interpretations are only based on the analysis of variant forms of the pattern ADJ PREP N as they occur in my corpora. That is, I do not attempt to make claims about the nature of discourse in Applied Linguistics and Business Studies in general; such generalisations as I make are restricted to the patterns that I focus on, and are based solely on what I can see from my corpora. That is, I believe that my corpus is sufficiently well constructed for me to make claims about the disciplinary values expressed by the adjective patterns favoured by writers of research articles in each disciplinary discourse. However, my corpus and my analysis stop there; it is not possible for me to claim that the values associated with these patterns are thus typical of each disciplinary discourse as a whole. It may be the case that such associations do exist, but this is a matter for further research to confirm or disprove, by focusing on other patterns, or indeed on entirely different kinds of language features.

#### **5.4. Conclusion**

This chapter first described how the corpora to be used in the current research were compiled, before outlining the set of quantitative and qualitative analytical procedures employed in the research.

Although I have attempted to be as comprehensive as possible in describing my methodology, the actual process of analysis inevitably remains something of a ‘black box’ from the reader’s point of view. In order to ameliorate this, and to show the reader exactly how my approach to analysis works in practice, the next chapter will present a case study example following the general methodology described in this chapter.

## CHAPTER 6. A case study

In this chapter, I present a case study analysis focusing on the pattern ADJ *about* N in order to provide a worked example of the general methodology described in the previous chapter. This worked example will focus mainly on the ‘descriptive’ level of my analysis; that is, my main aim is to show how I categorised the data for this pattern into a set of distinct semantic groups. I will postpone my interpretation of the findings of this analysis until Chapters 8 and 9, where I will deal with the epistemological and cultural values suggested by these semantic groupings.

### 6.1. Quantitative analysis

This section presents my quantitative findings for the pattern ADJ *about* N. First, the table 6.1 below summarizes the overall figure for tokens, types and TTR (Type/Token Ratio) for the pattern ADJ *about* N. This pattern is included as one of the high-frequency patterns in my analysis based on its frequency in both corpora. The pattern variants analysed in the current study are divided into 8 high-frequency groups and 8 low-frequency groups (N.B. the cut-off point is at 200 occurrences in ALC and BC).

	ALC	BC
Tokens	84	116
Types	36	50
TTR	0.429	0.431

Table 6.1. Tokens, types and TTR of the pattern ADJ *about* N

Table 6.1 above shows the basic quantitative figures for adjectives occurring in the pattern ADJ *about* N in ALC and BC. As can be seen, both tokens and types in BC are higher than those in ALC: this means that a wider range of adjectives are used in BC than ALC. However, the TTR figures are almost the same across the two corpora: this indicates a certain similarity in the proportion of variety in adjectives of the pattern ADJ *about* N in ALC and BC, although BC uses a larger number of different adjectives in the pattern than ALC.

The next step is to identify the 5 high-frequency adjectives occurring in the pattern ADJ *about* N in order to see whether there is a difference in the profile of high-frequency adjectives in this pattern. These are listed in Table 6.2 below. Note also that Table 6.2 provides a comparison with ‘general English’ reference data from the British National Corpus

(hereafter, BNC) as a baseline. The data of BNC are adjusted to the ratio per 2.5 million words, thus making them more comparable with the figures from ALC and BC. Finally, each comparative is also considered in the counts of each basic form.

Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M
1	confident	11	knowledgeable	11	concerned	37
2	clear	8	optimistic	8	worried	33
3	enthusiastic	6	cautious	7	sorry	10
4	explicit	5	serious	6	sure	9
5	positive	4	uncertain	6	happy	7

Table 6.2. Top five high-frequency adjectives in ADJ *about* N with BNC data

Table 6.2 above indicates that the choices of high-frequency specific adjectives are different in ALC and BC: no common adjectives occur in both corpora. High-frequency adjectives in ALC and BC are also different from those in the BNC: there is a clear line in the use of high-frequency adjectives in the pattern between my corpora as representatives of academic English in the soft disciplines on the one hand, and the BNC as a representation of general English on the other.

Table 6.3 below summarizes the next step in the analysis, which is to identify the semantic groups of adjectives in the pattern ADJ *about* N in ALC and BC. While Francis et al. (1998) list 23 semantic groups in the pattern ADJ *about* N, I originally re-categorized my data into several semantic groups that are qualitatively identified (ALC 54; BC 63) and into the ‘other meanings’ group, which cannot be categorized into any of the established semantic groups (ALC 30; BC 53). I termed the semantic groups identified by my analysis CERTAINTY, OPTIMISM, ENTHUSIASM, NERVOUSNESS, and WISDOM respectively.

Order	ALC	Freq.	BC	Freq.
1	OPTIMISM	20	NERVOUSNESS	17
2	CERTAINTY	14	OPTIMISM	15
3	NERVOUSNESS	14	CERTAINTY	14
4	ENTHUSIASM	6	WISDOM	11
5	WISDOM	0	ENTHUSIASM	6
6	OTHER MEANINGS	30	OTHER MEANINGS	53
Total		84		116

Table 6.3. Semantic groups of ADJ *about* N

As Table 6.3 shows, several semantic groups in the pattern ADJ *about* N in both corpora

express human feelings: specifically, the OPTIMISM group, the ENTHUSIASM group, and the NERVOUSNESS group. Also, the CERTAINTY group expresses human judgement, whereas the WISDOM group expresses human appreciation. These high-frequency semantic groups are akin to each other in both corpora, although the high-frequency specific adjectives used in each group as shown in Table 6.2 are not the same in ALC and BC.

In the fourth stage of the analysis, I utilized a correspondence analysis to investigate whether this statistical procedure would also see difference in the use of adjectives in the pattern ADJ *about* N between applied linguistics and business studies. As discussed in Chapters 4 and 5, correspondence analysis visualizes the interrelation among a large number of variables and explains these variables based on their common underlying dimensions. It finds a way of condensing the information contained in a number of original variables into a smaller set of dimensions with a minimum loss of information. In order to conduct the correspondence analysis for the retrieved data of the pattern ADJ *about* N from corpora, the contingency table shown in Table 6.4 was first created.

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
accurate											1					
aggressive											1					
agnostic	1															
ambivalent					1			2					1			
anxious								2				1				
apathetic										1						
apprehensive		1	1									3				
assertive											1					
careful				1												
careless				1												
cautious		1	1	2	1		1	1	1		1				1	1
certain										1						
clear							4	1	1	2	1	1			1	2
confident									4	1	3	1		1	1	
conscious													1			
crazy								1								
curious								2			1				1	
definitive																1
dubious											1					
enthusiastic				1	1			2			3	2	1			
equivocal									1							
explicit				1	1	1	1			1	1				2	1
forthcoming					1											
frank	1						1									

good					1			1								1
happy					1				1	1						
honest								1								
inconclusive							2									
indifferent							1									
informative	2	2					1		1			1				
insistent				1												
knowledgeable		1			1	4	2	2								
negative					1											
nervous											1					
neutral					1											
open								1		1						
optimistic	2			1	5				1							1
passionate								1								
pleased					4											
positive											1				1	2
precise								1								
public						1	1									
reflective				1												
right				1												
rigorous								1								
sceptical												1				
secretive					1											
selective											1					
serious								6								1
shy								1								
silent	1						1		1							
smart								1								
specific										2			1			
starry-eyed				1												
sure										1			1			1
suspicious						2										
uncertain	1	1	1	1		2							1			
unclear								1								
uncomfortable								1								1
unconcerned		2														
undecided								1								
uneasy					1											
unsure			1	1										2	1	
vague					1											
worried		1		1	2					1	2					1
wrong											1					

Table 6.4. Contingency table for ADJ *about* N

The contingency table shown in 6.4 above indicates the frequency of each adjective in this pattern in each individual sub-discipline of applied linguistics and business studies. The

contingency table consists of 66 rows (adjective types) × 16 columns (sub-disciplines of applied linguistics and business studies). Table 6.5 below also indicates the four statistical scores introduced in Section 5.3.3: correlation coefficient, eigen value, contribution ratio and accumulated contribution ratio assigned for dimension 1 and dimension 2, all of which are computed in the process of correspondence analysis.<sup>28</sup>

TP (CT)	about (66×16)	
DN	Dim1	Dim2
CC	0.793	0.762
EV	0.629	0.58
CB (%)	11.499	10.603
ACB (%)	11.499	22.102

Table 6.5. Four statistical scores in the correspondence analysis of ADJ *about* N

In Table 6.5, the correlation coefficient figures indicate that both tokens and types of adjectives in ADJ *about* N are highly and positively associated with each sub-discipline. These statistical scores (esp. eigen value) are computed into each column score (i.e. a score is given to each sub-discipline) of Dimension 1 and 2, in order to visualize the interrelation between each adjective type in the pattern ADJ *about* N and each sub-discipline of applied linguistics and business studies. The results of this process are given in Table 6.6.

	ALC			BC	
	Dim1	Dim2		Dim1	Dim2
LCG	-0.593	-0.063	BAC	-1.159	0.651
LCP	0.223	-0.495	BEC	-0.753	0.821
LES	0.065	-0.665	BFI	-0.613	0.235
LLL	-0.025	0.346	BLA	-0.747	-0.619
LSL	0.496	-0.328	BMN	-0.392	-1.08
LSP	-0.675	-0.618	BMK	-0.478	1.676
LTS	0.106	-0.311	BSO	-0.541	1.212
LTT	0.362	-0.083	BST	1.656	0.344

Table 6.6. Column scores (sub-discipline scores) based on principal coordinates

Based on the column scores in the table 6.6 above, each sub-discipline is projected in the two dimensional plot below, which presents the positioning of 16 sub-disciplines in the use of the

<sup>28</sup> As mentioned previously, TP = Type of Preposition, CT = Contingency Table, DN = Dimension Number, CC = Correlation Coefficient, EV = Eigen Value, CB = Contribution (%), and ACB = Accumulated Contribution (%).

pattern ADJ *about* N.

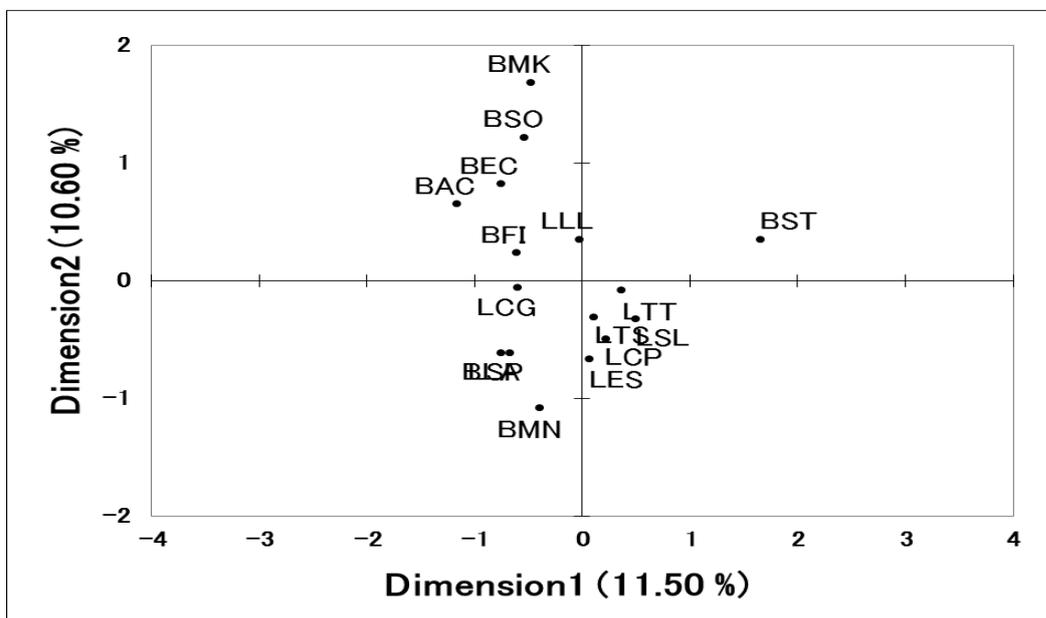


Figure 6.1. Two-dimensional plot for sub-disciplines in the pattern ADJ *about* N (22.10%)

Figure 6.1 above visualizes the interrelation between the choice of adjectives in the pattern ADJ *about* N and each sub-discipline of applied linguistics and business studies. As can be clearly seen, business sub-disciplines cluster together in the left side of dimension 1 (viz. the second and third quadrants), whilst applied linguistics sub-disciplines gather in the right side of dimension 1, and in the fourth quadrant in particular. Strictly speaking, LCG, LSP, LLL and BST are, however, the exceptions for this categorization, since they are positioned far away from their putative centres. Such outliers are often found in multivariate analysis, reflecting the fact that it is sometimes difficult to make completely clear categorizations between samples. Overall, however, it remains the case that dimension 1 contributes highly to the disciplinary categorization in the plot. Thus, it can be claimed that this correspondence analysis has succeeded in finding some differences in the statistical figures for adjectives in the pattern ADJ *about* N between applied linguistics and business studies.

A correspondence analysis provides two kinds of plots— a plot for sub-disciplines and a plot for adjectives in the pattern in which these plots correspond to each other. In other words, a correspondence analysis identifies the particular adjectives in the pattern of each sub-discipline by looking at the disciplinary position in the first plot and the adjective position in the second plot. This section does not show the other plot of adjectives here since the space

of this case study is limited. However, I will show the complete plots of each pattern with my findings in Chapter 7 in detail.

## 6.2. Qualitative analysis

The current study conducts a qualitative discourse analysis of each prepositional type of the pattern ADJ PREP N in ALC and BC by focusing on the functions of each semantic group of adjectives as revealed by concordance analysis. As a case study, this section presents the groundwork for the discourse analysis presented in chapters 8 and 9 by means of a preliminary qualitative analysis of the pattern ADJ *about* N.

To begin, Table 6.7 below presents a full listing of all adjectives found to occur in the pattern ADJ *about* N in ALC and BC.

order	ALC	freq.	BC	freq.	order	ALC	freq.	BC	freq.
1	confident	11	knowledgeable	11	27	equivocal	1	negative	1
2	clear	8	optimistic	8	28	skeptical	1	uncomfortable	1
3	enthusiastic	6	cautious	7	29	uncertain	1	uneasy	1
4	explicit	5	serious	6	30	open	1	indifferent	1
5	positive	4	uncertain	6	31	silent	1	neutral	1
6	cautious	4	clear	5	32	aggressive	1	shy	1
7	worried	4	informative	5	33	selective	1	agnostic	1
8	apprehensive	3	enthusiastic	4	34	conscious	1	insistent	1
9	sure	3	pleased	4	35	accurate	1	sure	1
10	unsure	3	worried	4	36	wrong	1	undecided	1
11	specific	3	explicit	4	37			precise	1
12	happy	2	ambivalent	3	38			unclear	1
13	optimistic	2	good	2	39			vague	1
14	curious	2	unconcerned	2	40			forthcoming	1
15	informative	2	anxious	2	41			open	1
16	good	1	apprehensive	2	42			secretive	1
17	uncomfortable	1	curious	2	43			honest	1
18	apathetic	1	suspicious	2	44			rigorous	1
19	anxious	1	unsure	2	45			careful	1
20	nervous	1	inconclusive	2	46			careless	1
21	serious	1	frank	2	47			reflective	1
22	ambivalent	1	silent	2	48			smart	1
23	assertive	1	good (Happy)	2	49			starry-eyed	1
24	certain	1	crazy	1	50			right	1
25	definitive	1	passionate	1					
26	dubious	1	happy	1					
					Total		84	116	

Table 6.7. Adjectives in the pattern ADJ *about* N

By concordancing each of these adjectives I was able to place them into one of the semantic groups established for this case study as shown in Table 6.3 (i.e. CERTAINTY, OPTIMISM, ENTHUSIASM, NERVOUSNESS and WISDOM). In order to show the initial stage of the current study, this section thus presents some findings based on these semantic groups followed by other example not included in these groups (i.e. *neutral about N*).

### 6.2.1. The OPTIMISM group

Adjectives in the OPTIMISM group is akin to those in the HAPPY group in Francis et al (1998, p. 413-414). This group indicates whether or not people feel optimistic about a current matter, a future situation/event, a result, a piece of data and so on. Table 6.8 below lists adjectives in this group in the pattern ADJ *about N* in ALC and BC. ‘Prop’ in the table indicates the proportion of the total figure between the two corpora. (N.B. Since this group expresses human emotion rather than human judgement, I decided to include ‘confident’ in this group rather than in the CERTAINTY group in Section 6.2.3).

Order	ALC	Freq.	BC	Freq.
1	confident	11	optimistic	8
2	positive	4	pleased	4
3	optimistic	2	good	2
4	happy	2	happy	1
5	good	1		
Total		20		15
Prop.		57%		43%

Table 6.8. The OPTIMISM group in ADJ *about N*

As can be seen, the profiles for this group are somewhat different in each discipline: *confident* and *positive* frequently occur in ALC but *optimistic* and *pleased* are frequent in BC. We will now study some of these observations in more detail, asking what they might tell us about the two disciplinary cultures under analysis here.

Concordance analysis finds that the LSP *confident about N* is followed by nouns such as *conclusions*, *performance*, and *responses*, and is also followed by the *-ing* clause (e.g. *dealing with authentic text* and *tackling material*). Such co-occurrence features indicate that applied linguists tend to comment evaluatively on abilities, skills and performance levels in dealing with language (materials), and/or on whether and to what extent someone is satisfied with his/her (research) accomplishment. In other words, writers in applied linguistics are

likely to express what they feel about people's knowledge and action in terms of confidence levels. In addition, the LSP *confident about N* is often modified by boosters such as *quite*, *increasingly*, and especially the comparative *more*, which precedes the pattern in over 50% of all examples. Such collocations indicate that this LSP is, in most cases, utilized to express how confident people feel about things. However, there seems to be one notable exception to this generalisation in the case of the extended LSP *to be confident about N* as follows:

- To be more confident about this conclusion, we carried out a combined analysis of Experiments 7 and 8. (ALC: Cognitive2006\_8)
- To be confident about whether there is an effect of global structure repetition on syntactic priming, it is necessary to directly compare the same participants' performance in both the same- and different-structure conditions. (ALC: Cognitive2006\_8)

In the examples of this extended LSP, writers do not demonstrate strong confidence about their research (process) at this point; in fact, more or less the opposite is the case. The writers are not confident about the conclusions they have drawn so far, and wish to do more work in order to place their claims on a firmer footing. Thus, this LSP functions as a rhetorical device for moving into further stages of on-going research.

The LSP *optimistic about N* also consistently differs in the degree of optimism that it typically describes in ALC and BC. Optimistic feelings are more obvious in ALC, whereas a consistent lack of optimism is evoked in BC. Let us consider some examples from ALC:

- We remain optimistic about the contribution of neuropsychology to the understanding of semantic structure, (ALC: Cognitive2005\_9)
- But I also hope they will nevertheless be optimistic about the ideas set out for planning at the end of this article. (ALC: TESOL2005\_1)

*Remain* in the first example and *hope* and *nevertheless* in the second example indicate that the writer's strong optimism about his/her belief and certainty about things is largely unaffected by limitations or caveats that were introduced into the discussion previously. This contrasts strongly with the following concordances from BC:

01s the optimistic bias. Analysts may be **optimistic about** earnings, but if investors use the  
 02t owners who own larger firms are more **optimistic about** future increased sales, it would n  
 03, and check cashing services were less **optimistic about** future sales than communications,  
 04h sales over \$250,000 a year were more **optimistic about** future sales than owners of firms  
 05ations. Sole proprietorships were less **optimistic about** growth than partnerships and corpo  
 06ver events in their lives and are less **optimistic about** the future (Dembers & Brooks, 1989  
 07olution mechanisms. (n62) While Peck is **optimistic about** the role of the United Nations, sh  
 08ncing, where firms that are relatively **optimistic about** their stock price prospects but co

The above concordances are extracted from business sub-disciplines such as accounting, law and management. No examples present a fully positive degree of optimism except line 04. The writer particularly argues his/her view of non-optimism through linguistic markers such as *but*, *while* and *less* (underlined in the examples above). As the following expanded versions of line 01 with *but* and 02 with *while* and *more* illustrate, *optimistic about N* tends to occur in concessive clauses expressing other people's positive evaluations, which are then 'trumped' by counterclaims expressing the writer's own more negative and pessimistic views:

- Analysts may be optimistic about earnings, but if investors use the correct discount rate, analyst optimism will not lead to an overstated risk premium, but to an inflated price. (Accounting2005\_2)
- For example, while it seems that owners who own larger firms are more optimistic about future increased sales, it would not be appropriate to suggest, based on these results, that smaller firms "just need to get larger" in order to become more optimistic; (BC: Management2000\_31)

In the first example, the writer overtly expresses his/her doubtful attitude towards analysts' optimism about earnings, by presenting a counter-example in a *but* clause. In the second example, the writer implicitly suggests that the size of firms is not closely relevant to owners' optimism about future increased sales. That is, the LSP *optimistic about N* tends to feature in phraseologies that contrast positive observations about current states of affairs with more negative assessments on the part of the writer. Through this argument structure, writers in BC cast doubt on conventional ways of thinking, and suggest new (and rather more cautious) ways of looking at things. It is also important to note that this argument structure does not occur at all in ALC. This being the case, it is reasonable to claim that this particular LSP expresses very different modalities of evaluation in the academic discourses of applied linguistics and business studies.

### 6.2.2. The NERVOUSNESS group

While the NERVOUSNESS group in the current study is similar to the NERVOUS group in Francis et al. (1998, p. 415), some adjectives not listed in the NERVOUS group in Francis et al. (1998) are also listed in my NERVOUSNESS group (i.e. *uncomfortable* and *uneasy*), hence the slight change of nomenclature. This group indicates whether or not people feel nervous, anxious or cautious about a particular thing, a possible situation, an idea or an action for some reasons. Table 6.9 below summarizes adjectives of this group in the pattern ADJ *about* N in ALC and BC.

Order	ALC	Freq.	BC	Freq.
1	cautious	4	cautious	7
2	worried	4	worried	4
3	apprehensive	3	anxious	2
4	anxious	1	apprehensive	2
5	nervous	1	uncomfortable	1
6	uncomfortable	1	uneasy	1
Total		14		17
Prop.		45%		55%

Table 6.9. The NERVOUSNESS group in ADJ *about* N

Concordance analyses of each of the LSPs in this semantic group show that this pattern tends to be used to structure relations between cause and effect, by being often preceded by a reason or followed by a countermeasure. The following examples illustrate examples of cause and effect via *anxious/cautious about* N.

- This decline made investors *anxious* about the new strategy, and they pressured management to back off of their seemingly risky direction. (BC: Strategy2002\_6)
- Because this lack of a difference is in fact a null effect, we should be *cautious* about interpreting these data. (ALC: Cognitive2005\_21)
- It is well documented that companies face reputational penalties for reducing dividends and are therefore *cautious* about adjusting dividends. (BC: Management2003\_10)

The first example illustrates the semantic flow through this LSP: cause (or reason) → *anxious about something* → action (or countermeasure). More precisely, the *decline* is the cause triggering investors' anxiety, then triggering the action against the negative situation by pressuring management to retreat from a risky direction. It is naturally understood that there is

a reason why people worry about something, and such anxious emotions cause people to adopt countermeasures. Likewise, the second and third examples also structure the same semantic flow with the subsequent *because* clause and the linking adverb *therefore* respectively (viz. *therefore* is linked to the part *companies face reputational penalties for reducing dividends*, giving a reason for companies' cautiousness). This observation is in line with Conrad (2000, p. 550), who found that many “semantic categories in academic prose correspond to the register’s emphasis on developing, supporting, or countering arguments and leading readers through logical steps to a conclusion.” Here, the NERVOUSNESS group in the pattern ADJ *about* N functions as a resource for creating a logical argument by structuring a cause-effect relationship. Such representations of cause-effect relations make the writer’s argument more acceptable and credible to disciplinary community members by supporting it with suitable reasoning.

The examples above present a function of the pattern that occurs in both disciplines. However, there is also a disciplinary difference in some LSPs—specifically, in the type of evaluator typically associated with this pattern. Let us consider the examples of the LSP *apprehensive about* N as follows:

- In other words, the more one reads, the less one feels apprehensive about writing, and the less one suffers from dysfunctional composing, thanks to having more competence in the conventions of writing. (ALC: LL2005\_4)
- He contends that foreign banks are apprehensive about offering the new services allowed under the FSMA. (BC: Finance2005\_24)

In the examples above, the evaluator in ALC is animate—a person, whereas that in BC is inanimate—foreign banks. Animate evaluators consistently occur in all examples in ALC, whereas inanimate institutional ones are much more likely to occur in BC (e.g. *company* and *bank*). Furthermore, animate evaluators in applied linguistics are likely to be singular individuals, whilst inanimate evaluators in business studies tend to be plural entities. This point will be further discussed in Chapters 8, 9 and 10.

### **6.2.3. The CERTAINTY group**

The CERTAINTY group in the current study is quite akin to the CERTAIN group in Francis et al. (1998, p. 417). This group indicates whether or not people feel certain about a particular thing, an idea, an action, an interpretation, a procedure or a decision. Table 6.10 below lists

adjectives in this group in the pattern ADJ *about* N in ALC and BC.

Order	ALC	Freq.	BC	Freq.
1	sure	3	uncertain	6
2	unsure	3	ambivalent	3
3	equivocal	1	unsure	2
4	skeptical	1	undecided	1
5	uncertain	1	agnostic	1
6	assertive	1	insistent	1
7	ambivalent	1		
8	certain	1		
9	dubious	1		
10	definitive	1		
Total		14		14
Prop.		50%		50%

Table 6.10. The CERTAINTY group in ADJ *about* N

Uncertainty rather than certainty is more salient in both corpora, as can be seen in the prevalence of the adjectives such as *unsure, skeptical, uncertain, undecided* and *dubious*. While adjectives ostensibly expressing certainty (such as *sure, certain* and *definitive*) do frequently occur in ALC, concordance analysis reveals that they are also imbued with values of uncertainty by co-occurring with *not, difficult* and *less*, and other negating forms, as the following examples show:

...it is simply difficult to be **certain about** the future.  
 ...not enough is known to be **definitive about** the course of development  
 He cannot even be **sure about** their authorship.  
 ...reed with, disagreed with, or were not **sure about** the content of each statement.  
 ... Less **sure about** how to make it happen, Serafina emulated ...

This shows clearly why it is extremely important to check the functional behaviour of each adjective in context, and not to base any claims on naïve, decontextualized assumptions about its evaluative polarity.

Overall, LSPs in the CERTAINTY group are likely to show uncertainty rather than certainty irrespective of discipline. Since certainty is relevant to personal judgment, which is not valued as highly as objective argumentation in most academic discourses, a denial or softening of subjective judgment produces the effect of creating a more objective argument. In other words, this is also an example of what Hyland (1994, 1996, 1998) terms ‘hedging’ in academic discourse.

Research on hedging in academic argumentation has shown that it is very common

for academic writers to express careful attitudes towards research matters, and to take a sceptical stance towards other researchers' claims. At the same time, the writer seeks an alternative theory, approach or methodology based on her or his own ideas, and other researchers' works are sometimes discussed positively in order to support the writer's point of view. Thus, writer certainty is constructed by resolving the uncertainty of research matters: uncertainty is thus an essential part of the logical construction of argumentation in academic writing. To illustrate, let us consider how this assumption is reflected in the case of *unsure about wh-*:

- A further possibility however might be that speakers were *unsure* about which primes were correct, grammatically, when associated with the words in different classes, leading to these slightly paradoxical patterns of priming and grammaticality effects. (ALC: Speech2004\_4)
- It recognizes that some decisions are very complex and that the decision maker may well be *unsure* about how to proceed. (BC: Law2001\_5)

In the first example, the speaker's' uncertainty throws light on a further possibility which the applied linguist then duly identifies. In the second example, the decision maker's uncertainty is recognizable in the process of business research. Both examples show how uncertainty can be harnessed to positive effect; the pattern is used to promote the writer's own claims and construct logical arguments through the identification of uncertainty about actions, processes or ideas.

#### 6.2.4. The ENTHUSIASM group

The ENTHUSIASM group in the current study is comparable to the PASSIONATE and COOL group in Francis et al. (1998, p. 413). As might be expected from the label, this group indicates whether and to what extent people are passionate about a particular thing. Table 6.11 below summarizes adjectives in this group in the pattern ADJ *about* N in ALC and BC.

Order	ALC	Freq.	BC	Freq.
1	enthusiastic	6	enthusiastic	4
2			passionate	1
3			crazy	1
Total		6		6
Prop.		50%		50%

Table 6.11. The ENTHUSIASM group in ADJ *about* N

While the LSP *enthusiastic about N* heads the list in both corpora, there are differences in its use across ALC and BC. In ALC it is likely to evaluate a person's strong zeal for something in a positive way, whereas in BC it is used in a negatively evaluative way. Let us consider the following examples from ALC:

- Despite the extra demands that the collaborative program makes on them, instructors are enthusiastic about participating in the program because they find that students enrolled in the program are generally more motivated, have a better attitude, and work harder. (ALC: ESP2006\_20)
- Although no proficiency test was administered to either Natalie or Bernd, they had both been studying English for 2 years at a German university prior to taking part in the study, during which time they had to pass a number of exams to be eligible for the study abroad program, and were both extremely enthusiastic about English. (ALC: LL2006\_11)

In the first example, the *despite* clause functions to emphasize how keen instructors are to participate in the program. The *because* clause that follows then gives the detailed reason why they are so *enthusiastic* in this particular context. In other words, the use of *enthusiastic about N* is linked to the co-use of the *despite* phrase and *because* clause, creating a consensus among the target readers by presenting how strong the degree of enthusiasm is. The second example also indicates the particular motivation and reason why two people have a passion for studying English. In particular, the amplifier *extremely* highlights the strong degree of desire (see also Biber et al., 1999, p. 565). Such intensifiers themselves involve attitude (Martin & Rose, 2007, p. 44).

This strongly positive semantics contrasts with the way in which this LSP is used in business studies, as the following examples show:

- In his interviews with Asian entrepreneurs in Britain, Ram (1994) claimed that respondents were less than enthusiastic about their business activities and choices within the ethnic enclave. Their comments reflected passive acceptance of their status in an inhospitable environment, rather than appreciation for competitive advantages derived from ethnic social networks. (BC: Management2000\_27)
- And managerial teamwork is something completely unfamiliar to most traditional managers. No wonder that the managerial ranks are often less than completely enthusiastic about undertaking the transition to process. (BC: Strategy2001\_13)

Both examples of *enthusiastic about N* here are preceded by *less than*. This pattern not only indicates a relative absence of enthusiasm on the part of the people concerned, but also leads the writer of the article to make a negative point of his or her own. It is also worth noting that the extended LSP *less than enthusiastic about N* is often used as a euphemism – i.e. what is really meant is that someone really does not like something. In addition, the examples from BC, like the examples from ALC, present the cause (or reason) for the evaluator's (non-)enthusiasm before or after the LSP in many cases.

#### **6.2.5. Other example: *neutral about N* and *knowledgeable about N***

Francis et al. (1998, p. 414-415) list *neutral about N* in the PHILOSOPHICAL group. However, I include this LSP into the BIAS group in the current study because it specifically indicates in my corpora that something is unbiased towards a particular thing, a particular situation, or an activity, rather than the rather general definition given in Francis et al. (1998, p. 414), “someone is calm and relaxed about a situation, or does not care about it” (see Section 8.1.1 in detail). The LSP *neutral about N* yields interesting findings that are worth reporting here, although its frequency is few (ALC 0; BC 1). The following example expresses a favourable business situation in a country with this LSP in the context.

- The government will be *neutral* about the technology choices made by local companies.....  
After the WTO accession, the government will be neutral on technology choices, and companies that purchase technologies will make the decision based on their competitive strategies. The result is that technology development becomes less risky...(BC: Management2003\_12)

The context with *neutral about N* here presents a positive business situation: local companies will be free of government restriction on technological development, which will enable them to facilitate further business strategy without any external pressure as seen in the second underline *[t]he result is that technology development becomes less risky*. Once again, the advantages of a qualitative, context-sensitive analysis are clear here; while the meaning of the adjective *neutral* in itself is neither positive nor negative, the business scenario that the pattern *neutral about N* helps to describe is evaluated in a positive way in this context.

Another example of recategorisation is the LSP *knowledgeable about N*, which is included in the WISDOM group in the current study. Although this LSP is included in the

AWARE and IGNORANT group in Francis et al. (1998, p. 422), it expresses much more than Francis et al's (1998) gloss "someone knows or does not know about something". That is, this group evaluates people as smart and acquainted with a particular thing. Interestingly, this group occurs only in business studies (0 in ALC; 11 in BC). My qualitative interpretation of this group is that business studies is likely to use this phraseology to particularize the specific ability of a person or group of people. To illustrate this, consider the following expanded concordance lines from the BC data:

- Wang and Dewhirst (1992) found that outside directors are very committed to representing various stakeholders, beyond just the stockholders. As a result they tend to be sensitive to environmental issues, women and minorities, and employees. They are also more likely to be knowledgeable about issues facing the firm and comply with legal requirements in order to avoid penalties and negative public relations (BC: Strategy2005\_3)
- 96 percent of corporate tax directors ... stated their CEO was not very knowledgeable about [tax] issues reflected in the corporate tax return (BC: Management2004\_5)
- However, a firm may be able to minimize these costs by placing a subsidiary manager who is: (1) knowledgeable about corporate quality expectations (BC: Management2005\_3)
- Customers who have banked with CCB for less than one year are more knowledgeable about loans than those who have been with the bank for more than one year. (BC: Marketing2004\_7)
- It's a studied, thoughtful book by an author who is equally knowledgeable about both past and present trends in business. (BC: Strategy2002\_32)

As can be seen in the examples above, this LSP evaluates the capability and knowledge of executives such as CEOs, directors or managers in most cases. However, it is also used to identify the characteristics of customers and to offer positive evaluations of the knowledge of the authors of a particular book (or an article) that is being cited or discussed. In other words, writers in business studies typically use this phraseology to praise people who have specific knowledge relevant to business activities. There are exceptions to this, however. In the second example above, for instance, the writer evaluates people as lacking competence in the specific field in question. It is also worth noting that, once again, these examples present the parameter of 'particularizing' that – as argued in the previous section – seems to be peculiar to business studies; each of the examples above is entirely typical in that it highlights and targets a specific quality (esp. ability) of a particular institution, person or group of people.

### **6.3. Conclusion**

This chapter presented a case study analysis focusing on the pattern ADJ *about* N. It is hoped that this case study has helped to cast light on the analytical procedures that yielded the results that will be reported in the following chapters. I also hope to have presented examples which show the particular benefits of both quantitative and qualitative approaches to analysis. The advantage of correspondence analysis is that it is able to discover significant differences in pattern usage across corpora without any biasing or intervention on the part of the human analyst. The advantage of qualitative, concordance-based discourse analysis is that it reveals distinct (but often extremely subtle) semantic differences in the way in which ostensibly ‘the same’ pattern is used in different disciplinary discourses. It also allows the researcher to see that the ostensible evaluative polarity of certain adjectives is often very different from the actual evaluative polarity expressed by the phraseological pattern in which the adjective occurs.

In the following chapters, I will present the results of my quantitative data analysis and qualitative discourse analysis for all of the variant forms of the pattern ADJ PREP N in detail. I will then generalize my findings and come to some general conclusions as to what my findings tell us about the disciplinary cultures of applied linguistics and business studies.

## CHAPTER 7. Data analyses

### 7.1. Introduction

Francis et al. (1998) list 16 variants of the pattern ADJ PREP N depending on each prepositional type. My analysis of these patterns in ALC and BC found that these 16 variants could be divided into two groups, consisting of eight high-frequency and eight low-frequency patterns respectively. For reasons of space, the current study focuses for the most part on the eight high-frequency patterns occurring in ALC and BC.

Tokens, types and TTRs for each prepositional type of the pattern ADJ PREP N are presented at the outset, in order to show the overall tendency of the statistical figures for adjectives in this pattern in ALC and BC. Then, I will present the data for high-frequency adjectives and high-frequency semantic groups of adjectives in each prepositional type of the pattern ADJ PREP N. This will provide us with a broad picture of the semantic preferences in the use of each pattern in each discipline. Finally, I present two kinds of two-dimensional plots (i.e. the plot for adjectives, and the plot for disciplines) produced by a correspondence analysis for each high-frequency pattern, all low-frequency patterns, and for the pattern ADJ PREP N as a whole.

### 7.2. Tokens, types and TTR

Table 7.1 below summarizes the overall figures for tokens, types and TTR (Type/Token Ratio) for all 16 prepositional types of the pattern ADJ PREP N, with reference data from the British National Corpus (hereafter, BNC) also provided as a benchmark comparison. The figures for the adjectives from the BNC are also adjusted to the ratio per 2.5 million words, enabling us to compare them to the figures for ALC and BC (N.B. the figures in parentheses indicate the raw tokens and types of each pattern in the BNC). Finally, it is worth noting that comparative forms have been included in the counts of each basic form.

8 High-frequency Patterns								8 Low-frequency Patterns							
<i>about</i>				<i>of</i>				<i>against</i>				<i>between</i>			
	ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC
Tokens	84	116	367 (14681)	Tokens	827	726	1504 (60168)	Tokens	4	3	31 (1250)	Tokens	4	5	21 (856)
Types	36	50	39 (1560)	Types	53	67	77 (3075)	Types	3	3	11 (450)	Types	1	2	9 (364)
TTR	0.429	0.431	0.106	TTR	0.064	0.092	0.051	TTR	0.750	1.00	0.360	TTR	0.250	0.400	0.425
<i>for</i>				<i>on</i>				<i>as</i>				<i>by</i>			
	ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC
Tokens	727	714	1550 (61982)	Tokens	1635	2107	404 (16148)	Tokens	52	76	96 (3835)	Tokens	50	93	373 (14925)
Types	71	74	86 (3430)	Types	23	27	58 (2302)	Types	19	19	34 (1350)	Types	21	26	67 (2683)
TTR	0.098	0.104	0.055	TTR	0.014	0.013	0.143	TTR	0.365	0.250	0.352	TTR	0.420	0.280	0.180
<i>from</i>				<i>to</i>				<i>as to</i>				<i>over</i>			
	ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC
Tokens	476	498	402 (16098)	Tokens	5001	5886	1618 (64737)	Tokens	8	9	1(29)	Tokens	2	3	41 (1634)
Types	27	28	39 (1550)	Types	175	179	74 (2964)	Types	5	9	0(12)	Types	2	3	17 (686)
TTR	0.057	0.056	0.096	TTR	0.035	0.030	0.046	TTR	0.625	1.00	0.414	TTR	1.00	1.00	0.420
<i>in</i>				<i>with</i>				<i>at</i>				<i>toward(s)</i>			
	ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC		ALC	BC	BNC
Tokens	1540	1617	1918 (76710)	Tokens	1561	3076	950 (38019)	Tokens	55	39	390 (15596)	Tokens	25	19	16 (649)
Types	69	81	148 (5901)	Types	76	81	80 (3184)	Types	14	12	57 (2290)	Types	3	5	7 (289)
TTR	0.045	0.050	0.077	TTR	0.049	0.026	0.084	TTR	0.255	0.308	0.147	TTR	0.120	0.263	0.445

Table 7.1. Tokens, types and TTR of each pattern ADJ PREP N

The table is divided into high-frequency and low-frequency patterns. The cut-off point is at 200 occurrences for both corpora combined. (N.B. The histograms for the figures in Table 7.1 are also presented in Appendix A since they may be a better way to present these data to some readers.) The figures for the pattern ADJ *as* N seem to depart from this standard since this pattern occurs at over 200 tokens in total. However, the adjective *same* at the top rank in both corpora is regarded as an ‘other related pattern’ in Francis et al. (1998). In order to gain the actual occurrence of the pattern ADJ *as* N, in other words, the figure for *same* should be subtracted from the total number of tokens of the pattern: this gives a result of 52 in ALC and 76 in BC.<sup>29</sup> It is for this reason that the pattern ADJ *as* N is grouped in the low-frequency pattern range in the current study.

With regard to tokens, the BC figure is likely to be higher than that of ALC: the tokens in 10 prepositional types of the pattern (viz. *about, from, in, on, to, with, as to, between, by, over*) are higher in BC than they are in ALC, whereas the tokens in six prepositional types of the pattern (viz. *for, of, against, as, at, toward(s)*) are higher in ALC than BC. That is, it seems to be the case that writers in BC are more likely to use the pattern ADJ PREP N than are writers in ALC overall.

With regard to types, the BC figure is higher than that of ALC in 13 prepositional types of the pattern (viz. *about, for, from, in, of, on, to, with, as to, between, by, over, and toward(s)*), whereas only one prepositional type of the pattern (viz. *at*) is higher in ALC than in BC. Finally, the figures of two prepositional types (viz. *against* and *as*) are the same in the two corpora. Thus, a wider range of adjectives consistently occurs in the pattern in BC than it does in ALC overall.

With regard to TTR, the BC figure is somewhat higher than that of ALC in six prepositional types (viz. *of, against, as, as to, between, toward(s)*), whereas the ALC figure is rather higher than BC in two prepositional types of the pattern (viz. *with* and *by*). The TTRs of the other eight patterns, *about, for, from, in, on, to, at* and *over*, are similar or exactly the same in both corpora. Thus, there is a certain similarity in the proportion of the variety of adjectives occurring in the pattern ADJ PREP N as it occurs in ALC and BC, although BC shows more variety than ALC.

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<sup>29</sup> This figure was simply calculated as follows: 187 (the total tokens of the pattern ADJ *as* N in ALC) – 135 (the total tokens of *same as* N in ALC) = 52 (the actual tokens of the pattern ADJ *as* N in ALC); and 129 (the total tokens of the pattern ADJ *as* N in BC) – 53 (the total tokens of *same as* N in BC) = 76 (the actual tokens of the pattern ADJ *as* N in BC).

### 7.3. High-frequency adjectives in the pattern ADJ PREP N

I list the top five high-frequency adjectives occurring in each of the eight high-frequency patterns in Table 7.2, and in each of the eight low-frequency patterns in Table 7.3, with reference data from the British National Corpus (hereafter, BNC) also provided as a benchmark comparison. I removed determiners or quantifiers from the high-frequency adjectives of each pattern in the BNC list (e.g. *all, much, more, most, this, that, these, those, some, any*) because they showed no interesting data.<sup>30</sup> The figures for the adjectives from the BNC are also adjusted to the ratio per 2.5 million words, enabling us to compare them to the figures for ALC and BC. Finally, it is worth noting that comparative forms have been included in the counts of each basic form.

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<sup>30</sup> Although these words sometimes function as adjectives, their information is likely to be grammatical (or functional).

<i>about</i>							<i>of</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M
1	confident	11	knowledgeable	11	concerned	37	1	aware	206	aware	110	aware	157
2	clear	8	optimistic	8	worried	33	2	independent	91	independent	77	full	139
3	enthusiastic	6	cautious	7	sorry	10	3	typical	78	capable	68	capable	107
4	explicit	5	serious	6	sure	9	4	capable	70	representative	59	short	54
5	positive	4	uncertain	6	happy	7	5	representative	60	indicative	49	free	35
<i>for</i>							<i>on</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M
1	available	97	responsible	172	responsible	169	1	based	1457	based	1840	dependent	48
2	responsible	97	available	85	available	72	2	dependent	82	dependent	128	available	26
3	necessary	86	necessary	77	ready	56	3	high	25	conditional	32	keen	16
4	appropriate	72	appropriate	41	suitable	48	4	correct	15	contingent	18	high	13
5	useful	47	liable	34	good	47	5	low	14	high	11	intent	6
<i>from</i>							<i>to</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M
1	different	242	different	266	different	82	1	due	737	related	1286	similar	84
2	far	43	available	42	available	54	2	related	608	due	668	available	75
3	distinct	30	distinct	33	free	24	3	similar	452	similar	444	close	66
4	absent	19	far	28	far	21	4	sensitive	218	subject	241	used	62
5	separate	18	separate	15	distinct	16	5	relevant	175	equal	202	open	56
<i>in</i>							<i>with</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per. 2.5M
1	involved	280	involved	264	involved	199	1	associated	575	consistent	1307	concerned	115
2	present	153	significant	156	interested	139	2	consistent	361	associated	1211	wrong	42
3	interested	131	important	129	available	61	3	concerned	144	concerned	81	consistent	33
4	engaged	101	engaged	127	important	34	4	compatible	92	inconsistent	80	involved	31
5	similar	71	interested	125	present	32	5	familiar	91	firm	63	familiar	30

Table 7.2. Top five high-frequency adjectives in each of the eight high-frequency patterns with BNC data

<i>against</i>							<i>between</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M
1	biased	2	effective	1	effective	1.58	1	intermediate	4	variable	3	different	0.88
2	white	1	impressive	1	available	0.93	2			neutral	2	intermediate	0.85
3	firm	1	biased	1	international	0.83	3					possible	0.83
4					appealing	0.8	4					halfway	0.75
5					black	0.8	5					available	0.33
<i>as</i>							<i>by</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M
1	important	13	important	21	available	4.35	1	unaffected	13	possessed	30	impressed	16.35
2	effective	8	useful	9	useful	2.73	2	threatened	5	unaffected	14	surprised	8.85
3	significant	6	effective	8	important	1.88	3	impressed	4	absorbed	12	possible	7.98
4	useful	3	significant	8	renowned	0.98	4	confused	4	threatened	7	unaffected	6.58
5	acceptable	3	valuable	6	simple	0.93	5	available	3	unencumbered	3	complicated	6.43
<i>as to</i>							<i>over</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M
1	unsure	3	unclear	1	kind	0.88	1	cautious	1	crazy	1	low	2.03
2	uncertain	2	undecided	1	good	0.6	2	privileged	1	sovereign	1	high	1.18
3	clear	1	informed	1	clear	0.43	3			privileged	1	concerned	1.08
4	confused	1	clear	1	low	0.4	4					constant	0.93
5	divided	1	confused	1	foolish	0.38	5					available	0.8
<i>at</i>							<i>toward(s)</i>						
Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M	Order	ALC	Freq.	BC	Freq.	BNC	Per.2.5M
1	good	21	good	10	good	33.15	1	oriented	13	oriented	9	sympathetic	0.88
2	successful	13	adept	8	available	21.2	2	biased	11	biased	5	inclined	0.85
3	effective	4	effective	6	present	11.03	3	favourable	1	positive	2	aggressive	0.7
4	horrified	3	successful	5	surprised	8.9	4			weighted	2	friendly	0.7
5	skilled	2	skilled	3	amazed	4.53	5			charitable	1	hostile	0.63

Table 7.3. Top five high-frequency adjectives in each of the eight low-frequency patterns with BNC data

Tables 7.2 and 7.3 above indicate that the pattern ADJ PREP N occurs more frequently in both ALC and BC than it does in general English (or more precisely, in the BNC as a representation of general English). This is largely attributable to much higher frequencies in five kinds of high-frequency patterns (viz. *from, in, on, to, with*) and five kinds of low-frequency patterns (viz. *against, as, as to, between, toward(s)*). This seems to support Oliveira’s (2003) contention that some structures are used much more often in (specific) disciplinary contexts than they are in general English.

However, Tables 7.2 and 7.3 above also indicate that the distinction between high-frequency and low-frequency patterns in two corpora is also applicable to the data from BNC (i.e. general English) since eight kinds of high-frequency patterns in ALC and BC are also likely to occur frequently in the BNC whereas eight kinds of low-frequency patterns in ALC and BC are rarely likely to appear in the BNC. What these observations suggest is that the distributional differences in the use of the pattern ADJ PREP N may not be influenced by genre differences (i.e. RAs vs. general English).

As also seen in Tables 7.2 and 7.3, the token of each adjective is likely to sharply decline as it goes lower in rank. In other words, the high-frequency adjectives (or LSPs) in Tables 7.2 and 7.3 may account for the large ratio in the total tokens of each pattern.<sup>31</sup> That is, the token frequencies shown in Table 7.1 may be skewed by a consequence of several particular high-frequency adjectives (or LSPs) in Tables 7.2 and 7.3. For this reason, Table 7.4 below summarizes the proportion of these top 5 high-frequency adjectives in Tables 7.2 and 7.3 for the total token of each pattern presented in Table 7.1.

8 High-frequency Patterns				8 Low-frequency Patterns			
	ALC	BC	BNC		ALC	BC	BNC
about	40.48%	32.76%	26.40%	against	100%	100%	15.76%
for	54.88%	57.28%	25.31%	as	63.46%	68.42%	11.32%
from	73.95%	77.11%	49.08%	as to	100%	55.56%	75.86%
in	47.79%	49.54%	24.24%	at	78.18%	82.05%	20.63%
of	61.06%	50%	33.72%	between	100%	100%	16.94%
on	97.43%	96.30%	26.95%	by	58%	70.97%	12.39%
to	43.79%	48.27%	21.21%	over	100%	100%	14.93%
with	80.91%	89.14%	26.43%	toward(s)	100%	100%	23.57%

Table 7.4. Proportion of the top 5 high-frequency adjectives for all pattern tokens

<sup>31</sup> For example, such high-frequency LSPs of the pattern ADJ to N are *due to N, related to N, similar to N, sensitive to N, relevant to N* in ALC, but *related to N, due to N, similar to N, subject to N, equal to N* in BC.

The figures in Table 7.4 above indicate that the top 5 high-frequency adjectives in the pattern account for a very high proportion of the total tokens in ALC and BC: these high-frequency adjectives are quantitatively representative of each pattern appearing in ALC and BC. In particular, in both corpora, the proportion of each of 14 patterns is in excess of 50%, and the two high-frequency patterns ADJ *on/with* N and the four low-frequency patterns ADJ *against/between/over/toward(s)* N are in excess of 80%. On the other hand, such proportions in BNC are likely to be far less than those in ALC and BC: the high-frequency adjectives are unlikely to skew the data of general English in contrast with the particular disciplinary corpora used in this study. Since there are many adjectives that do not rank within the top 5 high-frequency but are nevertheless meaningful in constructing the disciplinary discourse, the following correspondence analysis and discourse analysis qualitatively detects and reveals such adjectives in detail (i.e. Tables 7.2 and 7.3 can only present a mere quantitative indication of the total frequency).

As seen in Tables 7.1, 7.2, 7.3 and 7.4, the principle of idiom is, in other words, the driving force for the current study. Since the high-frequency adjectives in the pattern, in some cases, differ in their types and tokens between ALC and BC, I believe that they constitute one of the significant language features peculiar to each disciplinary discourse.

#### **7.4. High-frequency semantic groups of the pattern ADJ PREP N**

Francis et al. (1998) present in-depth semantic categorizations of adjectives in the patterns that occur in general English, as represented by the Bank of English corpus. While a massive and impressive undertaking in itself, it is nevertheless important to be clear that Francis et al's analysis is limited in two important ways. First, each section of their monograph contains lists of adjectives that could not be categorized into any of the semantic groups generated by their analysis; these are termed 'Adjectives with other meanings' in Francis et al. (1998). This highlights the fact that the semantic groups identified by Francis et al are entirely empirical observations; that is, a meaning group is identified as such if there are sufficient numbers of instances, and sufficient numbers of different adjectives, to warrant the creation of a particular meaning group. What this means is that there may well be other groups in existence, but the corpus used at the time was not large enough to identify them. Secondly, and on a related note, it is important to state that the meaning groups identified by Francis et al were derived from a general English corpus, and that the number of distribution of these groups may not be the

same for a corpus of a more specialized nature.

Accordingly, my case study in Chapter 6 revealed only 4 specific semantic groups of adjectives in the pattern ADJ *about* N from my corpora, and other adjectives not categorized into any particular semantic groups based on my interpretation. For this reason, I attempted to only look at the semantic groups that I originally found from my data in the current study. Nevertheless, in this small section I follow and present the semantic groups borrowed from Francis et al. (1998), in order to systematically present the profile of semantic groups of the adjectives in the pattern in my corpora,. (N.B. the profile of semantic groups in this section simply reflects general tendencies with regard to what sort of semantic groups occur in my corpora in the case of the framework of Francis et al. (1998); they do not completely reflect the full facts of adjective use in the patterns investigated in ALC and BC). Based on the list of semantic groups in Francis et al. (1998), Table 7.5 below summarizes the top five high-frequency semantic groups of adjectives in each prepositional type of the pattern ADJ PREP N in ALC and BC. (Note again that the semantic groups presented here will later be revised in the discourse analysis part of the current study as in the case study in Chapter 6).<sup>32</sup> Table 7.5 includes some low-frequency patterns that include less than five semantic groups, because adjectives in such patterns are categorized into only a small number of semantic groups based on Francis et al. (1998).

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<sup>32</sup> Francis et al. (1998) list 23 semantic groups in the pattern ADJ *about* N, 8 groups in ADJ *against* N, 5 groups in ADJ *as* N, 5 groups in ADJ *as to wh-*, 3 groups in ADJ *at* N, 5 groups in ADJ *between* N, 10 groups in ADJ *by* N, 15 groups in ADJ *for* N, 9 group in ADJ *from* N, 20 groups in ADJ *in* N, 16 groups in ADJ *of* N, 13 groups in ADJ *on* N, 8 groups in ADJ *over* N, 20 groups in ADJ *to* N, 19 groups in ADJ *with* N, and 4 groups in ADJ *toward(s)* N.

8 High-frequency Patterns					8 Low-frequency Patterns														
<i>about</i>					<i>of</i>					<i>against</i>					<i>between</i>				
Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	HAPPY	20	HAPPY	15	1	AWARE/UNAWARE	243	OM	189	1	OM	2	EFFECTIVE	1	1	EQUIDISTANT	4	INDETERMINATE	3
2	SPECIFIC/VAGUE	16	NERVOUS	15	2	OM	226	INDICATIVE	159	2	VISIBLE	1	SUCCESSFUL	1	2			UNDECIDED	2
3	CERTAIN	14	CERTAIN	15	3	INDICATIVE	206	AWARE/UNAWARE	132	3	STEADY	1	OM	1	3				
4	NERVOUS	13	SPECIFIC/VAGUE	14	4	EMPTY	46	EMPTY	111	4					4				
5	PASSIONATE/COOL	6	AWARE/IGNORANT	11	5	FOND/CRITICAL	28	FOND/CRITICAL	46	5					5				
<i>for</i>					<i>on</i>					<i>as</i>					<i>by</i>				
Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	SUITABLE	216	RESPONSIBLE	222	1	OM	1453	OM	1847	1	OR	135	OR	53	1	ASTONISHED	17	OM	33
2	VITAL	149	SUITABLE	146	2	CONDITIONAL	96	CONDITIONAL	178	2	MARVELLOUS	26	IMPORTANT	38	2	UNAFFECTED	15	ASTONISHED	30
3	READY	129	VITAL	140	3	DEPENDENT	90	DEPENDENT	137	3	IMPORTANT	21	MARVELLOUS	37	3	RECOGNIZABLE	8	UNAFFECTED	14
4	RESPONSIBLE	100	READY	129	4	HIGH	25	SHORT/HEAVY	26	4	FAMOUS	4	FAMOUS	1	4	AVAILABLE	5	HIDEBOUND	5
5	GOOD	53	GOOD	74	5	SHORT/HEAVY	17	HIGH	11	5	OM	1			5	OM	4	AVAILABLE	5
<i>from</i>					<i>to</i>					<i>as to</i>					<i>over</i>				
Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	DIFFERENT	299	DIFFERENT	320	1	SIMILAR	1637	SIMILAR	2463	1	UNCERTAIN	7	UNCERTAIN	5	1	JEALOUS	1	GOMAD	1
2	ABSENT	108	ABSENT	76	2	OM	1130	OM	1063	2	DIVIDED	1	OM	3	2	OM	1	DOMINANT	1
3	OM	42	OM	65	3	IMPORTANT	586	IMPORTANT	721	3			CURIOUS	1	3			OM	1
4	INDISTINGUISHABLE	18	INDISTINGUISHABLE	17	4	SENSITIVE	368	LIABLE	433	4					4				
5	APPARENT	17	APPARENT	16	5	PARTIAL	294	BENEFICIAL	333	5					5				
<i>in</i>					<i>with</i>					<i>at</i>					<i>toward(s)</i>				
Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	INVOLVED	538	INVOLVED	548	1	COMPARABLE	1191	COMPARABLE	2740	1	GOOD	50	GOOD	38	1	ORIENTED	24	ORIENTED	16
2	INHERENT	218	IMPORTANT	371	2	OM	162	OM	98	2	NERVOUS	5	NERVOUS	1	2	SYMPATHETIC	1	SYMPATHETIC	3
3	IMPORTANT	199	INHERENT	165	3	FAMILIAR	106	ANGRY	52	3					3				
4	COMPARABLE	169	SUCCESSFUL	116	4	AWASH	42	AWASH	21	4					4				
5	SUCCESSFUL	85	HELPFUL	90	5	ANGRY	34	INVOLVED	33	5					5				

Table 7.5. Top five high-frequency semantic groups of adjectives in each prepositional type of the pattern ADJ PREP N<sup>33</sup>

<sup>33</sup> OM indicates adjectives with Other Meanings that are not categorized into any semantic groups. OR indicates adjectives in Other Related pattern interpreted as a variant of ADJ PREP N (e.g. N ADJ *of*N).

Table 7.5 above indicates that similar semantic groups occur in some prepositional types of the pattern ADJ PREP N across the two corpora (viz. *at*, *from*, *on*, *toward(s)*). The high-frequency semantic groups also account for the large ratio in the total figure of each high-frequency pattern, with the sole exception of ADJ *about* N. For example, in the pattern ADJ *on* N, the top 3 high-frequency semantic groups (viz. the OM, CONDITIONAL and DEPENDENT groups) account for 95% of the total tokens in ALC and 97% of the total tokens in BC. Thus, the semantic group preferences exhibit both similarities and differences in the use of each prepositional type of the pattern ADJ PREP N in ALC and BC.

## 7.5. Correspondence analysis

### 7.5.1. Data

As discussed in Chapter 4, correspondence analysis is a statistical approach visualizing and explaining the interrelationship among a large number of variables and samples based on their underlying dimensions. That is, it is a statistical approach that finds a way of condensing information from a large number of original variables into a smaller set of dimensions with a minimum loss of information (Asano, 2000, p. 27).

In order to conduct a correspondence analysis for the retrieved data of the pattern ADJ PREP N from my corpora, the contingency tables were first created. The contingency table of all 16 kinds of the pattern ADJ PREP N consists of 821 rows (adjective types) × 16 columns (sub-disciplines of applied linguistics and business studies).<sup>34</sup> Table 7.6 below indicates the four statistical scores obtained for each pattern – correlation coefficient, eigen value, contribution ratio and accumulated contribution ratio – assigned for dimension 1 and dimension 2, all of which are computed in the process of correspondence analysis. The acronyms in Table 7.6 stand for the following: TP = Type of Preposition; CT = Contingency Table; DN = Dimension Number; CC = Correlation Coefficient; EV = Eigen Value; CB = Contribution (%); and ACB = Accumulated Contribution (%).

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<sup>34</sup> In detail, the data matrix of each pattern consists of 66×16 in ADJ *about* N, 95×16 in ADJ *for* N, 36×16 in ADJ *from* N, 88×16 in ADJ *in* N, 79×16 in ADJ *of* N, 32×16 in ADJ *on* N, 205×16 in ADJ *to* N, 102×16 in ADJ *with* N, and 118×16 in 8 low-frequency patterns.

TP (CT)	about (66×16)		for (95×16)		from (36×16)		in (88×16)		of (79×16)	
DN	Dim1	Dim2	Dim1	Dim2	Dim1	Dim2	Dim1	Dim2	Dim1	Dim2
CC	0.793	0.762	0.516	0.456	0.443	0.382	0.465	0.373	0.512	0.432
EV	0.629	0.58	0.266	0.208	0.196	0.146	0.216	0.139	0.262	0.187
CB (%)	11.499	10.603	16.808	13.151	21.522	16.042	23.08	14.907	19.916	14.171
ACB (%)	11.499	22.102	16.808	29.96	21.522	37.564	23.08	37.987	19.916	34.086
TP (CT)	on (32×16)		to (205×16)		with (102×16)		8 low (118×16)		ALL 16 (821×16)	
DN	Dim1	Dim2	Dim1	Dim2	Dim1	Dim2	Dim1	Dim2	Dim1	Dim2
CC	0.27	0.211	0.402	0.333	0.501	0.303	0.656	0.623	0.436	0.348
EV	0.073	0.045	0.162	0.111	0.251	0.092	0.43	0.388	0.19	0.121
CB (%)	23.521	14.376	20.868	14.264	29.979	10.934	11.979	10.811	19.289	12.29
ACB (%)	23.521	37.897	20.868	35.132	29.979	40.914	11.979	22.79	19.289	31.579

Table 7.6. Four statistical scores in correspondence analysis

Table 7.6 shows that ACBs of the two dimensions account for over 30 % in each of the six patterns ADJ *from/in/of/on/to/with* N, and over 40 % in the pattern ADJ *with* N. This indicates that the two dimensions contribute substantially to the identification of the interrelationship between variables (viz. adjectives in the pattern ADJ PREP N) and samples (viz. 16 sub-disciplines of applied linguistics and business studies).

Correspondence analysis provides a column score based on the statistical patterns hidden in the adjective choice of the language pattern in each sub-discipline. Table 7.7 below indicates the column score in each dimension (i.e. the score given to each sub-discipline) for each prepositional type of the pattern ADJ PREP N, in order to visualize the interrelationship among sub-disciplines in the two dimensional plot.

	about		for		from		in		of		on		to		with		8 low-frequency		ALL 16 Patterns	
	Dim1	Dim2	Dim1	Dim2	Dim1	Dim2														
BAC	-1.159	0.651	0.156	-0.822	-0.395	0.245	1.758	0.396	1.427	0.232	0.611	0.135	0.742	0.496	-0.514	0.191	1.353	0.358	0.886	0.144
BEC	-0.753	0.821	0.357	-1.512	-0.597	0.178	0.599	-0.305	0.715	0.104	0.185	-0.027	0.426	0.193	-0.468	0.139	-0.406	0.336	0.615	0.053
BFI	-0.613	0.235	0.015	-0.004	-0.403	0.077	0.493	0.191	1.33	0.247	0.295	-0.004	0.418	0.394	-0.442	0.136	0.415	0.227	0.62	0.158
BLA	-0.747	-0.619	1.328	0.413	0.56	-0.574	-0.402	0.034	-0.004	-1.338	0.056	-0.121	-0.624	0.48	0.007	-0.186	0.333	0.272	-0.396	0.917
BMN	-0.392	-1.08	-0.334	0.225	-0.483	-0.09	-0.072	0.387	-0.041	0.09	-0.339	-0.199	-0.184	0.158	0.171	0.18	1.305	-0.845	-0.088	0.167
BMK	-0.478	1.676	-0.087	-0.22	0.439	-0.352	-0.294	0.338	-0.206	-0.019	-0.044	-0.007	-0.386	0.035	0.358	-0.006	0.209	-0.152	-0.345	0.105
BSO	-0.541	1.212	0.007	-0.1	-0.03	-0.119	-0.14	0.373	0.097	-0.093	-0.302	-0.25	-0.313	0.251	0.164	0.294	0.055	-0.445	-0.171	0.246
BST	1.656	0.344	-0.005	-0.71	0.211	-0.665	-0.163	0.356	-0.228	-0.136	-0.183	0.182	-0.422	0.134	0.178	0.129	0.476	-0.08	-0.247	0.25
LCG	-0.593	-0.063	-0.207	0.104	0.952	0.764	0.196	-0.799	0.248	-0.032	0.149	-0.058	0.42	-0.356	-0.12	-0.855	-0.674	0.504	0.214	-0.497
LCP	0.223	-0.495	-0.243	0.293	-0.07	-0.315	-0.124	-0.036	-0.448	0.045	0.125	-0.065	-0.102	-0.406	0.688	-0.08	-0.301	-0.1	-0.318	-0.266
LES	0.065	-0.665	-0.455	0.408	0.305	-0.539	-0.172	-0.204	-0.46	0.3	0.025	0.194	-0.383	-0.391	1.613	0.484	-0.975	-2.004	-0.627	-0.349
LLL	-0.025	0.346	-0.453	0.177	-0.14	-0.008	-0.171	-0.363	-0.225	0.235	-0.062	-0.142	0.213	-0.18	0.214	-0.313	-0.429	0.636	-0.039	-0.281
LSL	0.496	-0.328	-0.284	0.166	-0.063	0.352	-0.071	-0.278	-0.061	0.203	-0.155	-0.159	0.078	-0.28	0.116	-0.168	-0.31	0.368	-0.105	-0.281
LSP	-0.675	-0.618	-0.247	0.095	0.232	0.412	0.05	-0.743	0.129	-0.01	-0.454	0.772	0.369	-0.552	-0.07	-0.547	-0.604	0.461	0.103	-0.537
LTS	0.106	-0.311	-0.234	0.091	0.301	-0.38	-0.38	0.242	-0.515	0.402	-0.051	0.069	-0.443	-0.203	1.013	-0.073	-0.325	-0.211	-0.516	-0.1
LTT	0.362	-0.083	-0.276	0.308	-0.158	-0.162	-0.349	0.02	-0.275	0.112	-0.114	-0.032	-0.217	-0.257	0.675	-0.008	0.039	0.19	-0.335	-0.138

Table 7.7. Sub-disciplines score (column score) based on principle coordinates



In the plot shown in Figure 7.1, it is noticeable that the sub-disciplines of applied linguistics gather in the fourth quadrant. This is largely because, as seen in the adjectives plot in Figure 7.2 below, several adjectives in the fourth quadrant express positive emotions and judgments (especially certainty) such as *enthusiastic, positive, sure, certain, good* and so on. Although some adjectives in this quadrant also express negative evaluations such as *sceptical, nervous, dubious, apathetic* and others, adjectives appearing to describe positive feelings only occur in this quadrant.

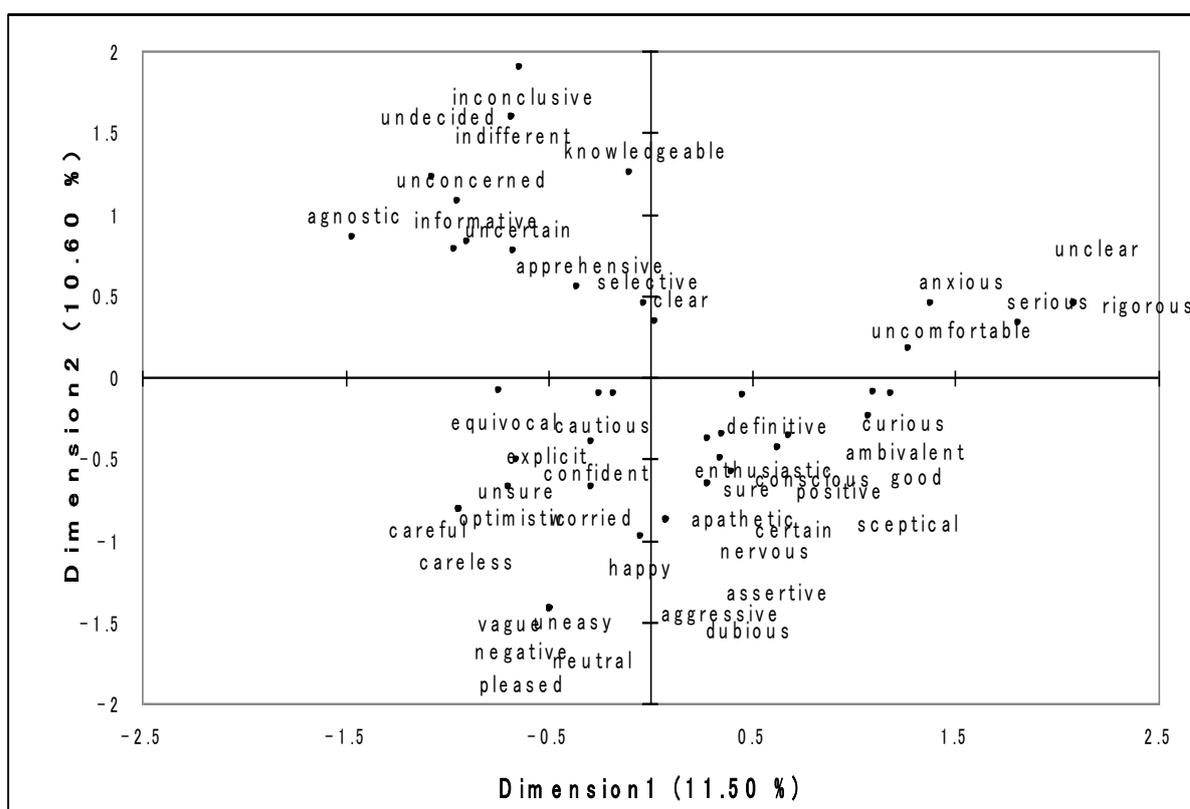


Figure 7.2. Adjective plot for the pattern ADJ about N (22.10%)

On the other hand, business sub-disciplines cluster together in the second and third quadrants. Adjectives in the business domain are likely to express negative emotions or certainty (e.g. *unconcerned, apprehensive, unsure, agnostic, undecided, inconclusive, indifferent* and so on). Although a few adjectives in the business area express positive emotions as well (e.g. *optimistic*), we know from the qualitative analysis presented in the previous chapter that they too are used in a negatively evaluative way in business discourse. I will discuss this point further in Chapter 8. In addition, the business sub-discipline BST is an outlier in the plot,

positioned as it is in the first quadrant. However, negative emotional adjectives strongly occur in the first quadrant as well such as *anxious*, *uncomfortable* and *unclear*. Thus, the occurrence of positive or negative emotional adjectives seems to constitute a significant distinction in the use of the pattern ADJ *about* N in applied linguistics and business studies.

The next set of plots are for the pattern ADJ *for* N. In the plot shown in Figure 7.3, sub-disciplines of applied linguistics gather tightly in the second quadrant, whereas those of business studies are scattered through the other three quadrants, and occur most frequently in the fourth.

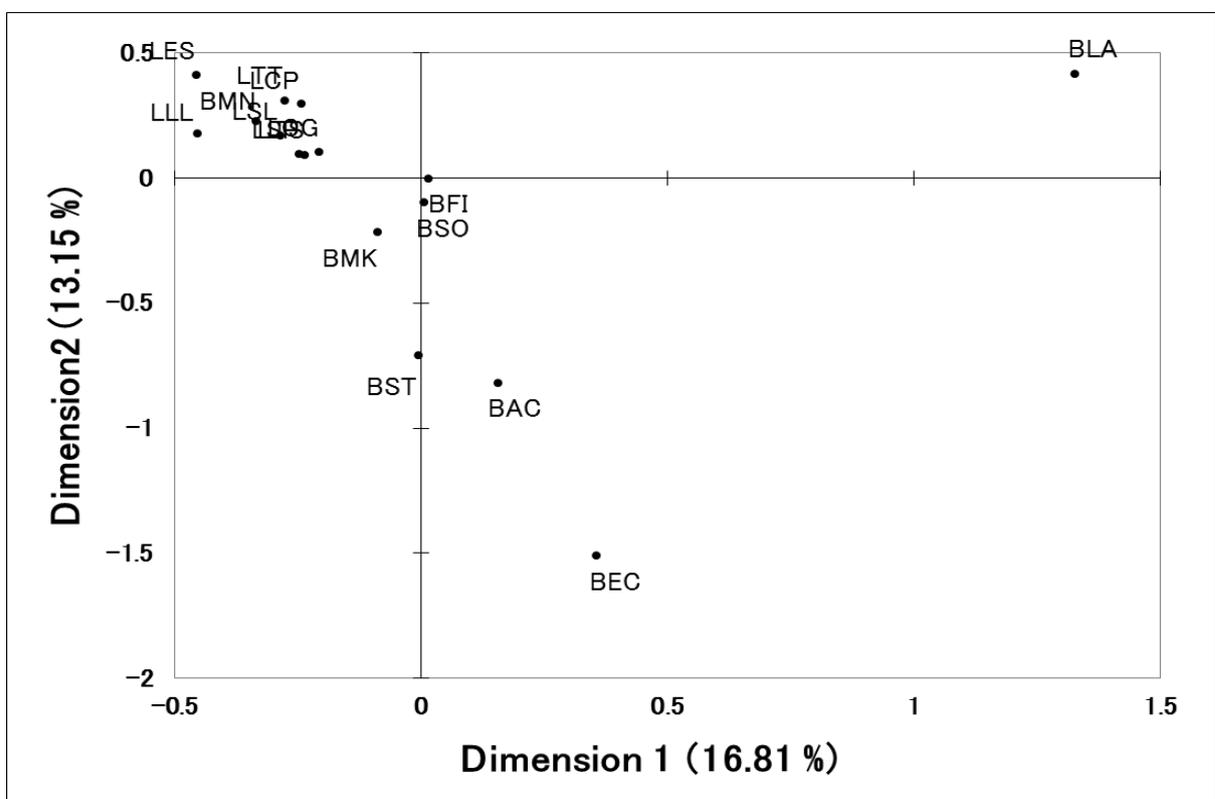


Figure 7.3. Sub-discipline plot for the pattern ADJ *for* N (29.96%)

As seen in the adjective plot in Figure 7.4 below, the adjectives in the area of applied linguistics (i.e. the second quadrant) are likely to be evaluative adjectives in a more general sense such as *crucial*, *useful*, *necessary*, *essential*, *dangerous*, *vital*, *invaluable*, *grateful*, *valid*, *excellent*, *useless*, *noteworthy* and so on. In addition, many adjectives in the area of applied linguistics also express judgments of usefulness such as *suitable*, *unsuitable*, *sufficient*, *appropriate*, *fine*, *acceptable*, *unqualified*, *wrong*, *adequate*, *insufficient* and so on.

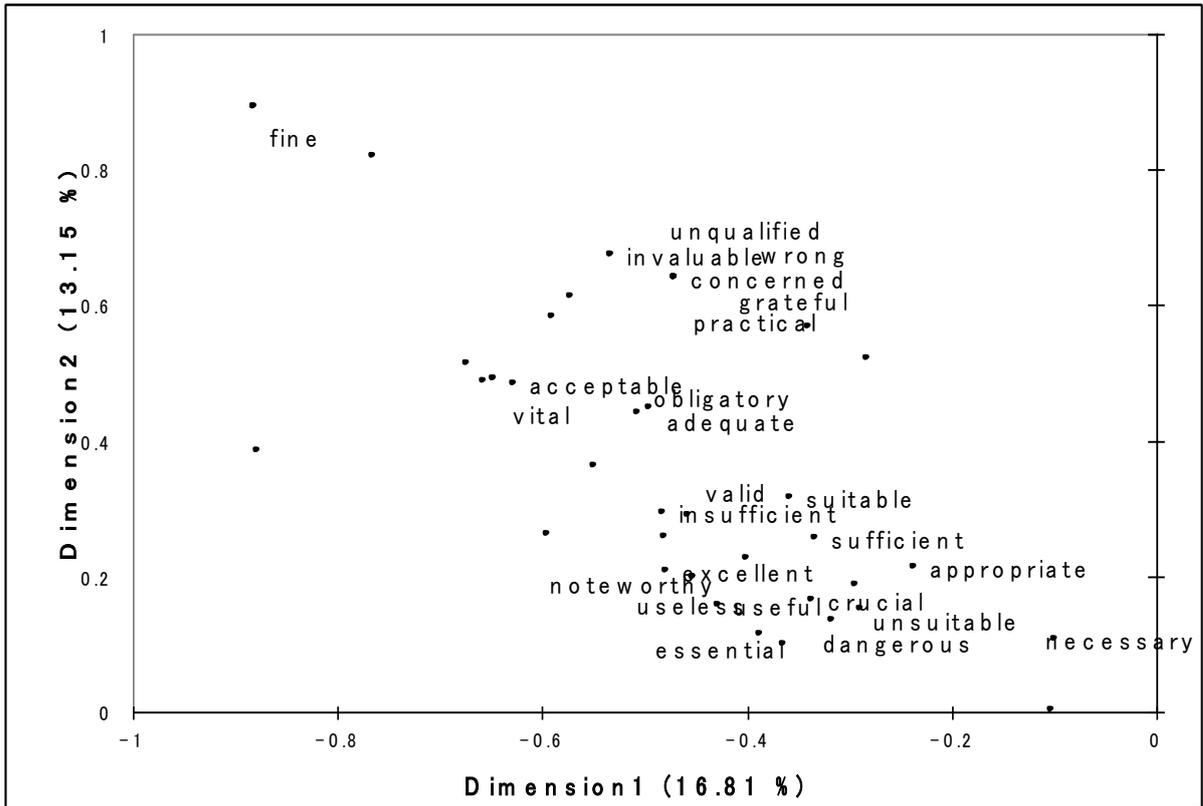


Figure 7.4. Adjective plot in the second quadrant for the pattern ADJ for N (29.96%)

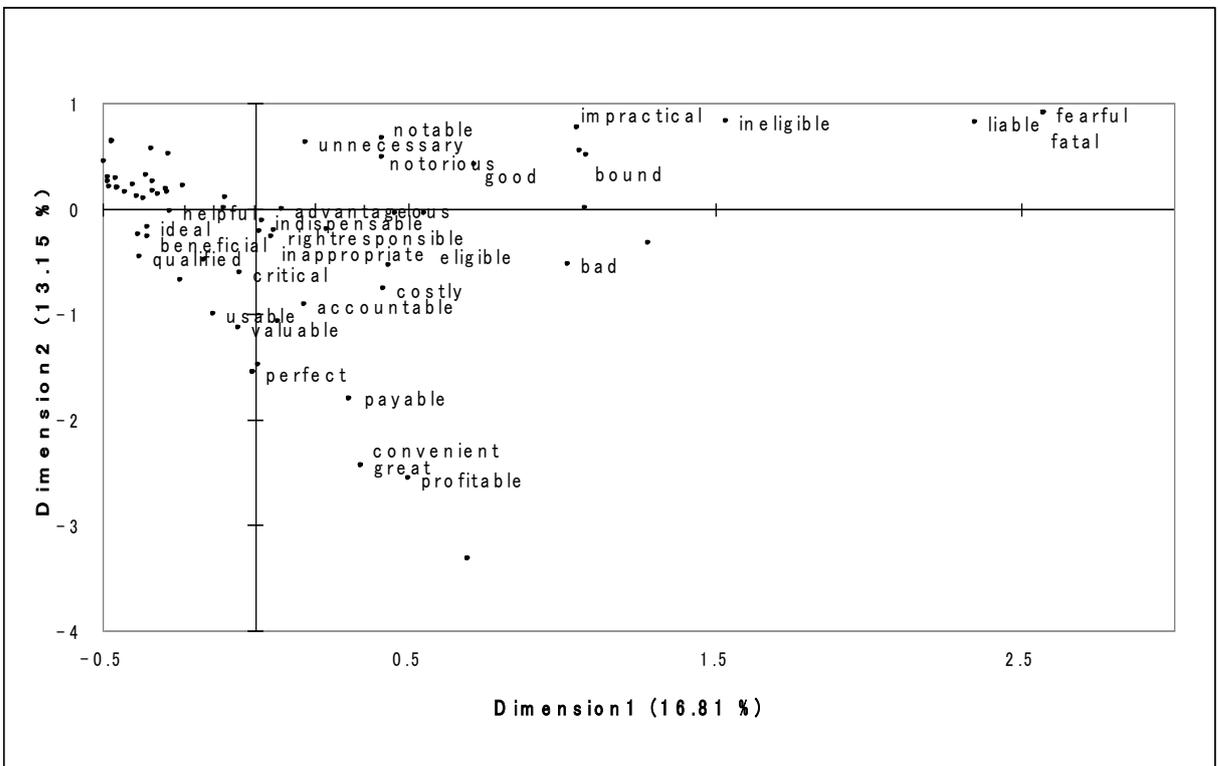


Figure 7.5. Adjective plot in the first, third and fourth quadrants for the pattern ADJ for N (29.96%)

On the other hand, adjectives in the area of business studies in Figure 7.5 (i.e. the first, third and fourth quadrants) tend to describe relations between things, especially expressing responsibility (i.e. ‘how someone/something has the responsibility for something’) or potentiality (i.e. ‘something/someone has particular potential for/to do something’). Such adjectives include *accountable, responsible, profitable, liable, payable, qualified, beneficial, ineligible* and so on. (N.B. Adjectives expressing responsibility are likely to be negative towards things, as will see later). Some adjectives are clearly associated with the subject matter of business studies (e.g. *payable, liable, profitable*). Thus, the correspondence analysis suggests that the pattern *ADJ for N* is evaluative and positive in applied linguistics, whereas it is relational and negative in business studies.

The third set of plots provide data for the pattern *ADJ from N*. As can be seen in Figure 7.6, sub-disciplines of applied linguistics gravitate together within the area between -0.4 and +0.4 in the scale of dimension 1, whereas business sub-disciplines are located in two groups, in the areas of less than -0.4 and more than +0.4 in its scale. This plot indicates that particular adjectives occur more frequently in the pattern *ADJ from N* in business studies than they do in applied linguistics. As Figure 7.7 shows, such adjectives include *independent* (5 in ALC; 13 in BC), *exempt* (1 in ALC; 9 in BC), *consistent* (0 in ALC; 2 in BC), *indistinguishable* (6 in ALC; 13 in BC), *available* (16 in ALC; 42 in BC) and so on.

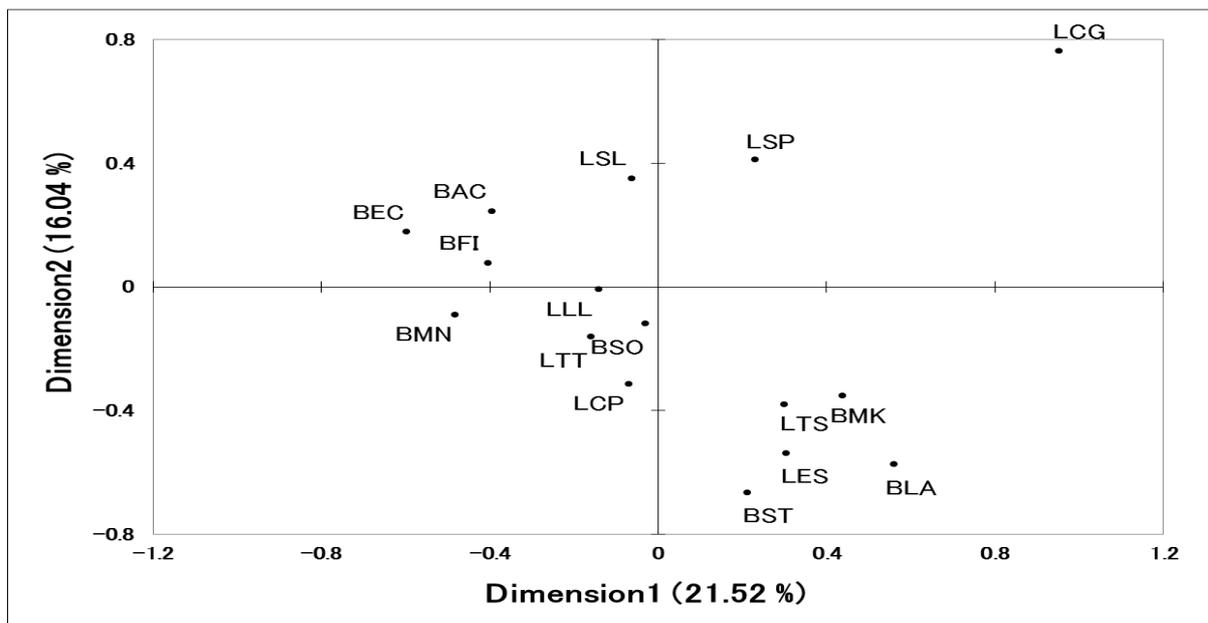


Figure 7.6. Sub-discipline plot for the pattern *ADJ from N* (37.56%)

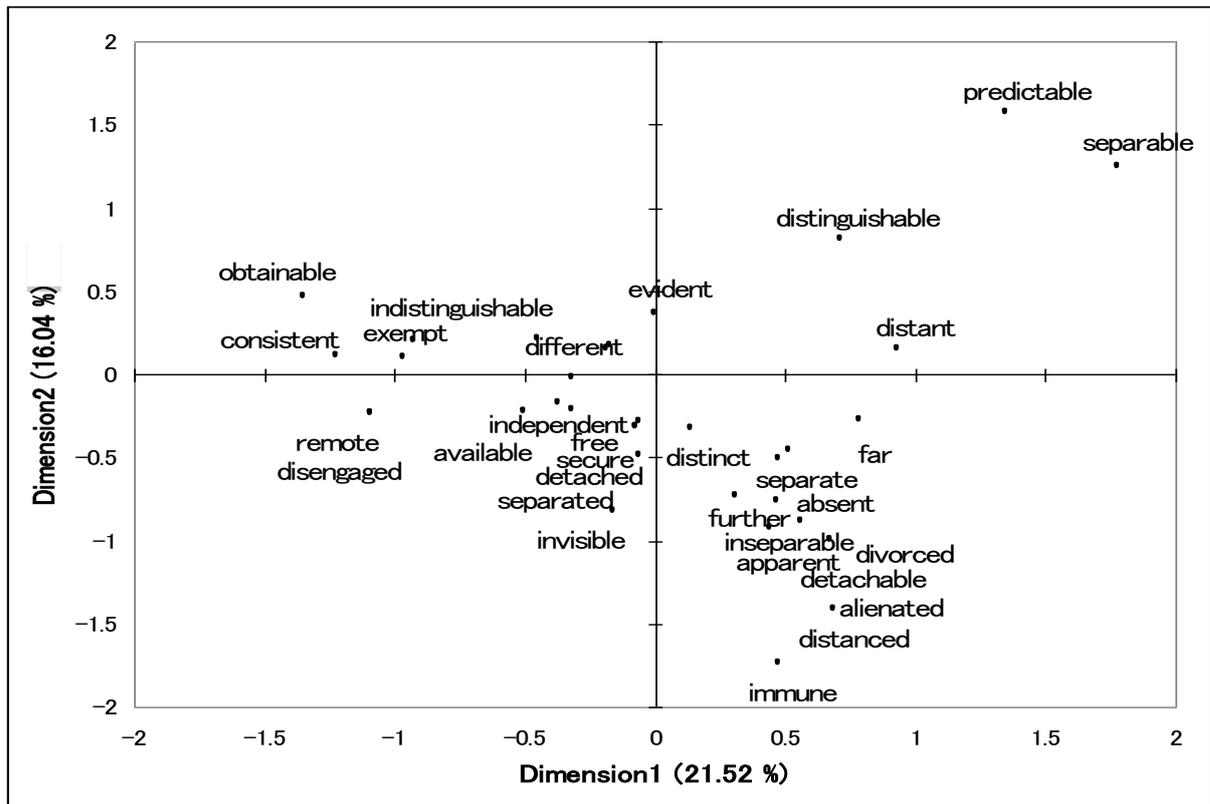


Figure 7.7. Adjective plot for ADJ *from* N (37.56%)

Conversely, adjectives close to the axis of dimension 2 (viz. the area of applied linguistics) such as *separated* (14 in ALC; 8 in BC) and *evident* (13 in ALC; 9 in BC) occur more frequently in ALC than BC. That is, adjectives in business studies are likely to occur in applied linguistics as well. This is largely because samples (viz. sub-disciplines) in each quadrant or in the positive / negative area of each dimension (e.g. the first and second quadrants are the ‘positive’ area of dimension 1) have a similar response pattern of variables (viz. adjectives in the pattern). That is, it may be a little too radical to assert a clear distinction in the use of adjectives in the pattern ADJ *from* N between the two disciplines. Overall, adjectives in the pattern ADJ *from* N are likely to express various kinds of relation between things, particularly the (no) distance between things (viz. the DISTANCE group in the current study), irrespective of disciplines, such as *different*, *far*, *distinct*, *separate*, *independent*, *inseparable*, *free*, *divorced* and so on. However, the particular preference for specific adjective types does differ between applied linguistics and business studies, as will be discussed in detail in Sections 9.1.4 (i.e. the DISTANCE group) and 9.1.5 (i.e. the DETECTABILITY group) of this thesis.

We now turn to Figures 7.8 and 7.9, which present the correspondence analysis plots for the next of the patterns to be discussed here, ADJ *in* N.

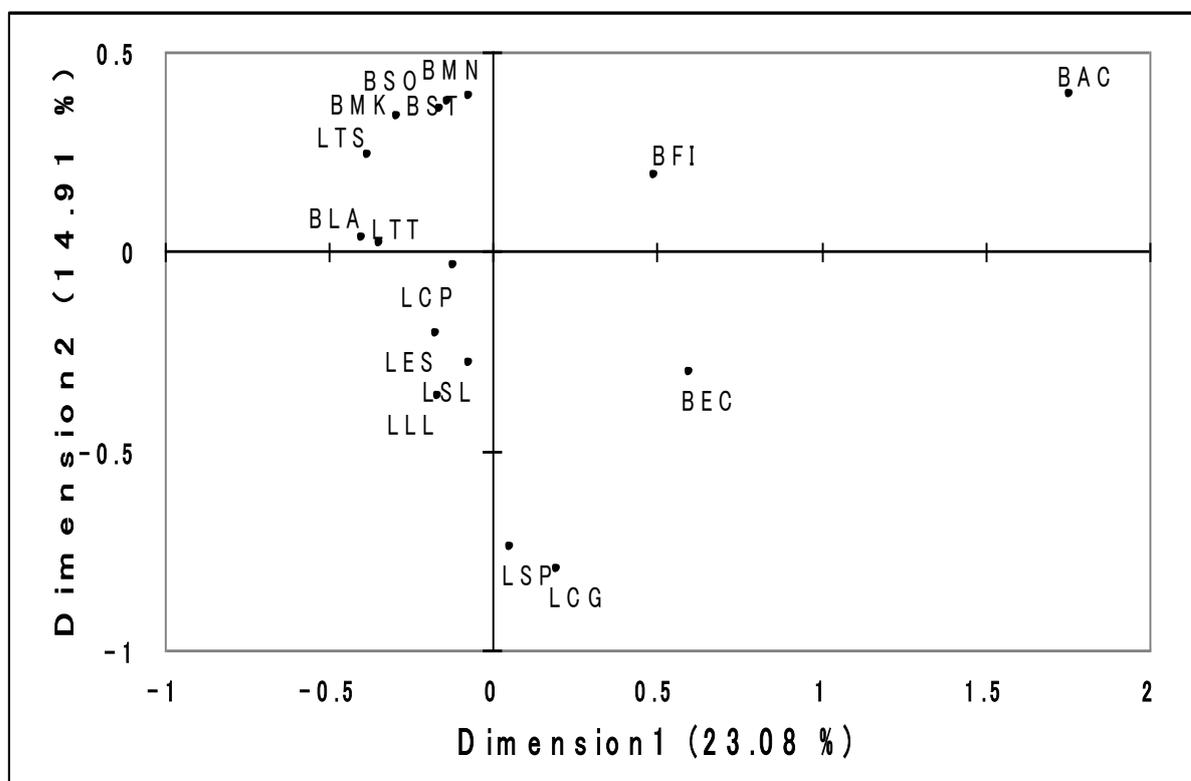


Figure 7.8. Sub-discipline plot for the pattern ADJ *in* N (37.99%)

As shown in Figure 7.8, adjectives in the pattern ADJ *in* N make a distinction between applied linguistics and business studies based on the scale of dimension 2. In particular, some adjectives in the area of applied linguistics (viz. in particular, the third and fourth quadrants) can be categorized as belonging to the COMPARABLE group, such as *identical, different, similar, relevant, comparable* and so on. The pattern ADJ *in* N in applied linguistics, thus, may tend to be used to compare two or more things. This finding is supported by the high-frequency SG figures provided in Table 7.5 earlier (i.e. the COMPARABLE group in Francis et al. (1998) is one of the high-frequency SGs in ALC, but not in BC). Some of the other adjectives in the area of applied linguistics also express evaluations of people (viz. personalities) or things (viz. characteristics). Examples identified in Figure 7.9 include *easy, significant, confident, vital, crucial, poor, wrong, right, obvious, essential, beneficial* and so on.



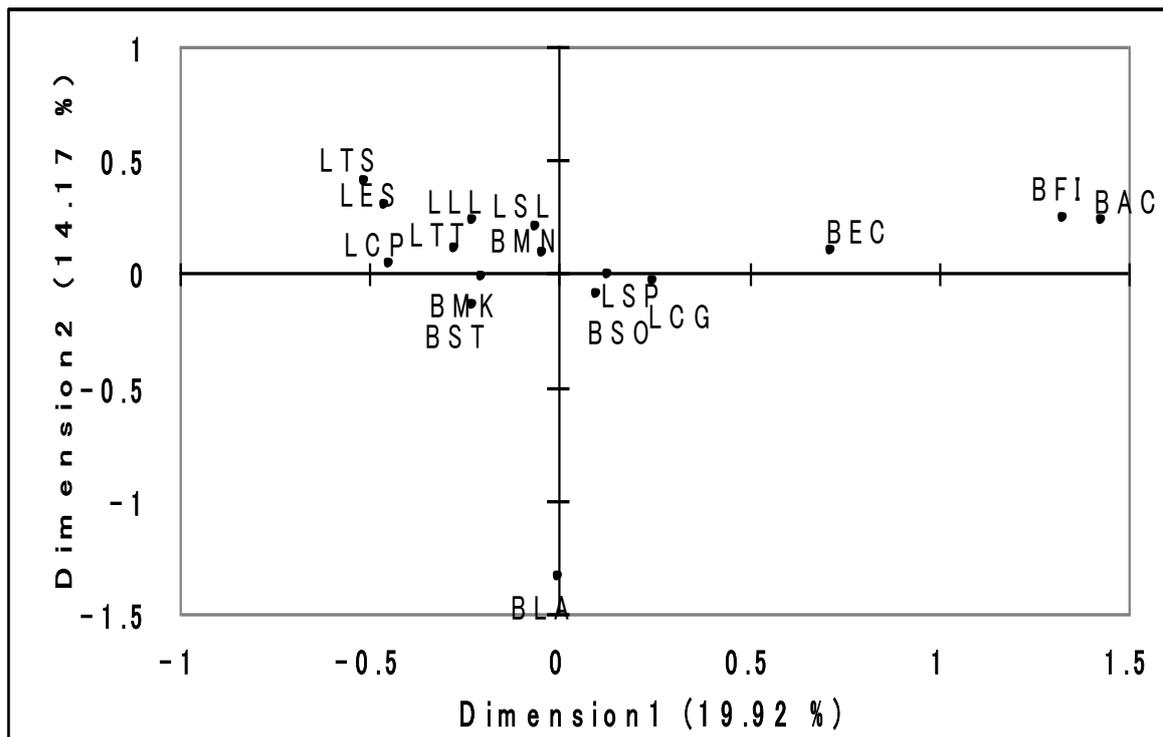


Figure 7.10. Sub-discipline plot for the pattern ADJ *of* N (34.09%)

Figure 7.10 resembles the sub-discipline plot for the pattern ADJ *for* N in Figure 7.3 above, in that sub-disciplines of applied linguistics cluster together in the second quadrant, whereas those of business studies are dispersed among the other three quadrants. This plot indicates that a much more consistent set of adjectives occurs in the pattern ADJ *of* N in most sub-disciplines of applied linguistics than is the case in business studies. The plot in Figure 7.11 illustrates that many adjectives in the area of applied linguistics are imbued with what might be called a humanistic flavour, such as *fond, uncertain, ashamed, tired, sure, hopeful, thoughtful, proud, unsure, suspicious, certain, confident, fearful* and so on. These adjectives are particularly associated with expressing people's emotions about things. There are also other adjectives expressing people's perception such as *aware, unaware, conscious, cognizant* and so on. These adjectives are categorized as the ABILITY group (see the detail in section 9.2.1). Some adjectives also represent features or characteristics of things such as *illustrative, representative* and *typical*. These are categorized as the REPRESENTATIVENESS group (see section 9.2.5 for a detailed qualitative analysis). (N.B. several adjectives categorized as the REPRESENTATIVENESS group also occur in the business area, such as *indicative, reminiscent, reflective* and so on.)

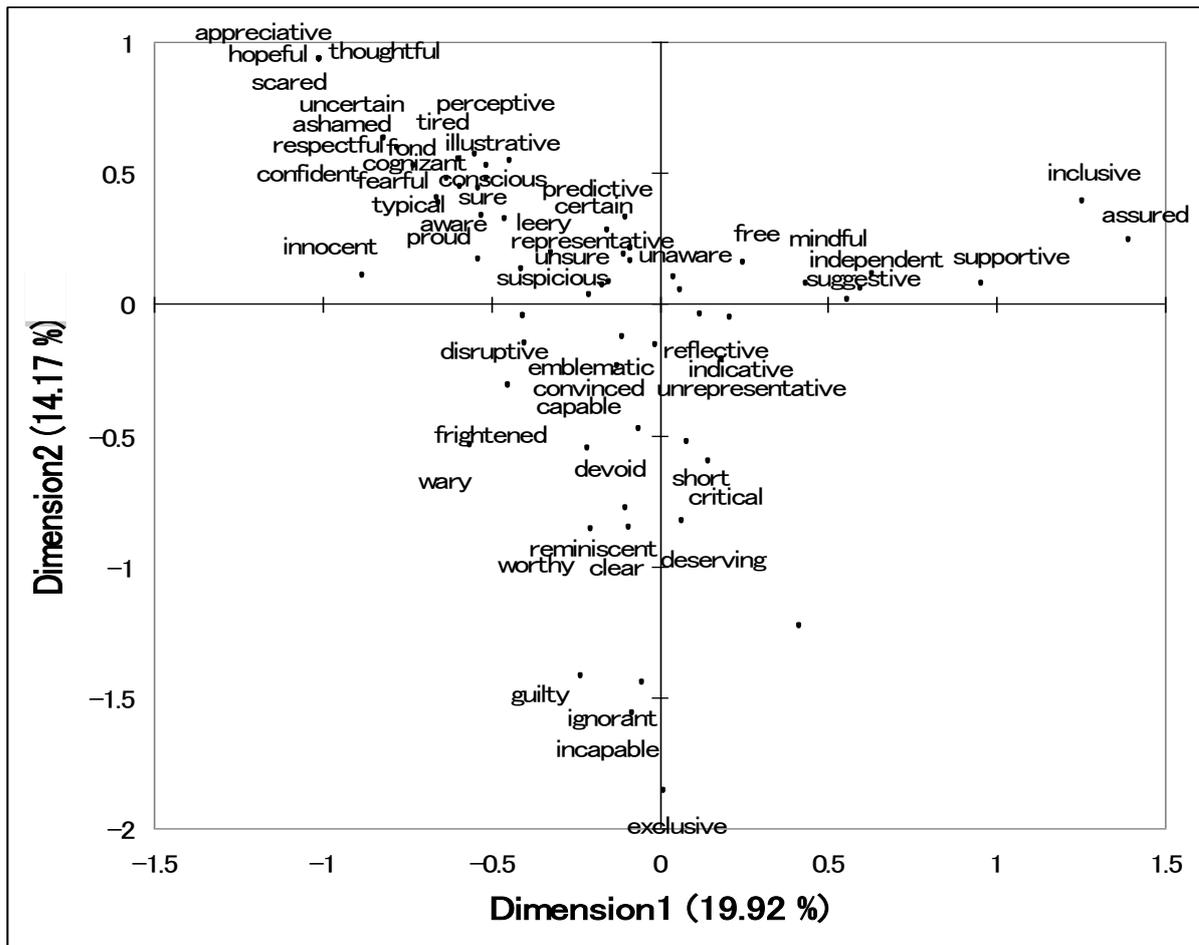


Figure 7.11. Adjective plot for the pattern ADJ of N (34.09%)

In contrast, adjectives in the area of business studies (i.e. the first, third and fourth quadrants) express potential, situations or states of affairs, or evaluate things in a rather negative way. Examples include *wary*, *devoid*, *incapable*, *ignorant*, *unrepresentative*, *disruptive*, *devoid*, *exclusive*, *critical*, *guilty* and so on. As in the case of applied linguistics, some of these adjectives also express ‘attributes’ of things. However, as a qualitative analysis of this pattern will later show, the significant difference between applied linguistics and business studies is that applied linguistics is likely to focus on more animate things (e.g. emotions and abilities in people), whereas business studies is likely to prioritize inanimate things (e.g. the potential or performance of an institution). For example, the adjective *(in)capable* in the pattern ADJ of N evaluates human abilities in applied linguistics, and the potential or performance of a company or form of technology in business studies (see section 9.2.1 for full details). Thus, the distinction between two disciplines focuses on the forms of animacy that each discipline

sees. In addition, the attributes that applied linguistics is likely to ‘see’ are internal and subjective, whereas business studies is more likely to observe and assess external and objective situations in business contexts.

Our sixth set of plots focus on the pattern *ADJ on N*. These are given in Figures 7.12 and 7.13 below.

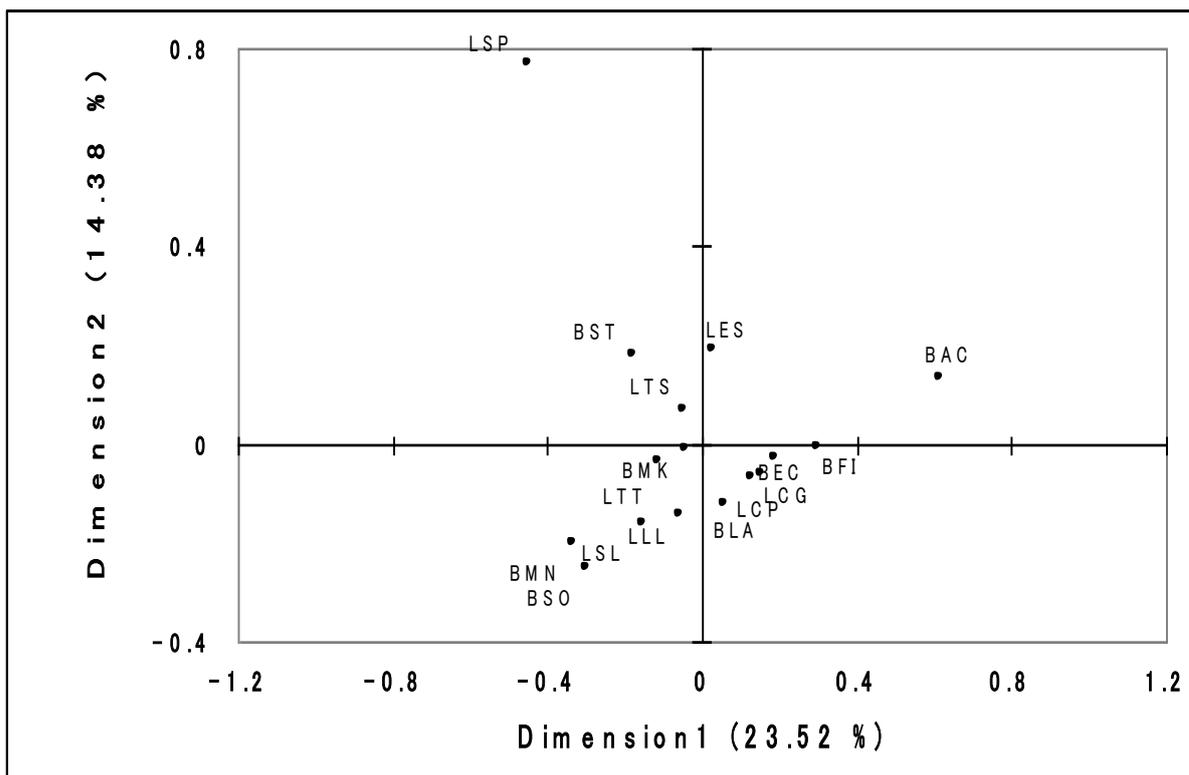


Figure 7.12. Sub-discipline plot for the pattern *ADJ on N* (37.90%)

The plot shown in Figure 7.12 is unique in the current study in that it is unable to find any clear groupings or distinctions between adjectives in the pattern *ADJ on N* in ALC and BC at all. This is largely because the adjective *based* is far more frequent than other adjectives in this pattern, as can be seen in Figure 7.13 below (and also in Table 7.2 above). The adjective *based* accounts for 89% (1457 / 1635) in ALC and 87% (1840 / 2107) in BC of the total number of tokens of the pattern *ADJ on N* respectively. The adjective *based* is located at the origin point in plot 7.13 below: this indicates that the use of the LSP *based on N* appears not to be affected by disciplinary difference. (N.B. However, its figure is more frequent in BC (1840) than ALC (1457)).

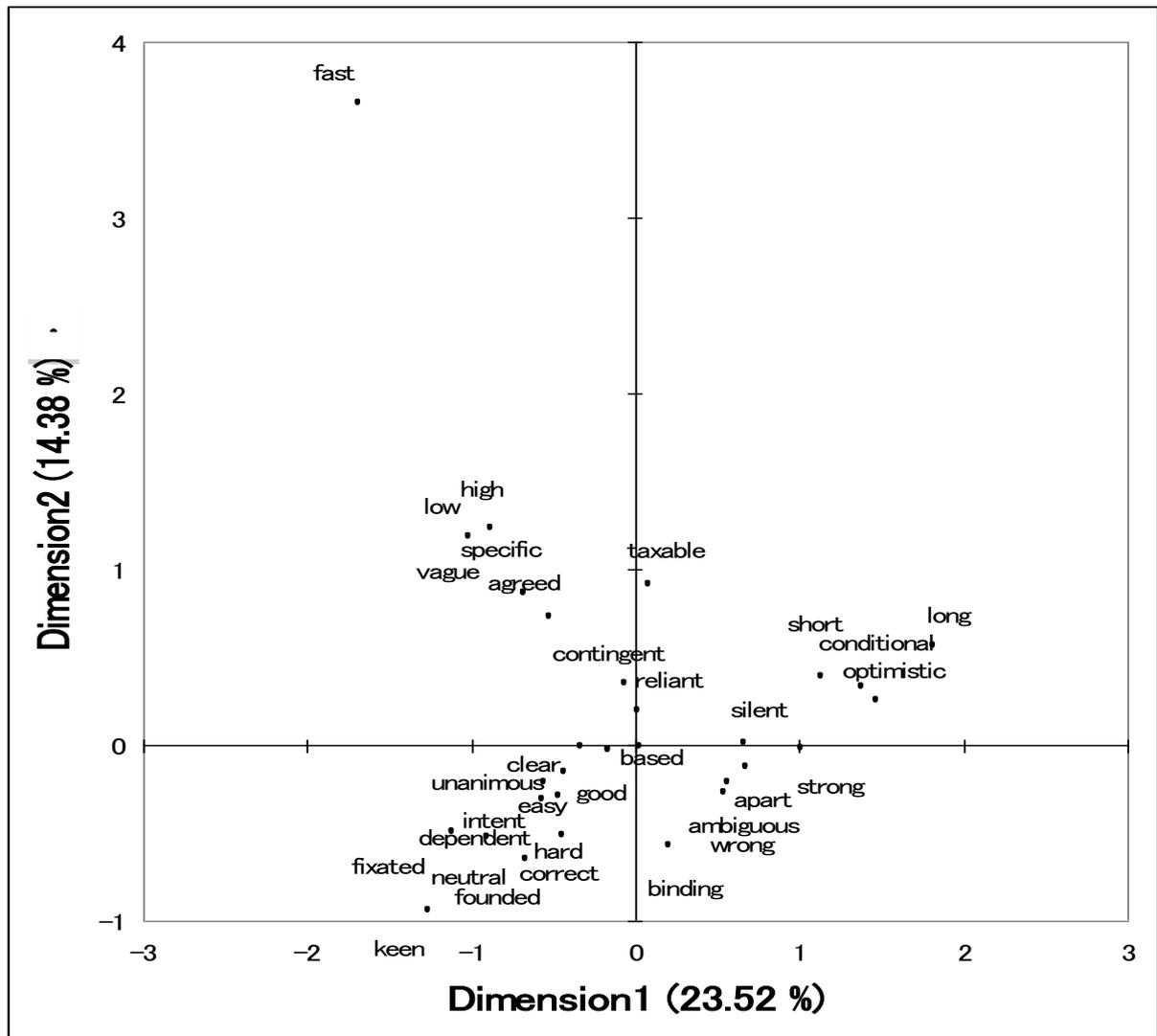


Figure 7.13. Adjective plot for the pattern ADJ *on* N (37.90%)

In addition, the adjective *based* in the pattern ADJ *on* N occurs at an average rate of frequency in all sub-disciplines of both applied linguistics and business studies, as can be seen in Table 7.8 below.

ALC	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT	Total
Freq.	144	163	116	228	204	140	199	263	1457
BC	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	Total
Freq.	289	235	292	159	207	279	227	152	1840

Table 7.8. Frequency of *based* in the pattern ADJ *on* N in each sub-discipline

That is, the occurrence of the LSP *based on* N is not peculiar to any of the specific

sub-disciplines of applied linguistics or business studies, but rather seems to occur consistently in all of them. In other adjectives in the pattern ADJ *on* N, however, there is a specific and observable difference between the two disciplines: adjectives categorized as the DEPENDENCE group (such as *dependent*, *conditional*, *contingent*, *reliant* and so on) are more frequent in BC than they are in ALC. I will discuss this point later in section 9.1.3, because the two-dimensional plots 7.12 and 7.13 failed to visualize this specific difference between the two disciplines. What this finding suggests is that correspondence analysis may be more suitable for seeing the general picture hidden in condensed information rather than for identifying individual features in the data that occur at a high level of granularity.

We now move on to our seventh set of plots, which visualize the results for the pattern ADJ *to* N. As can be seen in Figure 7.14 below, adjectives in this pattern are much more clearly and decisively differentiated across the two disciplines.

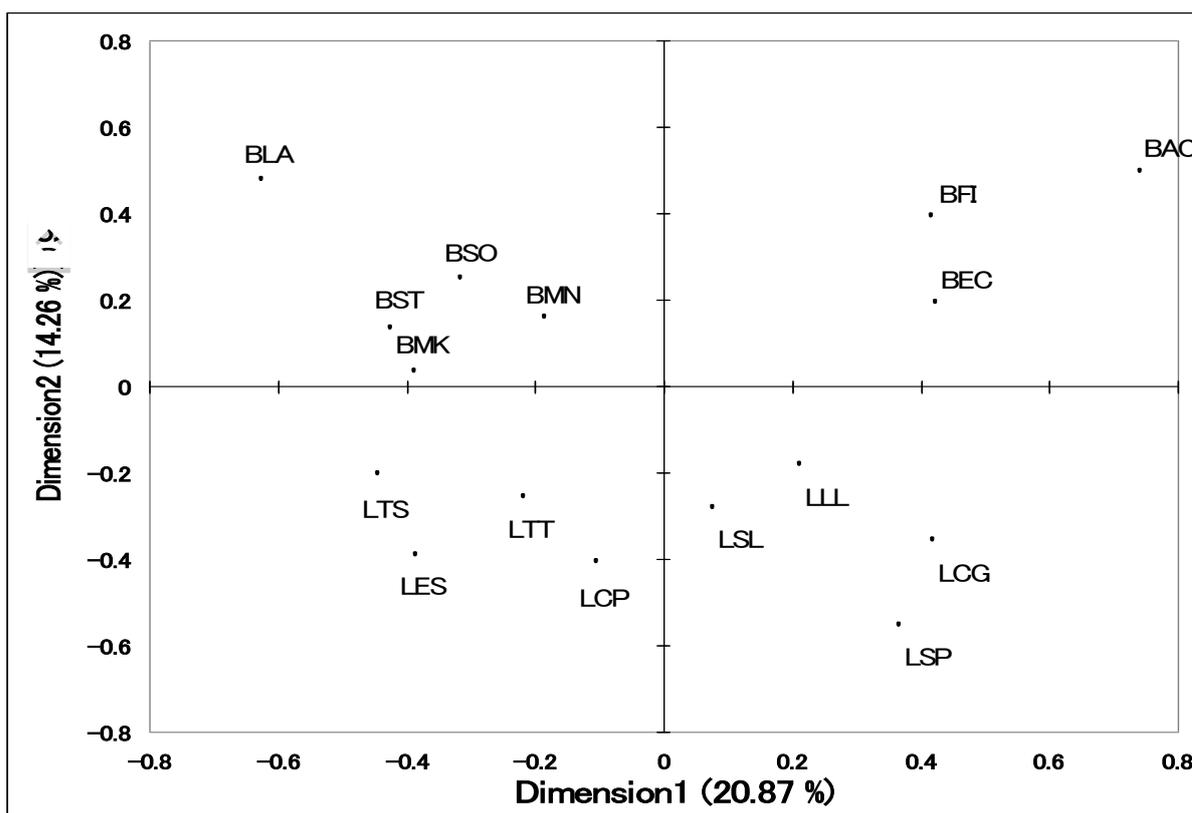


Figure 7.14. Sub-discipline plot for the pattern ADJ *to* N (35.13%)

Since quite a lot of adjectives occur in the pattern ADJ *to* N compared to other patterns (as can be seen in Table 7.1), it is hard to visualize each adjective in the plot provided all at the

same time. This being the case, I have enlarged the negative area of dimension 2 (i.e. the third and fourth quadrants interpreted as the applied linguistics area) in Figure 7.15 and the positive area of dimension 2 (i.e. the first and second quadrants interpreted as the business studies area) in Figure 7.16 respectively.

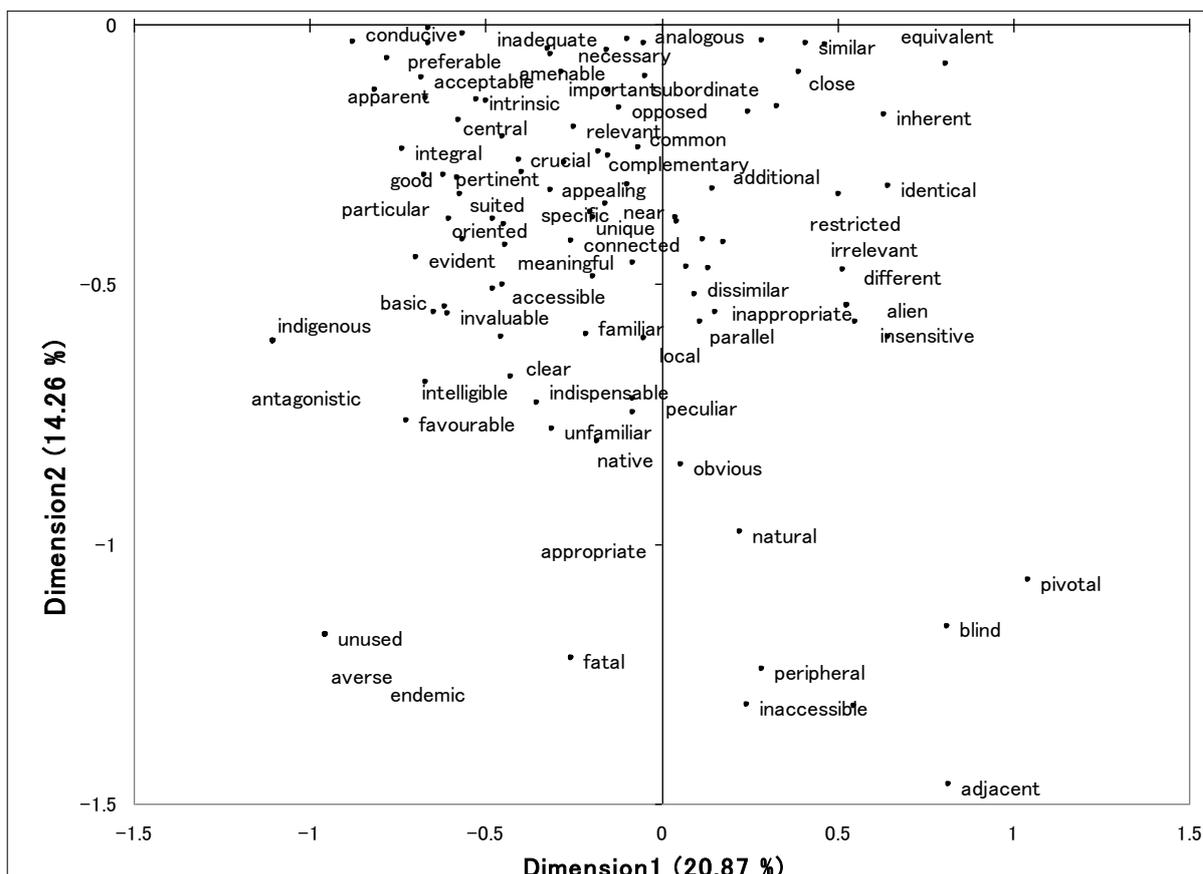


Figure 7.15. Adjective plot in the third and fourth quadrants for the pattern ADJ to N (35.13%)

Closer analysis finds that adjectives in the area of applied linguistics (i.e. the negative area of dimension 2) are more likely to express positive evaluations (e.g. *integral, central, basic, evident, suited, intelligible, favourable, appealing, meaningful, clear* and so on). In particular, the adjectives in the third quadrant are likely to identify unique or characteristic features of things, such as *specific, unique, common, peculiar, endemic, indigenous* and so on. These adjectives are peculiar to applied linguistics, and are categorized as the UNIQUENESS group in the current study (see the detailed discussion in section 9.2.4). The adjectives in the fourth quadrant also express various relational meanings (esp. thing's location or a distance between things) such as *adjacent, peripheral, close, inherent* and so on. Several adjectives in this

quadrant also express similarities between things (e.g. *identical, different, dissimilar, parallel* and so on). As will be discussed in more detail in section 9.1.1, these will be categorized as the SIMILARITY group in the current study.

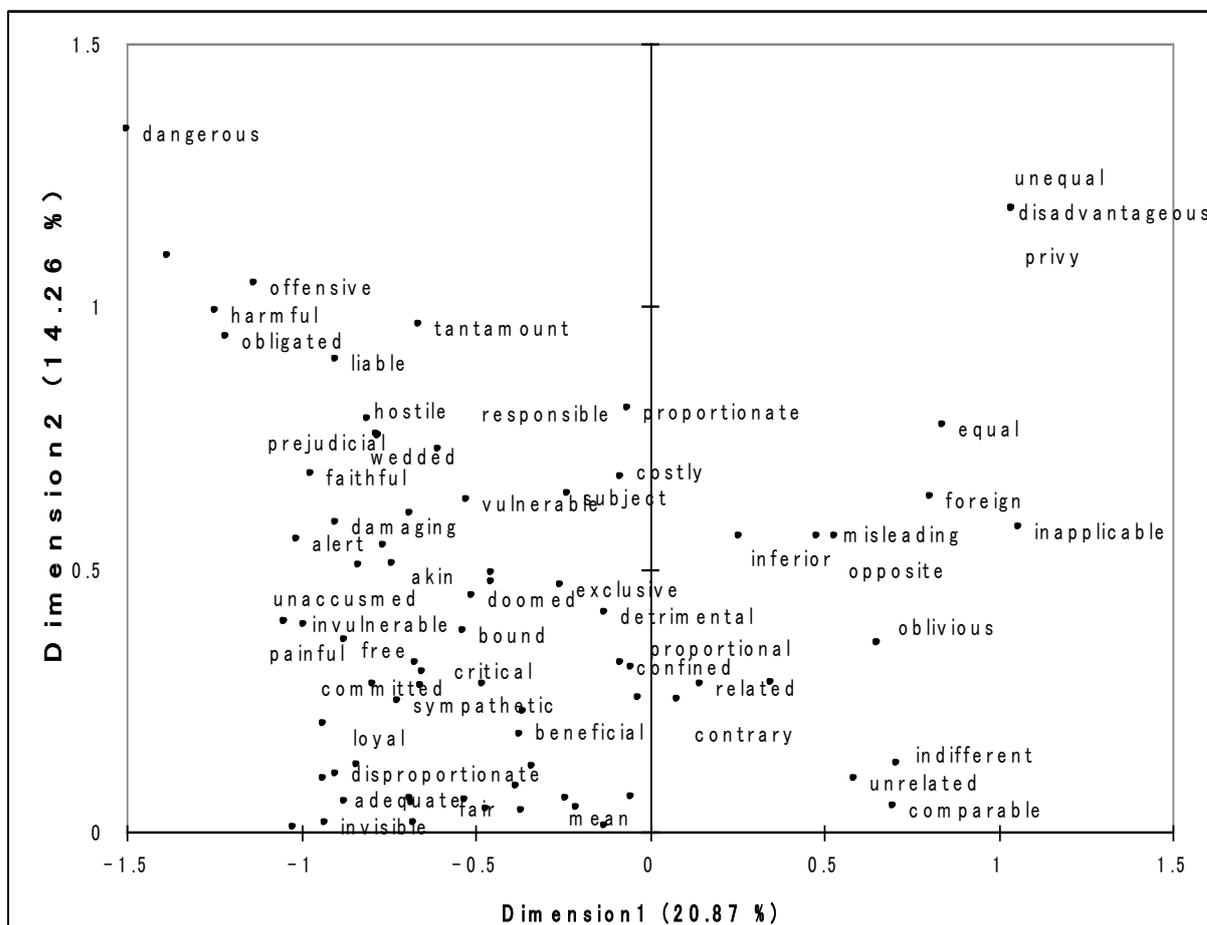


Figure 7.16. Adjective plot in the first and second quadrants for the pattern ADJ to N (35.13%)

Adjectives in the area of business studies (i.e. the positive area of dimension 2) are more likely to express negative evaluations. For example, some adjectives in the first quadrant express negative properties or characteristics (e.g. *inapplicable, oblivious, misleading, disadvantageous, indifferent* and so on). Other adjectives in this quadrant express similarities (e.g. *inferior, unrelated, opposite, unequal, equal, comparable, contrary* and *related*). These adjectives are categorized as the SIMILARITY group in the current study (see section 9.1.1 for full details). Adjectives in the second quadrant are, on the other hand, more likely to express ‘how something negatively affects (or may negatively affect) something’. Indicative adjectives in this regard include *dangerous, offensive, harmful, hostile, damaging* and *alert*.

Other adjectives in this quadrant also express evaluations focusing on the confined or restricted nature of something (e.g. *confined*, *subject*, *bound* and *exclusive*). Some of these adjectives also express the UNIQUENESS of things (cf. see the detail in section 9.2.4). In other words, the pattern ADJ *to* N in business studies tends to express negative qualities and relations. It is also clear that this pattern is used more frequently to comment on similarities between things in business studies than is the case in applied linguistics. This observation is also supported by Figure 7.5, in which the SIMILAR group in Francis et al. (1998) is far more frequent in BC than it is in ALC. Overall, the pattern ADJ *to* N seems to express various relations between things irrespective of disciplines. However, the most striking distinction between the two disciplines lies in the observation that applied linguistics is more likely to evaluate such relations positively, and business studies is more likely to present relations in more negative terms, as the adjectives *dangerous*, *offensive*, *harmful*, *hostile*, *damaging* and *alert* in Figure 7.16 above indicate.

Next, we review the correspondence analysis plots for the pattern ADJ *with* N, given in Figures 7.17 and 7.18 below.

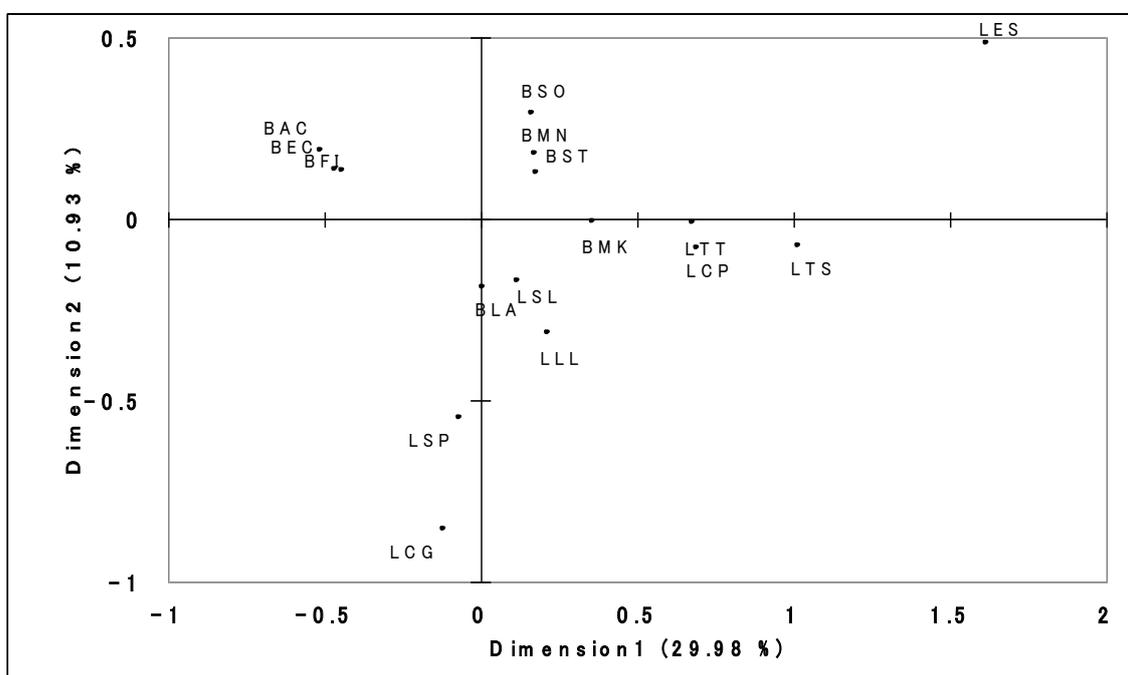


Figure 7.17. Sub-discipline plot for the pattern ADJ *with* N (40.91%)

The plot shown in Figure 7.17 contrasts somewhat with the plots for the patterns ADJ *for* N (Figure 7.3) and ADJ *of* N (Figure 7.10) above. Here, it is the sub-disciplines of applied

linguistics that lie scattered in the third and fourth quadrants, while those of business studies cluster much more densely in the first and second quadrants. As can be seen in the adjective plot presented in Figure 7.18 below, the adjectives in applied linguistics are likely to express specific associations between things (e.g. *(in)compatible*, *simultaneous*, *concurrent*, *interchangeable*, *consonant* and *cognate*). These adjectives especially express states of equality or synchronism between things. On the other hand, adjectives in the area of business studies express a more general association between things, as indicated by the adjectives *consistent*, *associated*, *affiliated*, *synonymous* and others. These adjectives will be categorized as the ASSOCIATION group (see section 9.1.2). Other adjectives in the business area express emotions of people or characteristics of things (e.g. *patient*, *successful*, *(un)comfortable*, *unhappy*, *sympathetic*, *rich*, *tense*, *generous*, *unsatisfied*, *excellent* and so on). Overall, the pattern ADJ *with* N is likely to describe associations among and between things irrespective of discipline. However, the forms of association expressed by this pattern are likely to be more specific in applied linguistics and more generalized in business studies. Finally, the pattern also expresses meanings of a more explicitly evaluative nature in business studies than they do in applied linguistics.

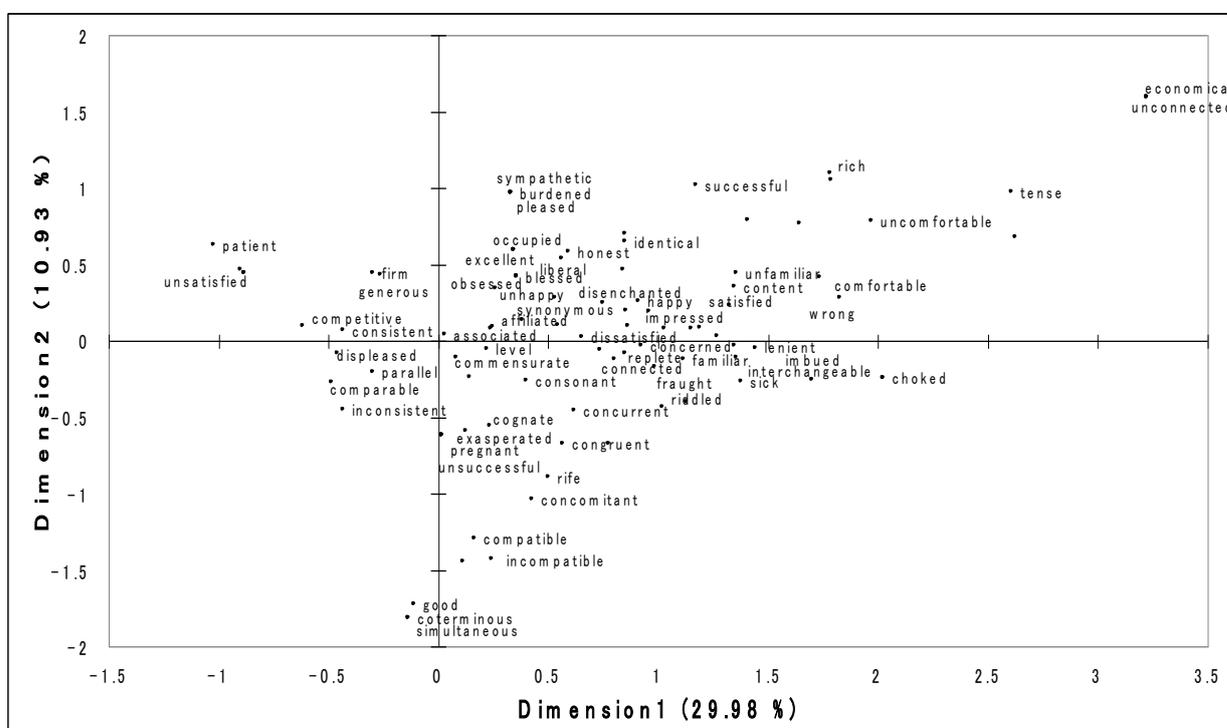


Figure 7.18. Adjective plot for the pattern ADJ *with* N (40.91%)

This concludes my analysis of the eight high-frequency patterns in each corpus.

We now turn to a ninth set of plots, which visualize the remaining eight low-frequency patterns taken as a whole.

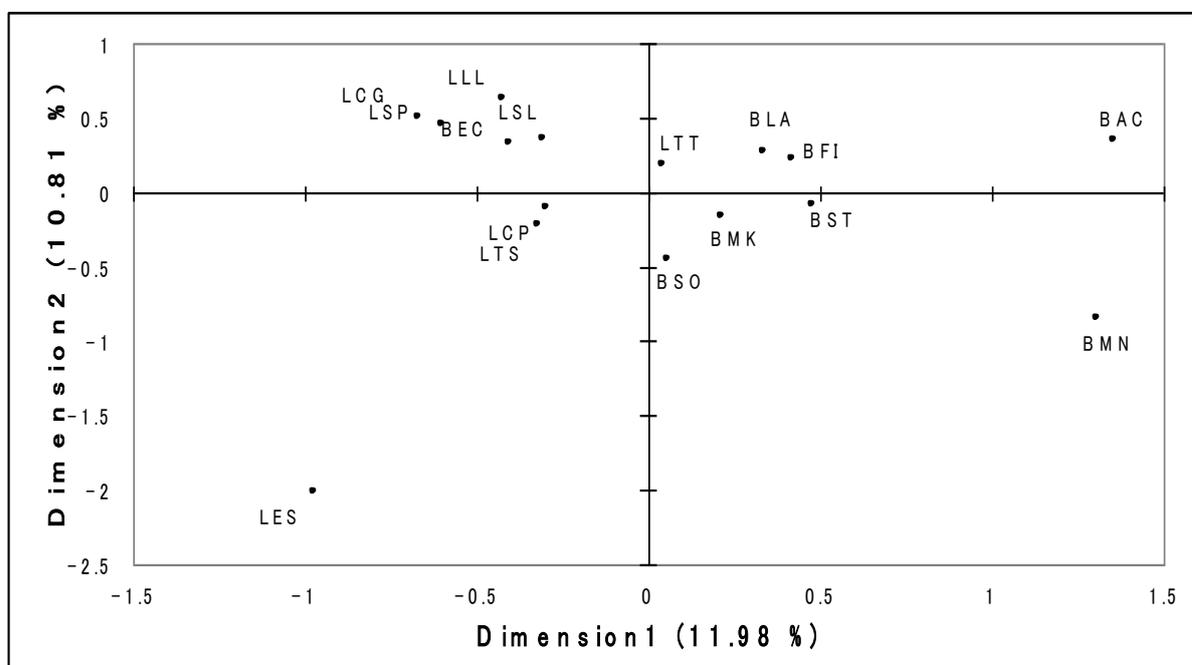


Figure 7.19. Sub-discipline plot for eight low-frequency patterns (22.79%)

In the plot shown in Figure 7.19 above, the two disciplines are very clearly distinguished along dimension 1. Figure 7.20 adds detail to this broad picture by revealing that adjectives in the area of applied linguistics are particularly likely to express people's emotions or judgments. Typical adjectives include *horrified (at)*, *surprised (at)*, *surprised (by)*, *unsure (as to)*, *confused (by)*, *impressed (by)*, *uncertain (as to)*, *untouched (by)*, *disappointed (by)*, and *puzzled (by)*. Also associated with applied linguistics are adjectives expressing someone's (or something's) personality, such as *cautious (over)*, *active (as)*, *impatient (at)* and so on. A further set of adjectives peculiar to applied linguistics is the SKILFULNESS group (cf. see the detail in section 8.3.1), expressed by adjectives in the pattern ADJ *at* N such as *efficient*, *proficient*, *bad*, *good*, *successful*, *excellent*, *expert* and so on. Finally, the adjective *biased* in the pattern ADJ *toward(s)* N (viz. the LSP *biased toward(s)* N) is also peculiar to applied linguistics (cf. see the detail in section 8.1.1).

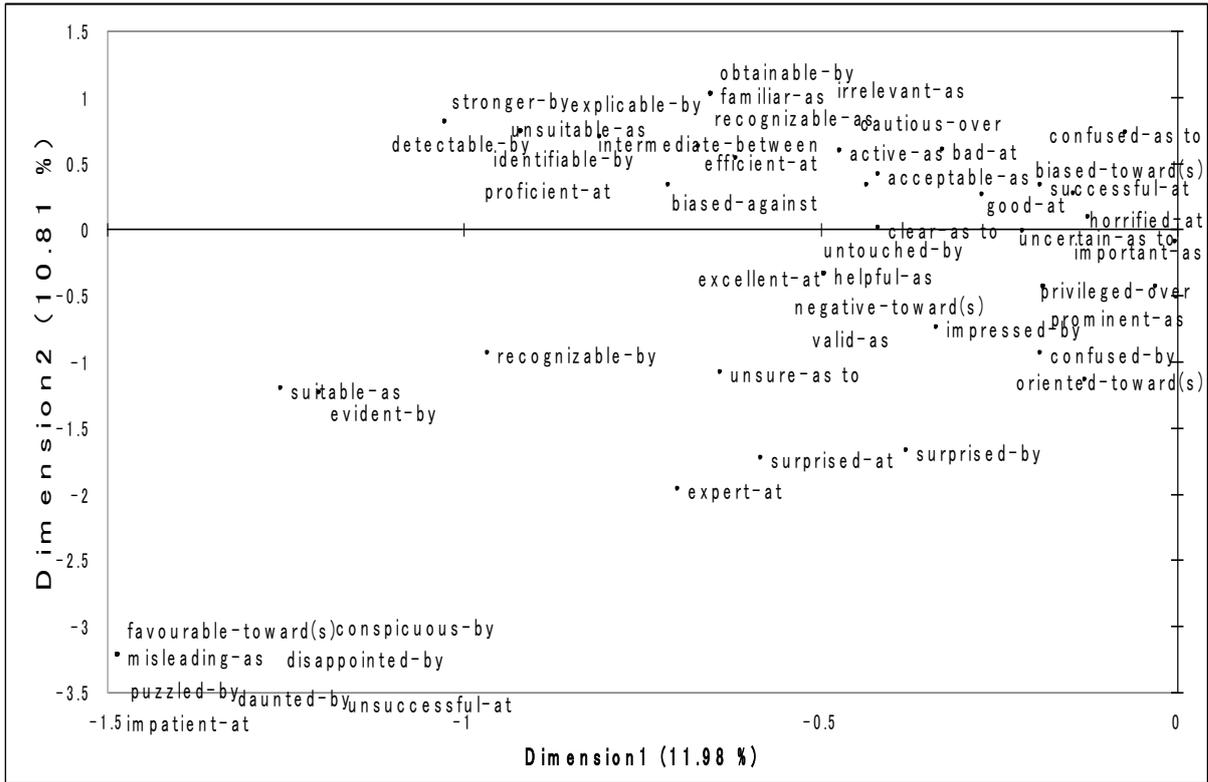


Figure 7.20. Adjective plot in the second and third quadrants for eight low-frequency patterns (22.79%)

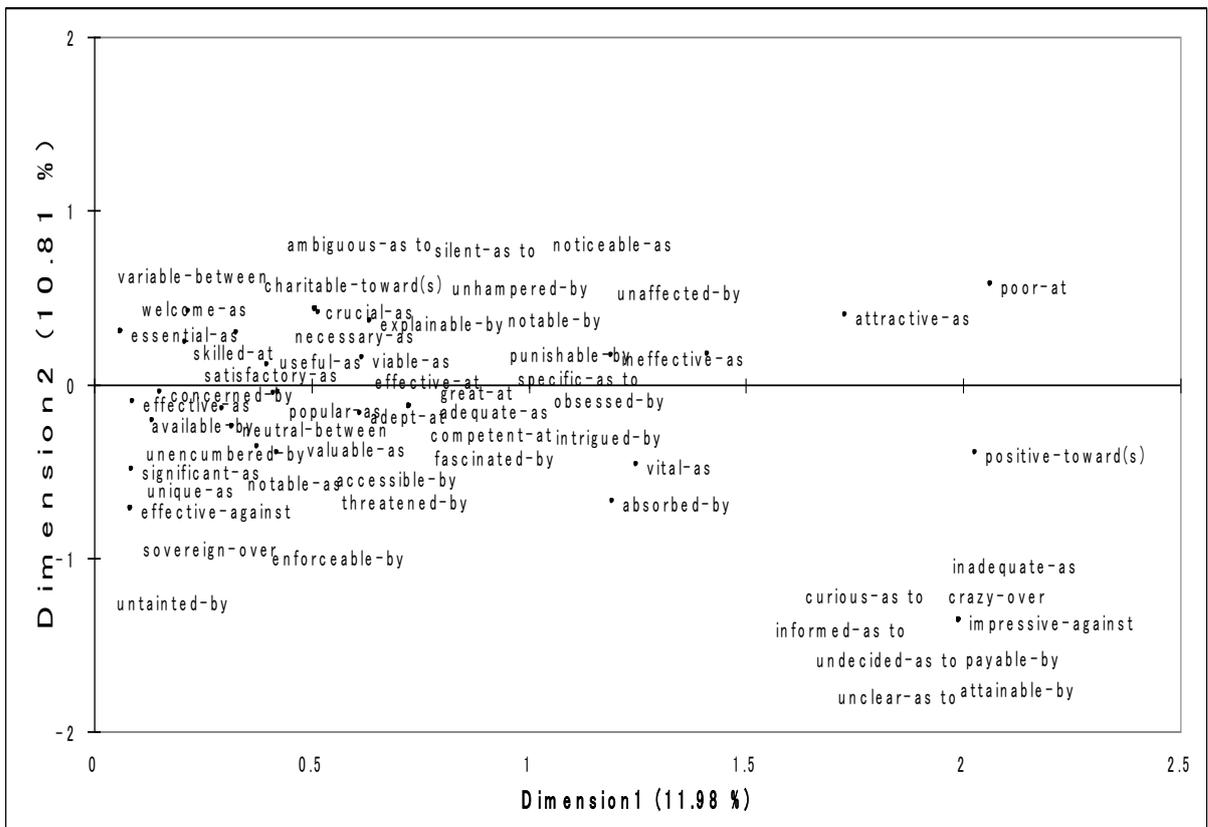


Figure 7.21. Adjective plot in the first and fourth quadrants for eight low-frequency patterns (22.79%)

Figure 7.21 also indicates that adjectives in the area of business studies are more likely to express deontic modal meanings via the pattern ADJ-*able by* N (e.g. *punishable, enforceable, explainable*, and so on). In addition, some adjectives in the pattern ADJ *by* N express how something is affected or not affected by something else (e.g. *threatened, obsessed, intrigued, fascinated, (un)encumbered, concerned, unhampered, unaffected*, etc.). These adjectives are categorized as the AFFECTEDNESS group in the current study (see section 9.1.6 for full details). Moreover, adjectives in the pattern ADJ *as* N in business studies are likely to express judgements in forceful and often hortatory terms, such as *crucial, essential, useful, necessary, (in)effective, attractive, (in)adequate, valuable, vital* and so on. Although the SKILFULNESS group in the pattern ADJ *at* N is peculiar to applied linguistics, some adjectives in this group also occur in business studies (such as *skilled, poor, effective, adept, competent* and so on). Finally, other adjectives in these eight low-frequency patterns are likely to express how a writer sees things and relations (e.g. *ambiguous (as to), charitable (toward(s)), variable (between), specific (as to), great (at), neutral (between), significant (as), effective (against)* and so on). Therefore, the crucial distinction in the use of these eight low-frequency patterns between the two disciplines is that in applied linguistics they are more likely to express evaluations, especially people's emotions and aesthetic appreciations of things (e.g. ADJ *at* N), whereas in business studies they are more likely to assess things (e.g. ADJ *as/at* N) and express rather negative relations between things (e.g. ADJ *by* N).<sup>35</sup>

The final plot to be discussed in this section presents a sub-discipline plot for all of the variants of the broad pattern ADJ PREP N together. (N.B. Since the plots for adjectives in this pattern were already presented in Figures 7.1 to 7.21, I show only the plots for sub-disciplines here. This is largely because the adjective plot for all variants of the pattern is just an amalgamation of these variants.)

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<sup>35</sup> It is possible to say from the disparity in the use of adjective patterns that applied linguistics is more likely to evaluate the personal characteristics of people, whereas business studies is rather to evaluate the external feature of things. (For a fuller explanation of this analysis see Chapter 10).

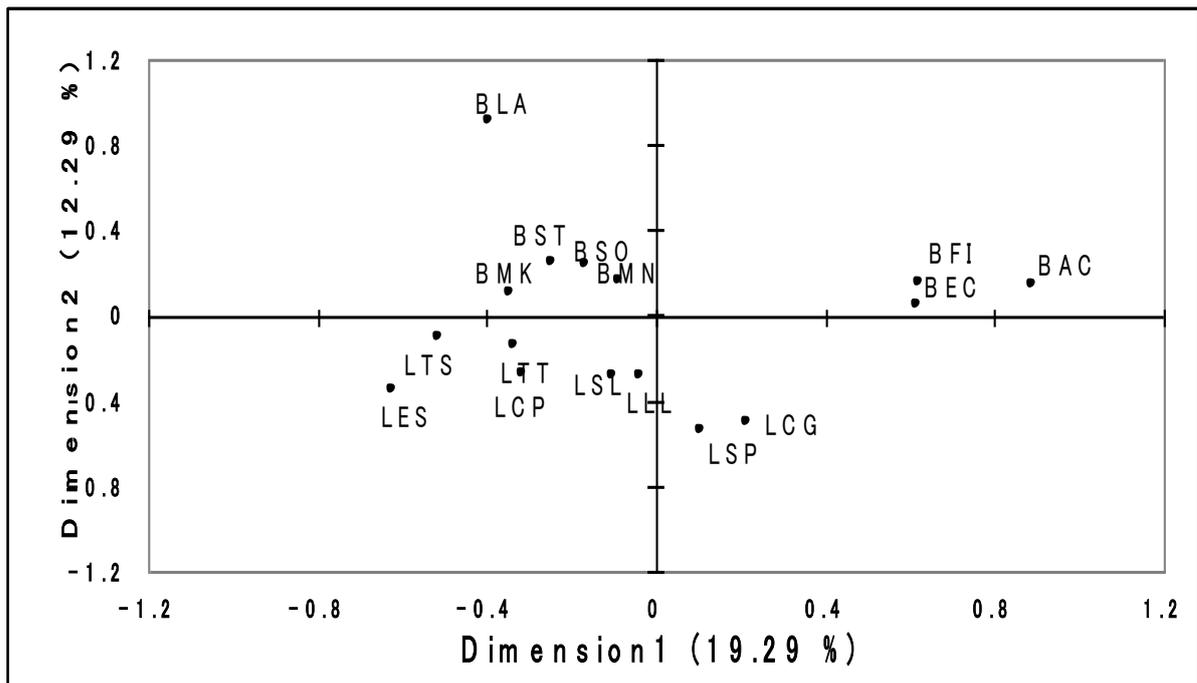


Figure 7.22. Sub-discipline plot for all variants of the pattern ADJ PREP N (31.58%)

The plot for the pattern ADJ PREP N shown in Figure 7.22 was produced by computing the whole dataset for adjectives in the pattern ADJ PREP N through a correspondence analysis. As can be seen, all 8 applied linguistics sub-disciplines are concentrated in the lower area of dimension 2, whereas all 8 business sub-disciplines are located in the upper area of dimension 2.

All in all, the various sub-disciplines of applied linguistics and business studies are, by and large, clearly distinguished via either parameter 1 or parameter 2. More broadly, it should be clear by now that our correspondence analysis confirms that, in most cases, there is a clear interrelationship between disciplines and lexical items in the pattern ADJ PREP N as it occurs across the two corpora. Needless to say, it is difficult or almost impossible to imagine how the interrelationships hidden in these corpora could be identified, let alone visualized so clearly, through the investigation of manual concordances. Table 7.9 below summarizes the results of the correspondence analysis for each type of the pattern ADJ PREP N.

ADJ PREP N	about	for	from	in	of	on	to	with	8 high	8 low	all 16
CA Result	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓

Table 7.9. Result of correspondence analysis

With the sole exception of the pattern ADJ *on* N, our correspondence analysis succeeded in making distinctions in the use of adjectives in the pattern ADJ PREP N in applied linguistics and business studies, as represented by the ALC and BC corpora compiled for the current study. This result indicates three things. Firstly, it indicates that both tokens and types of adjectives in the pattern ADJ PREP N differ across the two disciplines. Secondly, it indicates that some adjectives (and the semantic groups that they fall into) are peculiar to each discipline. Thirdly and finally, it indicates that, at a very general level, the pattern ADJ PREP N can be regarded as expressing either evaluations towards things, or relations within and between things. This broad distinction will form the analytical framework for the next two chapters, in which I will submit my pattern data to a detailed qualitative analysis.

## **7.6. Conclusion**

This chapter began with a summary of the statistical figures obtained for all adjectives occurring in the pattern ADJ PREP N. This included data for tokens, types, TTR, high-frequency adjectives in the pattern, and high-frequency semantic groups (borrowing from Francis et al. (1998)). I then presented the two-dimensional plots of sub-disciplines and adjectives in the pattern ADJ PREP N as computed by a correspondence analysis. This analysis partly revealed clear differences in the use of the pattern examined between applied linguistics and business studies in all but one of the variant forms of this pattern. The next two chapters will approach the same patterns from a methodologically very different perspective, by conducting a concordance-based discourse analysis of the pattern ADJ PREP N. This analysis will develop and exemplify the two broad themes expressed by the patterns found in this chapter, that is, *attitude* and *relation*.

## CHAPTER 8. The first theme: Attitude

In this chapter, I will conduct a qualitative discourse analysis of the evaluative meanings and functions of the variant forms of the pattern ADJ PREP N as it occurs in my corpora of RAs in the academic disciplines of applied linguistics and business studies. As announced previously, I will draw on some general terms initially developed by scholars working in the tradition of Appraisal theory as a heuristic framework for my qualitative analysis.

Appraisal theory has its roots in Systemic Functional linguistics, and has been developed primarily by Martin and Rose (2003, 2007) and White (2004). This theory assumes that one of the most basic functions of language is to express feelings, emotions, points of view, opinions and evaluations, and that every language has a diverse range of linguistic resources for expressing these meanings. In terms of the present analysis, Appraisal can be seen as providing a theoretical link between the core concepts of pattern and evaluation. Appraisal and pattern grammar (Hunston & Francis, 1999) are akin to one another in that grammar expresses both meaning and function. Appraisal theory and evaluation (e.g. Hunston & Thompson, 2000) are akin to one another inasmuch as both are concerned with how evaluation is manifested in texts. By looking at the evaluative meanings and functions of patterns, we can identify the interpersonal messages that writers convey to their readers, and establish how members of a specific disciplinary discourse community express and develop claims in academic contexts.

Appraisal theory is divided into three main systems, namely *engagement*, *graduation* and *attitude*. This chapter targets *attitude* rather than *engagement* and *graduation*, largely because the pattern ADJ PREP N principally expresses attitudinal meanings in academic discourse. Appraisal theorists subdivide attitude into three subtypes: *judgment*, *affect* and *appreciation*. *Judgment* indicates the evaluation of human behaviour with respect to social norms, *affect* expresses the characterization of phenomena by reference to emotion, and *appreciation* evaluates people and objects by reference to aesthetic principles and other systems of social value (White, 2004).<sup>36</sup> Thus, *judgment* meanings are seen as primarily rational – that is, as coming from the head rather than from the heart; *affect* meanings are seen as emanating from the heart rather than the head; and *appreciation* meanings as “resources for valuing the worth of things” are viewed as involving both rational and emotional forms of

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<sup>36</sup> *Engagement* and *graduation* are often expressed by modals, adverbs and adverbial phrases rather than adjectives; see the details in White (2004).

evaluation (Martin & Rose, 2007, p. 28; White, 2004). These basic distinctions are represented in simple diagrammatic form in Figure 8.1 below.

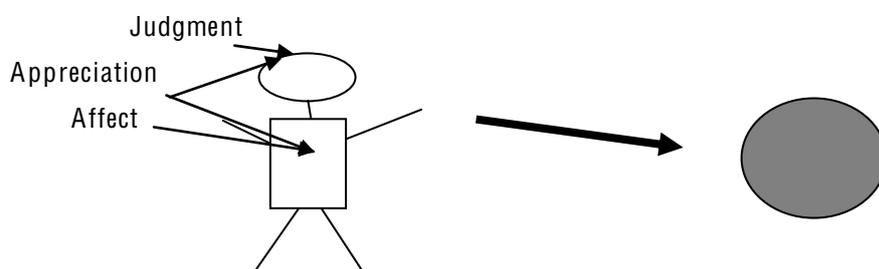


Figure 8.1. Attitude: How people see things

This chapter thus discusses the similarities and differences in three types of *attitude* meanings expressed by the pattern ADJ PREP N in two corpora representing the RAs of applied linguistics and business studies respectively. My analysis of the meanings expressed by the variant forms of this pattern will propose that there are nine semantic groups that express *attitude* in ALC and BC. These will then be allocated into each sub-system (viz. *judgment*, *affect*, *appreciation*) based on their evaluating meanings.<sup>37</sup> We will see that *Judgment* includes the semantic groups BIAS, USEFULNESS, IMPORTANCE and CERTAINTY; *Affect* includes OPTIMISM, ENTHUSIASM and NERVOUSNESS; and *Appreciation* includes SKILFULNESS and WISDOM. After discussing *judgment* in section 8.1, section 8.2 will deal with *affect*. Section 8.3 will finally treat *appreciation*.

## 8.1. Judgment

This section presents how differently academic writers in applied linguistics and business studies express their judgment of things through the pattern ADJ PREP N in academic discourse.

People often express their assessment of a behaviour, a thing or a problem based on cultural, social or communal norms in academic discourse. Things are basically assessed as to whether they are ‘good or bad’ or ‘positive or negative’, because all various values in *judgment* (e.g. ‘significant or insignificant’, ‘clear or unclear’, ‘appropriate or inappropriate’) are simply based on these essential values (cf. Thompson & Hunston, 2000; White, 2004). Judgmental values are more likely to be realized through adjective choice (e.g. *important*,

<sup>37</sup> For instance, ‘I like this movie’ can be interpreted as *judgment*, *affect* and *appreciation* depending on speaker’s attitude of mind in *appraisal*, whereas it would be allocated into *affect* in the framework of current study. This is because the current study prioritizes the literal meanings (of adjectives) for their allocation into each sub-system.

*knowledgeable, prejudiced*) than by other parts of speech (cf. Martin & Rose, 2003, 2007; White, 2004; Thompson & Hunston, 2000). In particular, the meanings of *judgment* vary in intensity from low to high (e.g. *acceptable approach, appropriate approach* and *excellent approach*). Since adjectives basically indicate such judgments in predicative use (e.g. *the result is clear*), the pattern N1 (v-link) ADJ PREP N2 often expresses writers'/people's judgment.

Overall, four semantic groups in the pattern are allocated into *judgment*: the groups of BIAS, USEFULNESS, IMPORTANCE and CERTAINTY. The relationship between these meanings is shown in diagrammatic form in Figure 8.2 below.

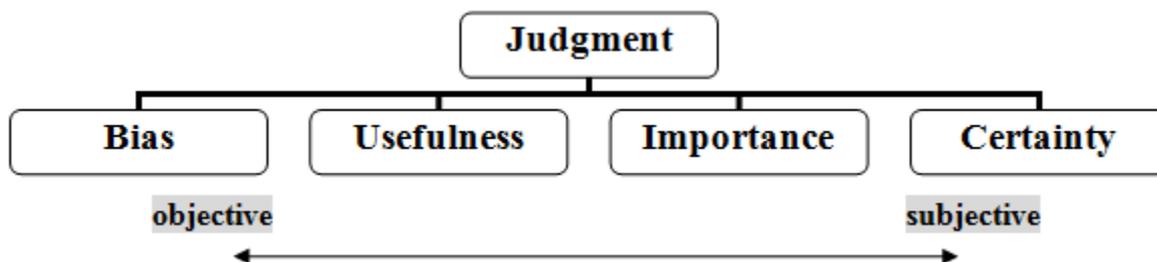


Figure 8.2 Semantic groups of *judgment*

These groups express judgments in academic discourse about how and whether people or things are ‘biased or unbiased’, ‘useful or useless’, ‘important or unimportant’ and ‘certain or uncertain’. The core meanings of these groups can be placed on a continuum from ‘objective’ at one end, to ‘subjective’ on the other. For instance, assessments as to whether some data/approaches are biased, appropriate, useful, or suitable for a specific study tend to be made in a relatively overt and objective way since the reasons for such judgments are likely to be consistently and logically presented to highlight the validity of the research (e.g. the LSPs *appropriate/suitable for N* co-occur with reasons why writers consider whether or not something is appropriate/suitable for something), whereas assessments as to whether someone is certain or uncertain about a particular thing tend to be made in a more subjective way since such judgments based on human emotions are not always motivated by purely rational considerations; that is, they can be produced from within, sometimes without reason.<sup>38</sup> The IMPORTANCE group can be seen as falling in the middle of these groups in this respect: writer

<sup>38</sup> While the CERTAINTY group may be interpreted as *affect* in some cases, this group expresses rather people’s judgment of their confidence in the academic contexts, and so I included this group in *judgment*.

judgments tend to draw on both emotional and rational considerations when using this semantic group of adjectives in the ADJ PREP N pattern.

The four semantic groups in *judgment* will be used to explain how applied linguistics and business studies differ in the writer’s attitude, the contexts of situation, and the disciplinary culture in terms of the use of the pattern ADJ PREP N. The subsequent sub-sections will present the evidence for these disciplinary parameters in detail.

### 8.1.1. Bias

The first group of *judgment* meanings is the BIAS group. This group indicates whether a thing, data, or approach is (un-)biased towards a specific condition, a situation, an activity, or a research result. In other words, this group does not indicate prejudiced views in a general sense. Unlike other semantic groups, the BIAS group is oriented toward specific adjectives, namely *biased* and *neutral* in the pattern ADJ PREP N, rather than specific prepositional type of the pattern (e.g. the USEFULNESS group is oriented to ADJ *for* N).

<i>biased</i> PREP N			<i>neutral</i> PREP N		
PREP.	ALC	BC	PREP.	ALC	BC
toward(s)	11	5	about	0	1
against	2	1	as	0	1
by	3	5	between	0	2
to	2	0	on	1	2
Total	18	11	Total	1	6
Prop.	62%	38%	Prop.	14%	86%

Table 8.1. *biased/neutral* PREP N

As can be seen in Table 8.1, evaluations of bias seem to occur more frequently in ALC than in BC, whereas neutral situations appear more frequently in BC than in ALC. The reason for the former is that the two disciplines see different things, and the reason for the latter is that the neutral situation is more desirable in business studies than applied linguistics.

Concordance analysis suggests that ‘biased’ meanings tend to occur in concluding statements, and are often positive in their evaluative polarity, whereas in business studies this pattern is more likely to express negatively critical evaluations of data collection procedures carried out by other people:

[Applied Linguistics: *biased toward N*]

- We conclude that, although between-learner differences in L2 categorization are correlated to the target dialect of each learner, many (mostly Southern English oriented) learners are *biased toward* a reliance on duration alone that is not found in either of the L1 varieties. (ALC: SLA2004\_17)
- Overall, based on the frequency of distribution of the test items, it can be said that low-, mid-, and high-frequency words were fairly evenly distributed in the sample and that the sample was not *biased toward* any frequency band. (ALC: SLA2005\_16)
- These internal representations are initially *biased toward* picking up direct correlations among input and output features. As a result, the network tends to map similar inputs to similar outputs, supporting effective generalisation. (ALC: Cognitive2005\_20)

[Business Studies: *biased towards N*]

- The USA has 50 states and the District of Columbia with varying types of small businesses, yet this work is heavily *biased towards* a sample from the state of Michigan. It is recognized that the results do not represent the entire small business sector in the USA without further research drawing on a large sample across the entire USA. (BC: Marketing2005\_8)
- A category plan that is *biased towards* the advisor's brands and/or has insufficient analysis of the competitors' brands will unlikely deliver the expected growth, and a scorecard will make this deficiency very apparent. (BC: Marketing2004\_8)
- Findings of and conclusions from this study must, however, be considered in the light of the limitations of the survey methodology used and the univariate, cross sectional analysis. The respondent sample for example, may be *biased towards* firms with established dividend policies; those who may have chosen not to make dividend payments may have been omitted. (BC: Finance2005\_27)

The examples from ALC describe research results, whereas those from BC review research procedures. In other words, applied linguistics takes a neutral or even positive stance in the use of *biased* in texts, whereas business studies expresses a more critical stance in its use of this adjective pattern.

Turning now to 'neutral' meanings, business studies is likely to regard neutral business situations positively, as providing contexts for 'free and fair' business competition, unhindered by arbitrary biases, rules or restrictions:

[Business studies: *neutral about/on/between N*]

- The government will be *neutral about* the technology choices made by local companies.....After the WTO accession, the government will be *neutral on technology choices*, and companies that purchase technologies will make the decision based on their competitive strategies. *The result is that technology development becomes less risky*, because the company no longer needs to bet on one particular technology. (BC: Management2003\_12)
- Mega-exchange, a model that is *neutral between* supplier and buyer and that: acts as a central trading hub to facilitate transactions between buyers and suppliers; is usually run by third-party market makers, where it gathers buyers and suppliers to enable efficient trading between them. (BC: Marketing2005\_13)
- Solution provider, a model that is *neutral between* supplier and buyer and that: is intended to embed unique and valuable services to the product sales; enables organizations to leverage their distinctive expertise in specific areas; and provides the opportunity to capture niche markets that have regarded value-added services as being more important than price in the buying decision. (BC: Marketing2005\_13)

Neutral conditions or relations are often regarded as favourable and profitable situations in business discourse, since there are no external pressures or constraints on business activity.

In summary, then, the two disciplines use adjective patterns in the BIAS group in very different ways. In applied linguistics, the focus is on evaluating research results and coming to research-based conclusions, whereas in business studies the emphasis is on negative evaluations of other people's research procedures, or on positive evaluations of situations in which no biases or preferences apply. This latter value does not exist in applied linguistics at all.

### **8.1.2. Usefulness**

The second example of *judgment* is the USEFULNESS group, indicating whether someone or something is useful for a particular action, decision or treatment or not. USEFULNESS is most commonly expressed by adjectives in the pattern ADJ *for* N. Table 8.2 below summarizes adjectives of this group in this pattern.

Order	ALC	Freq.	BC	Freq.
1	appropriate	72	appropriate	41
2	suitable	35	suitable	26
3	sufficient	25	good	19
4	enough	18	sufficient	11
5	good	14	eligible	7
6	adequate	8	right	6
7	fit	7	fit	5
8	acceptable	6	inappropriate	4
9	inappropriate	5	acceptable	3
10	insufficient	4	enough	3
11	ideal	4	ineligible	2
12	eligible	4	unsuitable	2
13	qualified	3	insufficient	2
14	right	3	great	2
15	unsuitable	2	ideal	2
16	unqualified	1	adequate	2
17	wrong	1	cut out	1
18	fine	1	apt	1
19	excellent	1	ill-prepared	1
20	ineligible	1	perfect	1
21	equipped	1	qualified	1
Total		216		142
Prop.		60%		40%

Table 8.2. The USEFULNESS group in ADJ *for* N

By and large, the adjectives above express how something is useful, valuable, and appropriate for something. Most of these adjectives are categorized as belonging to the SUITABLE group in Francis et al. (1998). However, I have preferred to use the label USEFULNESS in this study, because in the academic contexts represented by ALC and BC these adjectives tend to evaluate the practicality and appropriacy of particular research methods and approaches. The higher figures for this group in ALC suggest that applied linguists are more likely to evaluate things as useful than business studies scholars are, especially through the adjectives *appropriate*, *suitable* and *sufficient*.

The key qualitative difference between the two disciplines lies in the extent to which authors are prepared to state their judgments overtly. In this regard, business studies researchers are much more likely to express their views confidently and unambivalently than applied linguists are. One of the main manifestations of this difference is in the use of modal verbs as collocates. In the 20 examples with modals in ALC, most cases express the writer's attitude in a hedged or downtoned way, using *might* and *would*. In the 9 examples with

modals in BC, on the other hand, most cases feature *will*, *may* and *can*:

#### [Applied Linguistics]

g one. Although other metaphors may be appropriate for other learners, the learner per  
ctic priming what priming might be good for in everyday language 782 ALARIO ET AL. use  
controlled elicitation tests might be appropriate for pedagogically motivated inquiry, th  
interviewer, suggesting that it might be appropriate for use with learners of lower levels o  
f 5. She noted that the tasks might be appropriate for undergraduate students, but she was  
t of written and spoken texts might be appropriate for each level. Similarly, Urquhart and  
r fields (e.g. computation) may not be appropriate for describing real language data. (c)  
ified as a TCU because it would not be appropriate for the receiver to interrupt the calle  
h this level of attention might not be sufficient for awareness, for seeing the stimulus.  
post-hoc interpretations that would be unsuitable for developing more specific hypotheses.  
lt for everybody. PS: Yes, it would be fine for me if we could do it in Dutch. (Laughs) PB  
with barrier, hearing barrier would be sufficient for identification of that word. Thus, d  
esentations that in principle would be sufficient for differentiating known words from oth  
ic and articulatory relations would be sufficient for all distinctive features of the worl  
ening test was developed that would be suitable for the learners proficiency level. Thr  
prompts included wording that would be suitable for both male and female speakers. This wa  
erb of swinging, which would have been appropriate for the swinging event. It seems unlike  
corpus. This assumption may have been wrong for a few tokens only; thus, a possible lemma  
ertain a grammar that would have been appropriate for a Southern English listener instead

#### [Business Studies]

a holistic approach to markets can be good for corporate profitability. One approach is t  
operate with government policy can be good for corporate profitability. To answer this qu  
ing which specific HR functions may be eligible for outsourcing. It is important to distin  
would also imply that the time may be right for increased merger activity between stock m  
d logistics considerations. It must be appropriate for the organization concerned. Organiz  
lso argued that the program may not be suitable for other developing countries. 8 The numb  
ibuting to societal betterment will be good for business. Scholars offer two complementary  
e probability that an employee will be eligible for health insurance at work. In the UK mo  
vises a patient that exercise would be good for him, he has clearly both stated a fact abo

The concordances above indicate that applied linguists are much more likely to avoid making overt judgments than business researchers are. This difference is also apparent in instances featuring collocations with epistemic semi-modals:

## [Applied Linguistics]

nts and their learning was found to be insufficient for explaining the complexities of tea easy. Because the test is meant to be appropriate for children in Grades 2 through 5, it s good for Europe or the USA had to be good for KwaZulu (p. 22). From Pakistan, Shamim ssage before the passage is said to be suitable for his or her use. When his or her score 5% and 90%, the material is said to be suitable for use in supervised instruction. A Table 1072, 1857) in the study seemed to be adequate for the 3PL MML estimation that usually re weight, though a pass is needed to be eligible for tertiary education. In contrast, the a y, the rates were, however, considered acceptable for the purposes of this study, since th n Hong Kong, and as such is considered suitable for a graduating cohort irrespective of th etters, while e-mail is not considered appropriate for the conveyance of such letters. The own below: (1) The industry was deemed suitable for testing our hypothesis [as it includes el of knowledge, the words were deemed appropriate for this study. The resultant list of v ingle model can be considered entirely appropriate for learners in different academic disc ng text-units in the ICE corpus seemed sufficient for this purpose. In the majority of ca d Spanish. Although the stimuli seemed suitable for older infants it was uncertain whether 7). The plosive characterization seems appropriate for our isiZulu /t̪/ stimuli, which are

Sixteen examples with semi-modals are found in ALC, and include phrases such as *be found to*, *be meant to*, *have to*, *be said to*, *seem to*, *be needed to*, *consider*, *deem* and *seem*, whereas only 4 examples of this collocation are found in BC. Semi-modals express strength of judgment, and here denote the writer's epistemic certainty about the utility of a thing or an action. Particularly, *be said to*, *seem (to)*, *consider* and *deem* express a low degree of confidence on the part of the writer. In other words, applied linguists seem to prefer to take a more careful and measured approach towards the expression of judgment meanings than do researchers in business studies. Martin and Rose (2007, p. 53) point out that modality is "another way of introducing additional voices into a text", and a resource for constructing "a semantic space between yes and no" (cf. Halliday, 1994). That is, modals function as another writer's attitude towards the writer's attitude expressed by the pattern ADJ PREP N: the writer's voice is realized in the use of the pattern. As Afros and Schryer (2009) have pointed out, in other words, language studies (i.e. applied linguistics) may be, as shown here, markedly less assertive than some of its disciplinary neighbours.

By the same token, collocating adverbials with this group in the pattern show that applied linguistics is more likely to add modalizing comments of all kinds than is business studies. Table 8.3 below summarizes these collocating adverbials. As can be seen, adverbials occur more than twice as frequently in ALC than they do in BC:

Order	ALC	Freq.	BC	Freq.
1	more	14	not	5
2	not	12	more	3
3	particularly	5	most	3
4	quite	3	no longer	2
5	most	3	particularly	2
6	entirely	2	especially	2
7	less	2	better	2
8	rhetorically	1	too	1
9	well	1	theoretically	1
10	very	1	less	1
11	so	1	extremely	1
12	developmentally	1	generally	1
13	easily	1	intrinsically	1
14	also	1	best	1
15	certainly	1		
16	eminently	1		
17	just	1		
18	largely	1		
19	necessarily	1		
Total		53		26

Table 8.3. Collocating adverbials

By and large, amplifiers, diminishers, commentative and stance adverbs above highlight how a writer feels about a judgment that she or he has made or is making. The fact that such features are much more strongly associated with ALC allows us to speculate that the subjectivity of the analyst is more foregrounded in applied linguistics than it is in business studies, where there seems to be more of an attempt to present arguments as having a logical inevitability to them. To illustrate, let us also consider the following examples from ALC and BC:

[Applied Linguistics]

- Despite the acknowledgment that no single model can be considered entirely appropriate for learners in different academic disciplines, reasons are given to explain why constituent steps should be investigated in sufficient detail if ESP teachers are to provide a pedagogically meaningful model for second language learners in a particular discipline. (ALC: ESP2006\_14)
- The proposed rating scale may be particularly appropriate for use by EAP learners...(ALC: ESP2006\_21)
- This situation was obviously not ideal for addressing the research question more fully. (ALC: Testing2004\_2)

- Bachman's definition of textual competence may be more suitable for us in this respect: Textual competence includes the knowledge of the conventions for joining utterances together to form a text...(ALC: Corpus2005\_7)

[Business Studies]

- Abraham, Seyyed, and Al-EIg (2001), in an overview of the stock markets in Bahrain, Kuwait, and Saudi Arabia, conclude that the three markets are suitable for international diversification purposes and also can be used to hedge against oil price fluctuations. (BC: Economics2004\_8)
- The Conference champions its promulgated acts as worthy of state adoption based on its conclusion that means-based uniformity is appropriate for this area of private law. (BC: Law2000\_4)
- This period is ideal for an investigation of the steel industry since it traverses monumental changes from the 1970's decade of crises, the 1980's decade of catastrophe, and the 1990's renaissance (Stubbles, 1995). (BC: Strategy2004\_4)
- The Kaiser-Meyer-Olkin (KMO) measure of sample adequacy indicated that the 28-item sample was not adequate for factor analysis (KMO measure = 0.51). (BC: Management2000\_22)

In particular, the examples from BC above indicate that business studies utilizes this group in the description of research target, approach or consequence in a straightforward manner. This is largely because such usefulness is already testified by the previous studies, is indicated by the research data (or specific logical reason), can be extrapolated from a given fact, or is just common knowledge shared in the business discourse community.

In the USEFULNESS group in the pattern ADJ *for* N, collocating (semi-)modals and adverbs express 'human-like', subjective disciplinary meanings, whereas those in business studies seem to presenting a more objective, 'machine-like' view of the world. This may relate to the very different observational foci of each discipline. A lot of applied linguistics research is concerned with psychological states and mental processes, which of course cannot be directly observed, and can thus only be speculated about. Researchers in business studies, in contrast, focus on phenomena that can be externally observed and verified, and are thus more likely to be comfortable about making unambivalent judgments. In addition, the greater preponderance of comment adverbial collocates suggests that applied linguists seem to be more eager to add further evaluative comments on their judgments, thereby indicating their subjectivity, whereas writers in business studies seem to be more inclined to simply present unmoderated arguments based on facts or data. Thus, once again, my analysis suggests that disciplinary differences are inscribed in the collocates of the pattern, as well as in the pattern

itself.

### 8.1.3. Importance

The third semantic group of *judgment* is the IMPORTANCE group. Identifying what the writer regards as important is of course a basic and fundamental requirement of academic argumentation. This semantic group in particular indicates that how research entities, data, approaches are vital, significant, important or even unusual in some respect. This is often expressed by the pattern ADJ *in* N. Adjectives in the IMPORTANCE group in this pattern are summarized as follows:

Order	ALC	Freq.	BC	Freq.
1	significant	67	significant	155
2	important	50	important	124
3	prominent	18	critical	27
4	relevant	18	relevant	16
5	influential	12	instrumental	11
6	crucial	11	crucial	10
7	essential	10	influential	7
8	instrumental	8	essential	6
9	critical	3	prominent	6
10	decisive	2	vital	2
11	vital	1	pivotal	1
Total		200	365	
Prop.		35%	65%	

Table 8.4. The IMPORTANCE group in ADJ *in* N

Table 8.4 above indicates that writers in both disciplines express positive assessments towards their findings, ideas or viewpoints through these adjectives in the pattern. In particular, the adjectives *significant* and *important* frequently occur in both corpora. Since the total frequency of this semantic group is relatively higher in BC than it is in ALC, we can surmise that writers in business studies are more likely to use this particular pattern, rather than other means, to emphasize what they see as the important aspects of their research than are researchers in applied linguistics (e.g. it is obvious when comparing the figures of *significant/important in N* between ALC and BC).

When we examine these patterns in context, further qualitative differences between the two disciplines emerge. In particular, in ALC this pattern tends to be used to assess the broader significance of an analysis or research finding. On the other hand, the data in BC are

more likely to show how specific data, or a specific business activity or field is important or relevant to the particular action or research model under discussion; in other words, importance is more likely to be particularized in business studies. Table 8.5 summarizes the high-frequency nouns / *-ing* clauses in N1 (v-link) ADJ *in* N2/*-ing* of this group.

Order	N1				N2/ <i>-ing</i>			
	ALC	Freq.	BC	Freq.	ALC	Freq.	BC	Freq.
1	effect	11	variables	17	analysis	25	explaining	32
2	factor	7	factors	14	participants	15	model	30
3	condition	7	variable	9	context	7	determining	17
4	type	7	management	8	items	7	models	16
5	interaction	6	internet	7	language	6	decision	9
6	language	5	model	6	case	5	regression	9
7	prime	5	industry	6	research	5	business	9
8	analysis	4	ownership	6	study	5	predicting	8
9	differences	4	organization	4	processing	4	relationships	8
10	study	4	coefficients	4	understanding	4	table	7

Table 8.5. High-frequency nouns and *-ing* clause

A closer study of the nouns occurring in this pattern indicates that applied linguistics and business studies see different things in their research. Applied linguistics regards effect, conditions or differences as being of paramount importance: this discipline attempts to see not easily observable things. Business studies, on the other hand, regards variables, coefficients, or models in statistical figures or approaches as being of particular importance: this discipline attempts to see externally observable things like statistical data.

Different lexical choices in the pattern also indicate differences in research contents and approaches between applied linguistics and business studies. In particular, *-ing* clauses such as *explaining*, *determining*, and *predicting* frequently occur in BC: it seems that in business studies, this pattern is characteristically associated with the research activities of identifying (viz. *determining*), clarifying (e.g. *explaining*) and foreseeing (e.g. *predicting*) data, problems or possible events:

- While firm size has been included in these studies as a direct determinant of debt maturity choices for firms, the interactions of firm size with the other explanatory variables have not been included. We show that these interactions are robustly significant in explaining bank loan maturity choices. Consequently, future research in this area needs to incorporate these firm size dependencies. (BC: Fincance 2005\_57)

- Fewer of the control variables are significant in explaining FREQ compared with OCCUR. NUMEST and LITIGATE cease to be significant in explaining forecast frequency. (BC: Accounting 2005\_10)
- As attribution theory suggests, "controllability" is important in determining causality. If the organization "makes" its employees engage in dishonest acts, the locus of blame will be with the organization. (BC: Society 2003\_9)
- We submit that the resource based view is particularly important in predicting the relationship of strategic planning and performance by stage of development. (BC: Management 2003\_17)

In business studies this pattern typically evaluates how data, methods or situations contribute to the solution of a specific problem or the understanding or prediction of a particular event; business studies tends to particularize the importance of concrete things and specific situations. In applied linguistics, however, this pattern is more typically used to make generalizing statements evaluating the importance of abstract things such as language, people and research findings.

- In line with the results reported earlier by Cutler and Clifton (1984), overall effects of stress typicality were not significant in a group of native English speakers. (ALC: Speech 2003\_1)
- Furthermore, repetition is probably important in enhancing comprehension, because it provides learners with opportunities to process input ... (ALC: LL 2005\_8)
- As pragmatics is a relatively new field in second language research, the contrastive studies that have been conducted for the past 20 years were very important in establishing that native speakers and language learners display differences in their production and comprehension of contextually appropriate speech. (ALC: LL 2006\_11)

Another clear qualitative difference is the type of collocating adverbs found to co-occur with this pattern in each corpus. Table 8.6 below summarizes *-ly* adverbs co-occurring with this group in ADJ *in* N.

Order	ALC	Freq.	BC	Freq.
1	statistically	10	statistically	25
2	particularly	10	especially	9
3	especially	4	particularly	8
4	marginally	3	highly	7
5	equally	3	marginally	2
6	potentially	1	potentially	1
7	extremely	1	extremely	1
8	possibly	1	strategically	1
9	probably	1	theoretically	1
10	absolutely	1	weakly	1
11	critically	1	jointly	1
12	consistently	1	increasingly	1
13			economically	1
14			negatively	1
15			moderately	1
16			robustly	1
Total		37		62

Table 8.6. Co-occurring *-ly* adverbs

Six types of adverbs (27%) commonly occur in both corpora (viz. *especially*, *extremely*, *marginally*, *particularly*, *potentially* and *statistically*). Another 6 types (27%) are biased toward ALC, and the remaining 10 types (46%) appear only in BC. Various types of adverb collocates in BC indicate that writers tend to make more particularistic judgments of the importance of a particular finding or observation than do writers in applied linguistics. Adverbs peculiar to ALC include *possibly* and *probably*, expressing “predictions, suppositions, explanations, and interpretations that have not been clearly proven” (Biber et al., 1999, p. 541, 868). Adverbs peculiar to BC include various amplifiers, diminishers and commentatives such as *highly*, *weakly*, *increasingly*, *strategically*, *theoretically* and others. These adverbs express how a writer evaluates importance by adjusting the scale of intensity or by presenting the writer’s grounds for making such judgments (cf. Martin & Rose, 2007; White, 2004).

In summary, then, the representation of importance revealed that applied linguistics is likely to evaluate abstract things, generalize findings, and avoid assertive judgments, whereas business studies is likely to see concrete things, particularize findings, and state opinions explicitly and assertively.

#### 8.1.4. Certainty

The fourth semantic group of *judgment* is the CERTAINTY group. This group indicates whether

someone/something is certain or uncertain about an idea, a procedure or an action. Table 8.7 below lists adjectives of the CERTAIN group in the pattern ADJ *about* N, with which this meaning is most commonly associated.

Order	ALC	Freq.	BC	Freq.
1	sure	3	uncertain	6
2	unsure	3	ambivalent	3
3	equivocal	1	unsure	2
4	skeptical	1	undecided	1
5	uncertain	1	agnostic	1
6	assertive	1	insistent	1
7	ambivalent	1		
8	certain	1		
9	dubious	1		
10	definitive	1		
Total		14		14
Prop.		50%		50%

Table 8.7. The CERTAINTY group in ADJ *about* N

As can be seen, the most immediately striking finding here is that most adjectives above express uncertainty rather than certainty in both corpora. However, there is one further observation to be made about these data. Specifically, in ALC this pattern is more likely to be used to evaluate current or past phenomena, whereas in BC it is more likely to be used to comment on phenomena presented as occurring in the future:

[Applied linguistics]

- A further possibility however might be that speakers were *unsure* about which primes were correct, grammatically, when associated with the words in different classes, leading to these slightly paradoxical patterns of priming and grammaticality effects. (ALC: Speech2004\_4)
- At an overt level, it appears that the learners are still *uncertain* about assigning gender to nouns, appearing willing to accept errors as possible forms. (ALC: SLA2005\_6)

[Business studies]

- If investors are *uncertain* about future tax rates, they may place less weight on the tax effect of dividends, which would decrease the coefficient on yielded penalty.(BC: Accounting2005\_2)

- In such a circumstance, we will observe an inverse relation between insider trading and payperformance sensitivity but will be unsure about the direction of the causal relation. Our conclusions drawn from the current evidence is subject to the caveat of not considering the endogeneity of insider trading. We believe that the endogenous relation between insider trading and payperformance sensitivity is a topic deserving the attention of future research. (BC: Finance2005\_8)
- With the implosion of the dot-coms, the tragic events of September 11 and the current recession in the U.S., it is likely that private donations will decrease as people become more uncertain about their own economic future. Unfortunately, this will also coincide with increased needs for social services as the economic situation worsens. (BC: Law2003\_2)

## 8.2. Affect

This section presents how differently writers in applied linguistics and business studies express emotions about things through the pattern ADJ PREP N in academic discourse.

Human emotion is interpreted as *affect* in *attitude* of appraisal theory. *Affect* particularly expresses the ways in which writers feel about people, things, activities or situations. Although the standard view of academic discourse is that it carefully avoids appealing to the emotions, my analysis finds that affect is sometimes inscribed in the pattern ADJ PREP N.

In more detail, my analysis finds that *Affect* is expressed by three semantic groups in the pattern ADJ *about* N—OPTIMISM, ENTHUSIASM and NERVOUSNESS.

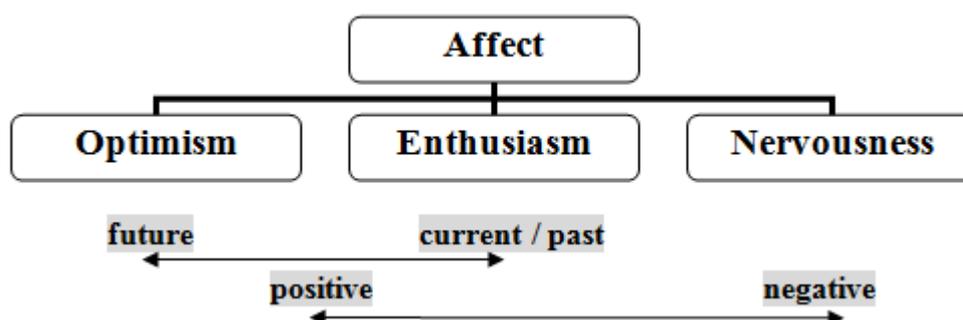


Figure 8.3. Semantic groups of *affect*

As Figure 8.3 shows, the OPTIMISM/ENTHUSIASM groups and the NERVOUSNESS group in my data are distinguished by ‘positive’ or ‘negative’ emotions. The OPTIMISM group and the ENTHUSIASM group are also distinguished by whether the writer’s feelings are ‘future’ or

‘current/past’ oriented. While the number of adjectives in ADJ *about* N is relatively fewer than is the case for other patterns (84 in ALC; 116 in BC; see appendix), most of these adjectives explicitly express evaluations. Martin and Rose (2007, p. 49), for example, use the term *monogloss* (or single voice) for “the source is simply the author”, and the term *heterogloss* for “the source of an attitude is other than the writer”.<sup>39</sup> In case *we* or *I* is the subject of the patterns, they present the writer’s evaluation explicitly. In other cases, the pattern basically reports someone else’s evaluation. Table 8.8 summarizes the proportions of these two types of evaluation in the pattern ADJ *about* N.

	writer’s evaluation ( <i>monogloss</i> )	other’s evaluation ( <i>heterogloss</i> )
ALC	10 (I = 2, we = 8) (12%)	74 (88%)
BC	5 (we = 5) (4%)	111 (96%)

Table 8.8. Proportion between two types of evaluation

As seen in Table 8.8 above, *heterogloss* occurs much more frequently than *monogloss* in both corpora. However, it is also worth noting that *monogloss* is three times as frequent in ALC as it is in BC. In particular, *monogloss* marked by *I* occurs only in ALC.

ALC	BC
<ul style="list-style-type: none"> <li>• I’m not happy about it...</li> <li>• I was not serious about my studies...</li> <li>• We should be cautious about interpreting these data...</li> <li>• We remain optimistic about the contribution of...</li> <li>• We can be more confident about any conclusions if...</li> <li>• We should be happy about the progress made during...</li> <li>• We were also curious about the perceptions that employ...</li> <li>• We cannot say anything positive about the outcome...</li> <li>• We attempt to be explicit about context when appropriate...</li> <li>• We still must be cautious about the exact interpretation...</li> </ul>	<ul style="list-style-type: none"> <li>• We are agnostic about this issue and let the...</li> <li>• We are cautious about this conclusion, however,...</li> <li>• We ought to be cautious about the size dependency of...</li> <li>• We must be clear about what is meant by BGR performance...</li> <li>• We can also be more precious about who the target is for Brand...</li> </ul>

Table 8.9. Examples of *monogloss*

As well as using the explicit first-person attitudinal markers *I* or *we*, writers also express their attitudes through adverbs, modals and even contexts with this pattern. Identifying whether

<sup>39</sup> Since *monogloss* and *heterogloss* are used in *engagement* rather than *attitude* in appraisal, I used these terms here for practical reasons.

*affect* is writer-oriented or other-oriented is important in clarifying the ways in which each discipline treats such an ambiguous phenomenon in people. This is because *monogloss* is the realization of subjective emotion whereas *heterogloss* is the realization of objective observation. This section will thus attempt to identify the proportion of these two types of *affect* as well.

As in the case of *judgment* reviewed in Section 8.1 earlier, I grouped adjectives into each of the three groups based on their meanings. A close analysis of these three semantic groups reveals clear differences in disciplinary attitude in the realization of emotion and in the discourse functions that this pattern has across the two corpora. The next three sub-sections will present these findings in detail.

### 8.2.1. Optimism

The first group of *affect* is the OPTIMISM group. This group indicates whether a writer or some other person feels happy, optimistic or pessimistic about a (possible) situation, a future event, a piece of data, a result, and so on. Compared to other groups within the broad category of *affect*, this group is rather future-oriented: people evaluate a possible thing/situation or predict a future event by identifying something in the present or past that gives grounds for optimism.

Order	ALC	Freq.	BC	Freq.
1	confident	11	optimistic	8
2	positive	4	pleased	4
3	optimistic	2	good	2
4	happy	2	happy	1
5	good	1		
Total		20		15
Prop		57%		43%

Table 8.10. The OPTIMISM group in ADJ *about* N

As Table 8.10 shows, adjectives in the OPTIMISM group occur more frequently in ALC than in BC. In particular, *confident* and *positive* more frequently occur in ALC but *optimistic* and *pleased* are preferred by writers in BC. Concordance analysis of these data suggests that in ALC this pattern is more likely to express the writer's own emotions than it does in BC:

	monogloss	heterogloss
ALC	35%(7)	65%(13)
BC	0%	100%(15)

Table 8.11. Proportion of *monogloss* and *heterogloss*

As further illustration, consider the following expanded examples from the concordance data:

[*confident about*N]

- Classroom discussion revealed that although many students felt more confident about dealing with authentic text, some of the more vocal were still keen to declare that their interests were more in speaking than in the type of technical or academic forms which...(ALC: ESP2006\_19)
- To be more confident about this conclusion, we carried out a combined analysis of Experiments 7 and 8. (ALC: Cognitive2006\_8)
- To be confident about whether there is an effect of global structure repetition on syntactic priming, it is necessary to directly compare the same participants' performance in both the same- and different-structure conditions. (ALC: Cognitive2006\_8)

[*optimistic about*N]

- We remain optimistic about the contribution of neuropsychology to the understanding of semantic structure, (ALC: Cognitive2005\_9)
- But I also hope they will nevertheless be optimistic about the ideas set out for planning at the end of this article. (ALC: TESOL2005\_1)

Writers in applied linguistics tend to express (or make efforts to gain) feelings of confidence about ideas, abilities, solutions, activities, skills and research consequences. This is also manifested in the fact that these LSPs often co-occur with amplifiers (e.g. *quite, increasingly*), a comparative *more* (esp. over 50 %), or other language markers highlighting feelings of optimism (e.g. *remain, hope* and *nevertheless*).

In contrast, writers in business studies tend to take a more cautious stance and express skeptical attitudes, views or expectations. Let us consider the concordances of the LSP *optimistic about* N from BC:

01s the optimistic bias. Analysts may be optimistic about earnings, but if investors use the  
 02t owners who own larger firms are more optimistic about future increased sales, it would n  
 03, and check cashing services were less optimistic about future sales than communications,  
 04h sales over \$250,000 a year were more optimistic about future sales than owners of firms  
 05ations. Sole proprietorships were less optimistic about growth than partnerships and corpo  
 06ver events in their lives and are less optimistic about the future (Dembers & Brooks, 1989  
 07olution mechanisms. (n62) While Peck is optimistic about the role of the United Nations, sh  
 08ncing, where firms that are relatively optimistic about their stock price prospects but co

The concordances above are extracted from the business sub-disciplines of business law, accounting, and management. No examples present a positive situation except line 04. In some cases, writers report cautious or pessimistic attitudes on the part of other people, typically with the comparative adverb *less*. In other cases, writers use this pattern to express their own concern about others' optimistic attitudes, presenting counter examples with the contrastive conjunctions *but* and *while* (cf. Martin & Rose, 2007). To illustrate, let us consider the following expanded versions of lines 01 and 02 above:

- Analysts may be optimistic about earnings, but if investors use the correct discount rate, analyst optimism will not lead to an overstated risk premium, but to an inflated price. Therefore, GM argue that it is difficult to predict how optimism will affect the risk premium because it depends on price in relation to earnings forecasts. Based on these discussions, analyst optimism, if it exists, does not have a clear-cut effect on the equity premium. Moreover, if analyst optimism is higher for high-growth firms, the effect of growth on the equity premium is unclear. (BC: Accounting2005\_2)
- Correlational studies using cross sectional data are limited in their ability to demonstrate causation. For example, while it seems that owners who own larger firms are more optimistic about future increased sales, it would not be appropriate to suggest, based on these results, that smaller firms "just need to get larger" in order to become more optimistic; nor would it be appropriate to suggest ways that owners might change themselves or their firms in order to increase sales. It is impossible to know, with this cross sectional data, whether firms are growth-oriented by choice or by circumstance. (BC: Management2000\_31)

Such cautious attitudes can be interpreted as the realization of the comparative value in business studies. The comparative value, one of three evaluative values (viz. comparative, subjective and social), indicates a situation in which something is compared to the disciplinary, cultural or social norm (Thompson & Hunston, 2000; Labov, 1972). Here, the comparative value is linked to the specific cultural norm peculiar to business studies, namely a cautious attitude towards positive emotions, as discussed above. In other words, it seems

that the default assumption among authors of RAs in business studies is ‘Do not be optimistic about business activities, transactions or performance’. As Thompson and Hunston (2000, p. 8) point out, one of the main uses of evaluative language is to manipulate target readers in order to persuade them “to see things in a particular way” My claim from the current corpus of texts in business studies is that these writers appear to use the OPTIMISM group to promote a cautious and even at times pessimistic stance towards business phenomena.

### 8.2.2. Enthusiasm

The second group expressing *affect* meanings is the ENTHUSIASM group. As the name suggests, this group indicates that someone is (or is not) passionate about something to some degree. This group includes adjectives such as *enthusiastic*, *passionate* and *crazy* in the pattern ADJ *about* N, as shown in Table 8.12 below.

Order	ALC	Freq.	BC	Freq.
1	enthusiastic	6	enthusiastic	4
2			passionate	1
3			crazy	1
Total		6		6
Prop.		50%		50%

Table 8.12. The ENTHUSIASM group in ADJ *about* N

As seen in Table 8.12 above, *enthusiastic* occurs frequently in both corpora. Also, in both corpora patterns in this group are used exclusively to report other people’s enthusiasm; it seems that neither applied linguists nor business studies researchers are keen to express such strong feelings in the context of formal academic journal RAs.

These observations notwithstanding, there are also some interesting differences between the two corpora with regard to this group. Specifically, ENTHUSIASM patterns in ALC tend to report positive emotions, whereas in BC people tend to be reported to be ‘less than enthusiastic’ (a common euphemism in English for ‘not at all keen’), as the following examples illustrate:

[Applied Linguistics]

- Despite the extra demands that the collaborative program makes on them, instructors are enthusiastic about participating in the program because they find that students enrolled in the program are generally more motivated, have a better attitude, and work harder. (ALC: ESP2006\_20)

- Although no proficiency test was administered to either Natalie or Bernd, they had both been studying English for 2 years at a German university prior to taking part in the study, during which time they had to pass a number of exams to be eligible for the study abroad program, and were both extremely enthusiastic about English. (ALC: LL2006\_11)

[Business Studies]

- In his interviews with Asian entrepreneurs in Britain, Ram (1994) claimed that respondents were less than enthusiastic about their business activities and choices within the ethnic enclave. (BC: Management2000\_27)
- And managerial teamwork is something completely unfamiliar to most traditional managers. No wonder that the managerial ranks are often less than completely enthusiastic about undertaking the transition to process. (BC: Strategy2001\_13)

### 8.2.3. Nervousness

The third group within the broad evaluative category of *affect* is the NERVOUSNESS group. This group indicates that someone is anxious or nervous about a (possible) situation, an action or an idea. Unlike the other groups discussed above, this group is likely to express negative emotions in people. This group includes adjectives such as *cautious, worried, apprehensive, anxious, nervous* and others in the pattern ADJ *about* N. Table 8.13 below summarizes the adjectives in this group as they occur in ALC and BC.

Order	ALC	Freq.	BC	Freq.
1	cautious	4	cautious	7
2	worried	4	worried	4
3	apprehensive	3	anxious	2
4	anxious	1	apprehensive	2
5	nervous	1	uncomfortable	1
6	uncomfortable	1	uneasy	1
Total		14	17	
Prop.		45%	55%	

Table 8.13. The NERVOUSNESS group in ADJ *about* N

Adjective types and tokens are similar across the two corpora. However, the proportion of monoglossic and heteroglossic evaluations differs between them, as shown in Table 8.14 below.

	monogloss	heterogloss
ALC	29%(4)	71%(10)
BC	12%(2)	88%(15)

Table 8.14. Proportion of *monogloss* and *heterogloss*

Concordance analysis finds that applied linguists are more likely to express evaluations along this parameter than are researchers in business studies. This finding contrasts interestingly with our previous observations with regard to the OPTIMISM group (section 8.2.1 above), where it was noted that business studies researchers tended to be pessimistic and downbeat in making predictions about the future, while applied linguists were more likely to use OPTIMISM phraseologies to express positive evaluations.

A further distinction revealed by qualitative concordance analysis is between evaluations that focus on material consequences on the one hand, and evaluations that focus on individual psychological consequences on the other. In both ALC and BC writers often employ NERVOUSNESS phraseologies to describe their own or other people's awareness of (and thus desire to avoid) the possible negative consequences of following a particular course of action. In Applied Linguistics, this wariness typically relates to the interpretation of research findings:

[Applied Linguistics]

- Because this lack of a difference is in fact a null effect, we should be cautious about interpreting these data. (ALC: Cognitive2005\_21)
- As this study was not an experimental study manipulating specific task characteristics, we still must be cautious about the exact interpretation of the task effects. (ALC: Testing2005\_1)
- Reflection on the other issues raised in the introduction would make us cautious about generalizing beyond the context of ..... (ALC: ESP2006\_3)

Whereas in Business Studies it invariably relates to corporate decision making processes:

[Business Studies]

- An NIRI survey (2001) conducted after the effective date of Regulation FD, however, suggests that companies are not as apprehensive about information releases following implementation. (BC:Economics2004\_7)

- ...companies face reputational penalties for reducing dividends and are therefore cautious about adjusting dividends. (BC: Management2003\_10)
- Rather than excluding federally preemptive legislation, Calabresi's elevation of the common law as a vehicle to right statutory wrongs simply suggests that Congress might be cautious about using federal preemption as a means of imposing regulatory uniformity. (BC: Law2000\_4)
- This decline made investors anxious about the new strategy, and they pressured management to back off of their seemingly risky direction. (BC: Strategy2002\_6)

However, there are also a number of instances in ALC where the writer focuses on worries and concerns of a more introspective nature, where the potential damage is to the individual psyche rather than the corporate bank balance:

- And the manager reviews it before its sent or faxed. It is therefore not surprising that the tax accountants seem worried about writing the comments. For non-native English speakers, delving outside of the standard format could prove to be a challenging task. (ALC: ESP2006\_7)
- ...free reading significantly and negatively predicts WA and WB. In other words, the more one reads, the less one feels apprehensive about writing (ALC: LL2005\_4)

### 8.3. Appreciation

The last *attitude* expressed by the pattern ADJ PREP N is *appreciation*. *Appreciation* expresses the ways in which people think of someone/something, through adjectives such as *meaningful*, *horrible*, *wonderful*, *deep* and so on. The focus of *appreciation* is either on what White (2004) terms the 'compositional qualities' of people or things, or on 'aesthetically-related reactions' towards them. In other words, *appreciation* evaluations appraise the parts forming an entity or the entity's aesthetic impacts. For instance, appreciations of people usually focus on their knowledge, ability or skills, and assess the extent to which they are *competent*, *knowledgeable* or *skilled* at something. Like *judgment* and *affect*, *appreciation* also operates on a sliding scale of low-to-high intensity (e.g. *good* and *poor*), since it is fundamentally based on comparative values (e.g. 'positive versus negative' or 'good versus bad') as well.

Before moving on to present my findings for this evaluative parameter in detail, I want to summarize here an argument that will be developed and illustrated in the remainder of this section. Unlike *judgment* and *affect*, my claim is that only two semantic groups fit into the

general category of *appreciation* as it occurs in ALC and BC. These semantic groups focus on evaluations of how well people do things or how knowledgeable they are. Accordingly, we will refer to them below as the SKILFULNESS group and the WISDOM group respectively.

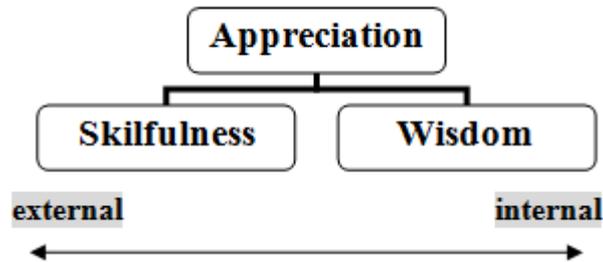


Figure 8.4 Semantic groups of *appreciation*

The following two subsections discuss my findings for the two semantic groups of SKILFULNESS and WISDOM in detail. I will show that both semantic groups clarify how the realization of appreciation differs between applied linguistics and business studies, and identifies a dimension of difference in the research content and the culture between two disciplines.

### 8.3.1. Skilfulness

*Appreciation* expresses the compositional qualities of the evaluated entity or the entity's aesthetic impacts. The SKILFULNESS group is one of the two semantic groups expressing *appreciation*, because specific and competent skills form a part of people, and such qualities deserve to be praised. This group indicates 'whether or not someone or something is good, successful or skilful at something', including adjectives such as *good*, *successful*, *effective*, *skilled* and others in the pattern ADJ *at* N, as can be seen in Table 8.15:

Order	ALC	Freq.	BC	Freq.
1	good	21	good	10
2	successful	13	adept	8
3	effective	4	effective	6
4	skilled	2	successful	5
5	bad	2	skilled	3
6	adept	2	great	1
7	efficient	2	poor	1
8	unsuccessful	1	competent	1
9	excellent	1	bad	1
10	expert	1	expert	1
11	proficient	1	efficient	1
Total		50		38
Prop.		57%		43%

Table 8.15. The SKILFULNESS group in ADJ *at* N

As can be seen, adjectives in the SKILFULNESS group occur more frequently in ALC than in BC. This may suggest that applied linguistics RAs as a disciplinary discourse is a bit more likely than business studies RAs to show *appreciation* towards people and things. Concordance analysis confirms this to be the case, and adds the further observation that applied linguistics is likely to evaluate internal phenomena, whereas business studies tends to evaluate external phenomena. Let us consider some examples of the LSP *good at* N/-ing:

[Applied Linguistics]

- However, this does not mean that the students in this study were equally good at guessing. (ALC: LL2006\_15)
- .....both the NSs and the learners proved equally good at comprehending sentences involving long-distance wh-dependencies; (ALC: SLA2005\_3)

[Business Studies]

- The need to handle customers from many cultures and to compete against companies which are good at cross-cultural marketing has become commonplace in many industries. (BC: Marketing2004\_16)
- The gains will mainly go to firms that were already good at forging close customer relationships. (BC: Marketing2005\_13)

The ALC patterns evaluate the human cognitive abilities such as *guessing* and *comprehending*,

while the BC examples evaluate the extent to which an organization is able to carry out important (and potentially profit-making) functions such as *cross-cultural marketing* and *forging close customer relationships*. Thus, in my corpora, applied linguists may attempt to see and evaluate intangible psychological skills, whereas business studies may tend to evaluate business activities that have a clear external manifestation. This finding is also associated with what I am calling the ‘animacy’ of the research target: in applied linguistics, human entities such as *students*, *learners* and *listeners* are targeted, whereas in business studies, inanimate entities such as *technologies*, *companies* and *firms* form the principal focus of analysis for the researcher.

Another finding in this group is that applied linguists seem to be more likely to use this pattern to generalize people’s skills, whereas writers in business studies are more likely to use them to particularize. This aspect is manifested most clearly in observed differences in the collocating adverbs that occur with these patterns across the two corpora. As one of the distinctive features— ‘*gradability*’— of *attitude*, adverbs often indicate how strongly we judge, feel about or appreciate someone or something (Martin & Rose, 2007). For instance, adverbs of low intensity (e.g. downtoners) such as *equally* (10), *less* (3) and *probably* (2) co-occur with SKILFULNESS patterns in ALC, whereas those of high intensity (e.g. boosters) such as *more* (8), *very* (3) and *particularly* (2) appear more frequently in BC. While these adverbs indicate the scale of intensity (i.e. how skilful the entity is at something), they also show differences in the kinds of things that are *appreciated* in the two disciplines. In particular, applied linguistics evaluates abilities or skills in groups of people (e.g. *students*, *participants*, *listeners*), whereas business studies focuses more on the superiority of groups of institutions, a performance, or an operation (e.g. *industries*, *government program*, *company*). Let us consider the following concordances with *equally* from ALC and with *more*, *quite*, *so* and *very* from BC. (N.B. The following concordances with *equally* imply how things are generalized in applied linguistics, whereas the concordances with *more*, *quite*, *so* and *very* express how things are particularized in business studies.)

### [Applied Linguistics]

he students in this study were equally good at guessing. On the contrary, their abilities s in the three conditions were equally successful at recognizing the forms on a word-recog owledge, all participants were equally skilled at making relatively difficult metalinguist he NSs and the learners proved equally good at comprehending sentences involving long-dist e NSs and the L2 learners were equally good at comprehending the experimental sentences, t rs (squares and diamonds) were equally good at distinguishing both pairs of vowels for thi hows that these listeners were equally good at distinguishing the high vowels / i:y / as t e 9a shows that listeners were equally good at distinguishing back as front vowels for [ h ne can see that listeners were equally good at distinguishing the front vowels / Y / and / ggesting that the voice key is equally efficient at picking up both types of consonant. In

### [Business Studies]

d (1998) that markets have become more efficient at processing information making returns perience and involvement, be both more adept at picking good deals and more effective at i e adept at picking good deals and more effective at implementing the changes necessary to emotions and manage them will be more adept at the second aspect of 'rallying the troops. d in one or two industries may be more successful at creating limited because of their a kely that government programs are more effective at assisting small firms with compliance at Royal Dutch/Shell, the firm is more adept at identifying new business designs or opport target firm managers have become more skilled at extracting higher prices for their firms t social norms management may be quite successful at positively influencing the decisions ct, these combination therapies are so effective at reducing the HIV count in the bloodstr the main reasons why the company is so good at innovation in P4—once a company masters the apply. The deer industry has been very bad at either under supplying or over supplying the hey [a collaborating partner] are very good at lobbying. . . . To tell you the truth, we egies. For example, Amazon.com is very competent at all activities involving differentiati

Most of the patterns in the concordance lines above are followed by an *-ing* clause: this shows that actions rather than entities are being evaluated in both disciplines. However, there are differences between two disciplines in the things observed (*viz.* internal versus external phenomenon), and also in the degree of specificity involved in the evaluation (*i.e.* 'generalizing' in applied linguistics and 'particularizing' in business studies, as discussed earlier). The target observed in ALC is, in most cases, not an individual one but a certain number of samples representative of the parent population. That is, applied linguists may be less likely to use this particular evaluative pattern to comment on one or a couple of persons as its research target. Rather, they are more likely to investigate (or be fundamentally concerned with) groups of people. Such groups (*e.g. L2 learners*) are still samples of the parent population and selected for research purposes. On the other hand, business studies is much more likely to focus on specific instances of competition among rivals, and tends to keep a strong focus on the particularities of specific institutions and problems. In other words,

it seems that researchers in business studies do not work with the same ‘sample-of-population’ assumptions that are so common in (some branches of) applied linguistics and the social sciences more generally. It may be the case that they prefer to see individual companies (or even small groups of companies) as case studies rather than as representative samples of the population of businesses in any given economy in general.

### 8.3.2. Wisdom

We now turn to the other group of *appreciation* meanings, the WISDOM group. As discussed earlier, this group indicates how knowledgeable, smart or sophisticated someone is concerning something. In particular, this group is expressed by the adjective *knowledgeable* in ADJ *about* N, namely the LSP *knowledgeable about* N. Interestingly, this group occurs only in BC (i.e. 0 in ALC; 11 in BC). The qualitative finding for this group is that business studies is likely to use this phraseology to particularize the specific ability of a person or group of people.

To illustrate this, consider the following expanded concordance lines from the BC data:

- Wang and Dewhirst (1992) found that outside directors are very committed to representing various stakeholders, beyond just the stockholders. As a result they tend to be sensitive to environmental issues, women and minorities, and employees. They are also more likely to be knowledgeable about issues facing the firm and comply with legal requirements in order to avoid penalties and negative public relations (BC: Strategy2005\_3)
- 96 percent of corporate tax directors ... stated their CEO was not very knowledgeable about [tax] issues reflected in the corporate tax return (BC: Management2004\_5)
- However, a firm may be able to minimize these costs by placing a subsidiary manager who is: (1) knowledgeable about corporate quality expectations (BC: Management2005\_3)
- Customers who have banked with CCB for less than one year are more knowledgeable about loans than those who have been with the bank for more than one year. (BC: Marketing2004\_7)
- It's a studied, thoughtful book by an author who is equally knowledgeable about both past and present trends in business. (BC: Strategy2002\_32)

As can be seen, this LSP evaluates the capability and knowledge of executives such as CEOs, directors or managers in most cases. However, it is also used to identify the characteristics of customers and to offer positive evaluations of the knowledge of the authors of particular

books and articles that are being cited or discussed, or which are in some other way relevant to the concerns of the authors of the RAs in the corpus. In other words, writers in business studies typically use this phraseology to praise people who have specific knowledge relevant to business activities. There are exceptions to this, however; in the second example above, for instance, the writer indicates people who lack competence in the specific field in question. It is also worth noting that, once again, these examples present the parameter of ‘particularizing’ that – as argued in the previous section – seems to be peculiar to business studies; each of the examples above is entirely typical in that it highlights and targets a specific quality (esp. ability) of a particular institution, person or group of people.

#### 8.4. Summary

This section has revealed a substantial number and variety of qualitative differences in the way in which the evaluative parameter of *attitude* is employed in ALC and BC as corpora representing the academic disciplines of applied linguistics and business studies respectively. My argument is that the disciplinary parameters extracted from *attitude* form an important part of what each discipline is like. Table 8.16 below summarizes these parameters. Once again, it is important to stress that these parameters are based on the semantic groups of several CPs and LSPs of the pattern ADJ PREP N, and that it would thus be dangerous to make broader generalizations beyond them. However, this caveat does not undermine the key point that the foregoing analysis has identified these parameters as ‘facts’ residing within the academic discourses of applied linguistics and business studies respectively.

ALC	BC	Semantic Groups	Attitude Type
+neutral (-biased view)	+critical (+alternative view)	BIAS	Judgment
+human-like (+subjective)	+machine-like (+objective)	USEFULNESS	
+commentative	+concise	USEFULNESS	
+hedged (+unconfident)	+assertive (+confident)	USEFULNESS/IMPORTANCE	
+generalizing	+particularizing	IMPORTANCE	
+abstract target	+concrete target	IMPORTANCE	
+current target	+future target	CERTAINTY	
+optimistic (+subjective)	+cautious (+objective)	OPTIMISM/ENTHUSIASM	Affect
+emotion generated (+focus)	+emotion reported (-focus)	NERVOUSNESS	Appreciation
+generalizing	+particularizing	SKILFULNESS/WISDOM	
+internal	+external	SKILFULNESS	

Table 8.16. Disciplinary parameters in *attitude*

Overall, my findings suggest that applied linguists tend to use this pattern to express more humanistic kinds of evaluative meanings than business studies writers do. This may in large part be attributable to the fact that many researchers in this discipline are involved with research that focuses on education. In contrast, business studies writers seems to use this phraseology to express less humanistic and more ‘machine-like’ meanings, suggesting that this discipline focuses on the conduct of hard-headed survival games in the business scene, and is thus less concerned with the psychological, social or other impacts of such activities on human individuals and groups. Of course, it is also entirely possible that such differences between the two disciplines may simply be due to my particular choices of sub-disciplines or journals for my corpora. It is beyond the scope of this thesis to establish whether this is the case or not, however.

But if it is the case that emotions in this pattern are more overtly expressed and rather foregrounded in applied linguistics, and typically backgrounded or even avoided altogether in business studies, the question then arises as to what this difference might tell us about the cultural norms of each discipline. My own interpretation is as follows: applied linguists observe their objects of analysis in a humanistic way because they are fundamentally concerned with making non-material contributions to other people’s lives: developing learners’ learning, assisting in the solution of teachers’ problems, or creating effective materials. Business writers, by contrast, observe their objects of analysis more coolly and dispassionately because they are fundamentally concerned with forms of material exploitation: gaining maximum material benefits from a situation, attempting to avoid losses as much as possible, or extracting the best possible performance from employees. Thus, the “cold and calculating” cliché about business does seem to be borne out by the data analysis reported in this chapter.

The next Chapter deals with the other significant function expressed by the pattern ADJ PREP N, namely the second theme *relation*. It particularly discusses phraseological patterns that link people, entities or abstract things in the two academic discourses represented by my two corpora, and explains how and why applied linguistics and business studies are qualitatively distinguished through such relation meanings.

## CHAPTER 9. The second theme: Relation

The taxonomy of *attitude* meanings provided by Appraisal theory proved to be an elegant and powerful way of classifying most of the meanings expressed by the ADJ PREP N patterns occurring in the data extracted from my two corpora. However, my qualitative analysis also identified phraseologies which could not easily be classified within this framework, and it is to an analysis of these additional data that we now turn in this chapter.

Specifically, my qualitative concordance analysis found that, as well as evaluating phenomena, ADJ PREP N patterns in ALC and BC are also used to describe various kinds of relationship between phenomena. This chapter presents how these relations between things are construed through the pattern ADJ PREP N, and how these patterns (and the meanings that they make) differ across the two corpora. The following analysis will divide relations into two main kinds identified in the data, namely *connection* and *attribute* (Figure 9.1).

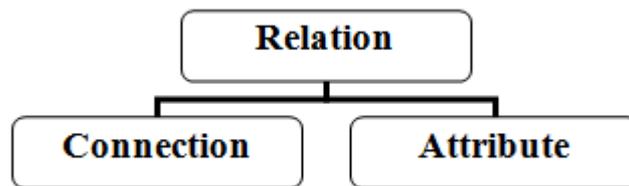


Figure 9.1. Two relations expressed by the pattern ADJ PREP N

A taxonomic hierarchy of any group of entities is structured by comparing whether one entity is superordinate, subordinate or coordinate to another. In other words, a relation between entities is basically ‘horizontal or vertical’ or ‘linear or top-down/bottom-up’. In the following analysis, I will describe the horizontal relation between entities as ‘connection’, and the vertical relation as ‘attribute’. These labels are essentially empirical and corpus-driven, in that they largely conform to (and are thus suggested by) the meanings of relations expressed by the patterns ADJ PREP N as they occur in my data.

The procedure upon which the following analysis is based is essentially the same as that followed for the *attitude* analysis conducted in the previous chapter. Specifically, I began by identifying which adjectives occurred in each prepositional type of the pattern ADJ PREP N expressing a *relation* meaning. Then, the most frequent adjectives in each pattern were selected and categorized into several semantic groups based on my concordance-informed

interpretation. Finally, these semantic groups were allocated to their appropriate *relation* subtype, namely *connection* or *attribute*.

The first kind of *relation, connection*, includes meaning groups that I have termed SIMILARITY, ASSOCIATION, DEPENDENCY, DISTANCE, DETECTABILITY, AFFECTEDNESS and INVOLVEMENT. The second kind of relation, *attribute*, includes phraseologies expressing what I will call ABILITY, RESPONSIBILITY, INHERENCE, UNIQUENESS, REPRESENTATIVENESS and BASIS. Based on these semantic groups in each relation, the following discussion will present the most interesting aspects of my qualitative analysis. Once again, the aim will be to show a part of how these data distinguish between research contents and the research cultures of applied linguistics and business studies.

### 9.1. Relation 1: Connection

This section deals with the first subtype of *relation: connection*. As might be expected, the *connection* between things indicates that ‘something is connected to something else in various ways’. However, on closer analysis a number of further and finer-grained distinctions can be added to this simple formula. Specifically, my analysis found seven semantic groups that can be designated as forms of *connection*, presenting linear rather than vertical relations between things. These are seven groups shown in Figure 9.2 below.

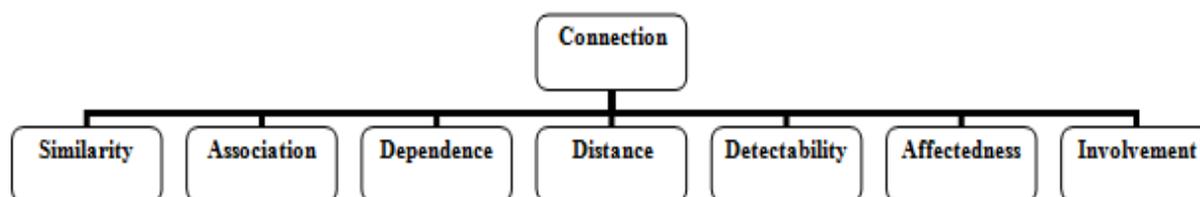


Figure 9.2. Hierarchy of *connection*

Most semantic groups in *connection* express relations between entities with regard to their similarities, differences, (ir)relevance and so on, by comparing particular features in these entities. This is because contrasts are crucial for both constructing and classifying taxonomies in which “one class of phenomenon is distinguished from another” (Martin & Rose, 2007, p. 87), and also an important resource for clarifying connections in which one class of phenomenon is ‘relevant’ to another. On the other hand, the INVOLVEMENT group especially

indicates the existence of a relation between people and entities, activities, or situations; that is, they describe ‘how people are involved in a specific activity’ or ‘how people see a thing in a particular way’.

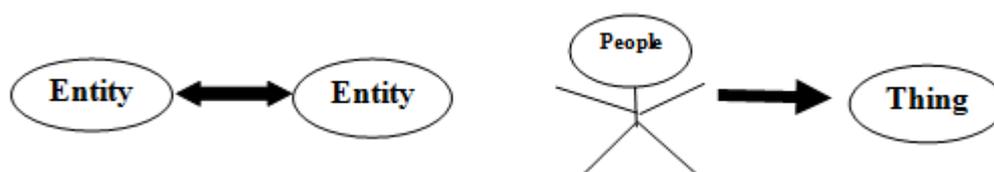


Figure 9.3. The two types of *connection*

I will argue that the *connection* expressed by the patterns discussed below is important in identifying both the research contents and the research culture peculiar to each discipline. Through various kinds of relations in *connection*, I found several features that clearly distinguish the two disciplines from each other. Patterns in ALC focus on theoretical objects such as linguistic features and language interpreting processes, whereas patterns in BC describe empirical objects (e.g. statistical figures), business strategies or interactive relations. In addition, applied linguistics is likely to see associations between particular sets of research, whereas business studies is more likely to describe consistency between studies in more general terms. Moreover, applied linguistics is likely to avoid making strong assertions about relations between things, whereas business studies is much more likely to particularize relations and to state much more clearly that such relations do actually exist. Finally, I will argue that business studies writers use *connection* phraseologies to implicitly present and promote a set of cultural values in which ‘independence is freedom’ (i.e. a good thing) but ‘dependence is restriction’ (i.e. a bad thing). In the subsequent sub-sections, I will present and illustrate these findings in detail.

### 9.1.1. Similarity

The first type of *connection* is SIMILARITY, indicating how similarly (or dissimilarly) two or more entities are related. (N.B. This group includes various types of similarity in my sense of this word, such as contrast, equality, inferiority and so on). It is, however, unclear what sort of (dis)similarity is prioritized in each discipline. This section thus attempts to reveal how applied linguistics and business studies differ in representing (dis)similarities between

entities.

This group is especially strongly associated with adjectives in the pattern ADJ *to* N. In this group, the difference in adjectives is the difference in the degree of similarity between entities. For instance, an equal association (i.e. completely-analogous relation) is expressed by *equal to* N. Table 9.1 below summarizes the adjectives of the SIMILARITY group in ADJ *to* N in both corpora.

Order	ALC	Freq.	BC	Freq.
1	related	601	related	1283
2	similar	449	similar	443
3	opposed	146	equal	201
4	identical	96	contrary	122
5	contrary	65	opposed	115
6	equivalent	54	identical	50
7	unrelated	42	equivalent	49
8	comparable	40	unrelated	44
9	equal	36	comparable	40
10	analogous	22	analogous	22
11	parallel	14	akin	20
12	dissimilar	11	proportional	15
13	akin	5	different	7
14	proportional	4	dissimilar	5
15	different	4	inferior	5
16	inferior	2	antithetical	4
17	disproportionate	1	parallel	4
18	allied	1	proportionate	3
19			disproportionate	1
Total		1593		2433
Prop.		40%		60%

Table 9.1. The SIMILARITY group in ADJ *to* N

The SIMILARITY group occurs more frequently in BC than it does in ALC, largely because in business studies this pattern seems to prioritize statistical relations between entities more than it does in applied linguistics, and also because such statistical arguments account for a larger proportion of business discussions.

As expected, the entities in the *relation* phraseology itself reflect the particular interests and concerns of each discipline. Table 9.2 below lists high-frequency entities with this group in the pattern ADJ *to* N.<sup>40</sup>

<sup>40</sup> The entity targeted in the relation occurs at N1 position of N1 v-link ADJ *to* N2. N2 noun is thus information describing what N1 noun is/is like.

Order	ALC	Freq.	BC	Freq.
1	procedure	48	results	82
2	words	45	earnings	50
3	word	35	firm	46
4	learning	28	variable	44
5	test	24	variables	39
6	language	23	size	36
7	task	23	issues	36
8	results	23	factors	34
9	items	19	returns	30
10	English	18	market	30

Table 9.2. The entities targeted in the SIMILARITY group in ADJ *to* N

Similar observations can be made about the adverbs found to collocate with the pattern ADJ *to* N. These are given in Table 9.3 below: .

Order	ALC	Freq.	BC	Freq.
1	phonologically	24	positively	251
2	semantically	18	negatively	173
3	closely	16	significantly	69
4	directly	15	inversely	42
5	positively	11	directly	36
6	significantly	11	qualitatively	33
7	strongly	11	closely	30
8	morphologically	7	strongly	13
9	completely	6	generally	11
10	orthographically	6	statistically	7

Table 9.3. High-frequency *-ly* adverbs with the SIMILARITY group in ADJ *to* N

The adverbs peculiar to ALC are associated with language description and emphasize resemblances in terms of language features: *phonologically*, *semantically*, *morphologically*, *orthographically*, *phonetically* (not in the list above) and *structurally* (not in the list above). On the other hand, the adverbs peculiar to BC describe forms of statistical correlation, such as *positively*, *negatively*, *inversely*, *significantly* and *statistically*. In other words, applied linguistics discourse is likely to use this phraseology to relate organic but ambiguous things—more internally observable things, whereas in the discourse of business studies it is more likely to identify inorganic but scientific relations— that is, externally observable things. The prototypical example in this regard is the LSP *equal to* N, which expresses an ‘equal’ relation between entities. Consider the following concordance data:

[Applied Linguistics]

On the basis of one high school year being equal to one college semester. Of these, only one language was still limited and was never equal to Serbo-Croatian (it was excluded from the ARGUE group in present tense is roughly equal to that of FIND/SHOW verbs in past tense. There were 7 indicated a level of proficiency equal to the corresponding skill in Dutch and 1 indicated as a v2 with degrees of freedom equal to the difference between the degrees of freedom to be reduced or increased in order to be equal to the observed duration. Rather than describing the surface structure is equal to the underlying structure, namely /p0nt/. The first two and the last three syllables are equal to their syllable durations, while the third half of those pairs of consonant types is equal to or less than 3. Broselow and Finckelstein, this path coefficient (.657) was equal to half of the mean differences in length if their scores were greater than or equal to 550, or 56 and above on the scale as their total assessment scores are equal to or exceed the established standard.

[Business Studies]

For less than the 0.005 fractile are set equal to the 0.995 and the 0.005 fractile values, information variable have valuation errors equal to 0.093 and 0.022 for the yearly and pooled analyses or equal to . < 5y, 5y less than or equal to . <10y, 10y less than or equal to . < 20y, 20y less than or equal to . less than or equal to 30%. The 30% cutoff divides the sample into two groups: 18 (11) where (12) and (13) The distribution of the yield curve: 3m less than or equal to . < 1y, 1y less than or equal to . < 5y, 5y less than or equal to . <10y, 10y less than or equal to . < 20y, 20y less than or equal to . less than or equal to 0.24 We repeated all tests with different constructs were moderate (all under or equal to 0.5), confirming the measures are distinct and 2) organizations with less than or equal to 3.5 million in current annual income. Value and probability (X2, sub 27 < c) is approximately equal to 26.51. At a significance level of .95, we find that for the yearly and pooled analyses are equal to 0.57 and 0.55 with t-statistics of 17.93 and 18.56 respectively for the real model. The values are equal to 0.58 and 0.56 for the yearly and pooled analyses.

As can be seen, the equal relation in ALC can be used to express precise statistical correspondences (e.g. “this path coefficient (.657) was equal to half of the mean differences”) or to express correspondences of a less precise nature (e.g. “one high school year being equal to one college semester”). In BC, however, only the former meaning is ever made; that is, this phraseology is only used to express relations of a strictly statistical nature. Table 9.4 below summarizes the exact proportions of numerical descriptions in the LSP *equal to N* in both corpora.

ALC	Numerical (72%)	Non-numerical (28%)
BC	Numerical (100%)	

Table 9.4. Ratio of contextual situation in *equal to N*

In summary, these findings suggest that applied linguists employ a wider and much more eclectic approach to identifying equal relations between phenomena than is the case in business studies, where a very strictly empirical and statistical approach is adhered to.

### 9.1.2. Association

The next form of *connection* to be discussed here is *association*. The ASSOCIATION group describes something as (un)connected to another thing in various ways, for example relationally, spatially and temporally (e.g. *simultaneous* and *concurrent* often indicate the temporal association between two events). This group includes adjectives such as *consistent*, *associated*, *inconsistent*, and *congruent* in the pattern ADJ *with* N. Table 9.5 below summarizes adjectives in this group in the pattern ADJ *with* N.

Order	ALC	Freq.	BC	Freq.
1	associated	577	consistent	1307
2	consistent	362	associated	1212
3	compatible	92	inconsistent	80
4	inconsistent	31	compatible	29
5	congruent	29	aligned	20
6	connected	17	congruent	14
7	aligned	15	connected	14
8	incompatible	13	affiliated	14
9	interspersed	8	synonymous	11
10	affiliated	7	commensurate	7
11	synonymous	6	comparable	7
12	level	6	consonant	6
13	parallel	4	level	5
14	consonant	4	incompatible	3
15	comparable	4	competitive	3
16	commensurate	3	identical	3
17	interchangeable	3	parallel	2
18	concurrent	3	interspersed	2
19	simultaneous	1	concurrent	1
20	cognate	1		
21	unconnected	1		
22	continuous	1		
23	identical	1		
24	concomitant	1		
25	coterminous	1		
Total		1191		2740
Prop.		30%		70%

Table 9.5. The ASSOCIATION group in ADJ *with* N

The proportions for this group are substantially higher for BC than for ALC. This suggests that presenting associations between things is more important in BC than it is in ALC. However, it is also clear from the lists of adjective types in Table 9.5 that relations of association are more various in ALC than they seem to be in BC. While two adjectives – *associated* and *consistent* – account for the largest proportion of the total in both corpora, their behaviours are differently realized in each disciplinary discourse. The adjective *associated* expresses connections in statistics, in research contents and in negativity, whereas the adjective *consistent* indicates consistency in the ongoing research or with the past studies. This being the case, the following discussion will present the two adjectives in the pattern ADJ *with* N separately, in order to reveal the characteristic differences within this group. The similar findings in this LSP are, however, seen in other LSPs as well.

In the LSP *associated with* N, statistical and non-statistical associations between linguistic phenomena are described in ALC, whereas statistical associations are much more the norm in BC. Table 9.6 summarizes the high-frequency *-ly* adverbs with this group in the pattern ADJ *with* N.

Order	ALC	Freq.	BC	Freq.
1	significantly	10	positively	104
2	closely	7	negatively	52
3	strongly	6	significantly	43
4	broadly	5	generally	25
5	semantically	5	strongly	18
6	typically	4	closely	15
7	clearly	3	largely	12
8	highly	3	broadly	8
9	largely	3	usually	5
10	commonly	3	commonly	5

Table 9.6. High-frequency *-ly* adverbs with the ASSOCIATION group in ADJ *with* N

Like the SIMILARITY group, adverbs in BC are primarily statistical ones (e.g. *positively*, *negatively*). Indeed, such adverbs always co-occur with the LSP *associated with* N (almost, 100%). Let us consider the concordances *positively/negatively* + *associated with* N from BC.

## [Business Studies]

prompt payment discount are positively associated with: (i) seller firm size, (ii) being a major player. We find that dividends are positively associated with future abnormal earnings in the absence of, e biased, and dividends are positively associated with analyst oneyearahead earnings forecast errors. Analysts' forecast errors are positively associated with the volatility of historical earnings (STDEV). The frequency of such forecasts are positively associated with the percentage of firms that use derivatives. See Shleifer and Vishny [1999]. Customers who are local are positively associated with both rationales. The coefficient for proportion of firms' growth options are positively associated with voluntary disclosure of prospective information. Firms' technology portfolio are positively associated with analysts' forecast error. The innovativeness variables were not found to be positively associated with accreditation status in either model: mean sales values of INSIDE will be positively associated with the number of companies that use derivatives.

prompt payment discounts are negatively associated with: (i) dealing mainly with endusers, and (ii) to note, the average gains are negatively associated with the dollar value per index point. As the filter rule suggests, modified opinions are negatively associated with firm profitability (ROA). The relationship shows that returns are negatively associated with past returns and positively associated with loss of loss firms (LOSS), but negatively associated with firm size (MV). The coefficients on these firm variables are all lower than 0.01, and is negatively associated with the interaction terms formed between RET and other support variables and is negatively associated with the shared fate and the public relations ratio. In contrast, the IOS is negatively associated with firm size (Morck, Shleifer and Vishny, 1988). The presence of outside board members is negatively associated with acquisition performance in the absence of CEO. Whether board monitoring is negatively associated with income-decreasing earnings management when pre-

This LSP also expresses the statistical relation irrespective of disciplines with *variable, variance, value, coefficient* and so on. Let us consider the sample concordances *variances + associated with N* from ALC and *coefficient(s) + association with N* from BC:

## [Applied Linguistics]

in addition to the systematic variance associated with the ability we wish to measure (Bachman, 1996), in order to account for the variance associated with these variables. In the analysis by items we found that at least 16% of the variance associated with the effect. The interaction of treatment group score and Analytical score variances associated with the TOEFL Total score, and GRE General Test Verbal score and Analytical score variances associated with TOEFL Total scores for ESL speakers (Lawrence, 1996). The two line graphs in GRE General Test score variances associated with TOEFL scores: The analyses of variance based on GRE General Test score variances associated with TOEFL scores for ESL speakers (Trend in Variance in GRE General Test Verbal score variances associated with TOEFL Total scores for ESL speakers Figure 12). The GRE General Test Verbal score variances associated with TOEFL Reading scores for ESL speakers (168 Per-

## [Business Studies]

magnitude of the estimated coefficient associated with the CHALLENGE event. The market power hypothesis was supported in 1983. The estimated coefficient associated with this event is -0.0503, which is significant at the 5% level. The estimated coefficient associated with this event is 0.0127, which is significant at the 5% level. The estimated coefficient associated with the event REJECTION is -0.0503, which is significant at the 5% level. The estimated coefficient associated with the event CALL-OFF is significantly positive at the 5% level. The estimated coefficient associated with the event REJECTION is significantly negative at the 5% level. The insignificant coefficient associated with the mediumsize volume variable indicates that the relationship is not significant. The t-value on the coefficient associated with ACEFF is -2.72 which denotes significance at the 5% level. The estimated coefficients associated with the next two events, BLOCK and OPPOSITION, are not significant. The signs of the coefficients associated with MERGER1, CALL-OFF, and TRUST events are positive, and the signs of the coefficients associated with CHALLENGE, MERGER2, BLOCK, OPPOSITION, and RE-

In addition, this LSP strongly occurs with the particular research contents peculiar to each discipline (e.g. *semantic prosody*, (*acquisition/biological*) *process*, *gestures*, *meaning* in ALC, *benefits* and *cost(s)* in BC). Let us consider the sample concordances with *semantic prosody* and *meaning* from ALC and with *benefits* and *cost(s)* from BC:

[Applied Linguistics]

semantic preference and semantic prosody associated with SARS provide a good example of a phenomenon that is the chosen semantic prosody associated with Hong Kong. The function of Hong Kong, therefore overwhelmingly negative semantic prosody associated with this structure; using BNCweb, the instructors used when analysing the semantic prosody associated with health, and of other items later in the study can be said that the semantic prosody associated with these instances in this SARS corpus is similar to the semantic prosody associated with the lexical item with hospital as its core. It is possible to describe the semantic prosody associated with all of the lexical items which confirms Sinclair's idea that the conventional meaning associated with a term is represented as a range of values around the core meaning. The encyclopaedic meaning associated with the concepts boy and sweets is so strong that it is found to have an aspect of its meaning associated with bad professional practice. Malpractice similar to itself but also from pragmatic meaning associated with the sentence frame. In sentences like (iv), the semantic prosody structure, the pragmatic meaning associated with the sentence frame, and the conceptual information, where X is the core semantic meaning associated with the root. For example, in the form [askata], the feature representations of the meaning associated with a given lemma rather than a lemma node). Idea

[Business Studies]

relationships. While there are benefits associated with isolating causal effects in an experimental, information and communication benefits associated with participative management (Miller & Monge, 1988). Second, do contingent benefits associated with good employee relations derive from contexts of productivity. Research examining benefits associated with specific stakeholders is less likely to encourage organizations and the possible benefits associated with one group of stakeholders. More specifically, and sensual and psychological benefits associated with the services that emanate from things. These are operational and strategic benefits associated with a higher proportion of insiders on corporate control for the potential tax benefits associated with COCOs by including MTAX in the model. MTAX is a higher unit pollution abatement cost associated with small firms. They suggest that compliance is a failure by the audit committee. The cost associated with establishing preemptive internal controls to experiments is often considered the cost associated with the ability to strictly control for the variability. The legal and administrative costs associated with adopting the new rules average \$1 million per firm. Ownership mitigates the agency costs associated with increased global operations. Another possible cost is the sales expenses or holding costs associated with the property in the interval between sales, is 70 percent (Naumman, 1992). The costs associated with expatriate failure are astounding, often reaching (including error) costs and the costs associated with the creation of poor incentives for individual agents can significantly reduce the costs associated with customer billing. Currently, it costs SBC more

Negative entities also often co-occur with this LSP, as illustrated by the sample concordances featuring *problems*, *difficulty(-ies)* and *error(s)* in ALC and *loss*, *risk* and *uncertainty* in BC.

## [Applied Linguistics]

the treatment tasks to avoid problems associated with the use of identical treatment and testing materials illustrates how the learnability problems associated with nontransparent gender marking can be alleviated. There is a greater chance that problems associated with reliability may creep in to the marking system. The theory inevitably faces the problems associated with researching what learners do with input (as demonstrated by the attempt to resolve some of the problems associated with constructing the items). Item effects, however, the experimental approach overcomes some of the problems associated with the other methods discussed earlier. On the other hand, the data presented with examples that the problems associated with learning in an additional language have been

study reported a host of difficulties associated with learning in an additional language. One study (Larsen, 2004) discussed some of the difficulties associated with this particular proposal. Since these papers, research has been identifying a processing difficulty associated with the target grammar item and then providing learners with practice items suggest that processing difficulty associated with object-extracted RCs is moderated or eliminated. This earlier claim about the difficulty associated with learning L1 allophones. In his study, utterances

The third major category of error associated with inter-clausal uses of signalling nouns is to include the item pool to reduce the level of error associated with scores generated from the CATSS assessment. Through the inspection for random error associated with interactions of particular judges with particular signalling nouns, only 27% have errors associated with them, while the lowest grade of student in the study is the same, based on standard errors associated with their measure values. In some cases, these mo-

## [Business Studies]

dition of 97.04%) of the efficiency loss associated with perfect measurement. The relationship between a consumer's perception of the value of the loss associated with the environmental threats (inability to hire workers) is highly dissipated. There is a welfare loss associated with the absence of a trade because the market is not efficient. Deaths, injuries, and economic losses associated with motor vehicles and vehicle equipments. In 1970s, insurers were shifting the risk of losses associated with terrorism to property owners through the with-  
drawal of these losses and potential losses associated with future attacks in a number of different man-

ner. The proportion of non-diversifiable risk associated with stocks is higher on Mondays than other weekdays. An additional element of (downside) risk associated with the highly complex reimbursement schemes and plans.<sup>120</sup> In light of the admitted risks associated with nonprofit organizations engaging in Entrepreneurship, it is important to consider the potential benefits and risks associated with different strategic options. The Internet can be used by contractors that bear most of the risks associated with uncertain market conditions (Harrison, 1997; Harrison, 1997). It is possible to predict and, thus, quantify the risks associated with terrorism, including the likelihood and locat-

ion of technological and market uncertainties associated with these innovations. Radical innovations confront consumers and can potentially reduce uncertainties associated with the overseas assignment, thereby reducing cultural differences. The Internet reduces the difficulty and uncertainty associated with litigation and that also fairly compensates them. It is given the relatively high uncertainty associated with the recovery of future benefits it is best not to invest. Differences in the levels of uncertainty associated with distinct environmental components. Their measurement is designed to reduce the uncertainty associated with a new environment. The intent is to provide i-

Overall, the LSP *associated with N* in both corpora is likely to express statistical relations (especially in BC), and particularize research targets and problem contents. However, the collocates of the LSP represent the different research contents and approach peculiar to each discipline; in this regard, at least, the pattern distinguishes between applied linguistics and business studies as distinct subject areas.

On the other hand, the LSP *consistent with N* is likely to connect a result, a finding

or evidence in the writer's (ongoing) study with another result, another finding or other evidence in the other/same study. Table 9.7 below summarizes the high-frequency entities with this group in ADJ *with N*.<sup>41</sup>

Order	ALC	Freq.	BC	Freq.
1	results	57	results	184
2	study	21	costs	91
3	information	19	evidence	64
4	pattern	18	result	53
5	result	17	returns	52
6	test	17	finding	50
7	meaning	17	findings	50
8	words	16	firms	43
9	language	16	problems	41
10	findings	16	earnings	40

Table 9.7. The entities targeted in the ASSOCIATION group in ADJ *with N*

While several entities are peculiar to the research contents of each discipline (e.g. *words, language, firms, earnings*), the nouns *result, study, finding* and *evidence* are frequent in both corpora, indicating that researchers in both disciplines may often use this phraseology to highlight their own research finding in the ongoing research. This tendency is also taken over in the LSP *consistent with N*. In particular, this LSP especially links on-going research and past researchers to identify the commonality of research in both corpora (67% in ALC; 68% in BC). Table 9.8 below lists the high-frequency N1 and N2 nouns of this LSP.

Order	N 1 nouns				N 2 nouns			
	ALC	Freq.	BC	Freq.	ALC	Freq.	BC	Freq.
1	results	38	results	156	studies	24	results	82
2	result	11	evidence	49	results	20	hypothesis	78
3	finding	11	result	47	hypothesis	20	findings	55
4	findings	11	findings	44	findings	15	research	54
5	study	9	finding	44	research	14	studies	51
6	data	7	firms	22	predictions	11	theory	36
7	words	7	returns	21	view	9	evidence	29
8	experiment	6	table	20	language	8	table	27
9	reading	6	earnings	19	work	8	literature	26
10	pattern	6	period	16	effects	8	firms	25

Table 9.8. High-frequency N1 and N2 nouns

<sup>41</sup> The entity targeted in the association occurs at N1 position of N1 v-link ADJ *with* N2. N2 noun is thus information describing what N1 is / is like.

High-frequency N1 nouns include research results and other findings or data (e.g. *result(s)*, *finding(s)*, *evidence*) and N2 nouns include studies, hypothesis, results or theories of other researchers (e.g. *studies*, *results*, *findings*). The following concordances from BC are sorted at the left position of *consistent with N* in the case of *result*, *evidence* and *finding*.

[Sort at left position]

cross-autocorrelations. This result is consistent with the findings of Chordia and Swamina, pay higher dividends. This result is consistent with the pecking order theory and also c n) pay lower dividends. This result is consistent with the pecking order theory. 8 The position cost for customers. This result is consistent with Wahal (1997), and Klock and McCormi significant in all cases. This result is consistent with Wang and Yau (2000), who find a positive efficiency measures. This result is consistent with prior research in the banking industry and significant. This result is consistent with the finding of Elyasiani and Mansur since covariances are low. This result is consistent with the findings of previous studies, with TAXLOSS for nonusers. This result is consistent with Berkman and Bradbury (1996), who find the second subperiod. This result is consistent with the findings of Chatrath, Ramchande

h companies. The empirical evidence is consistent with this prediction. In the New Zealand Germany.14 This graphical evidence is consistent with our expectation that the strong link R&D changes in year 0. Our evidence is consistent with the hypothesis that insiders believe noncash acquisitions. Our evidence is consistent with the theory that acquirers offer securities. However, not all of the evidence is consistent with this explanation, perhaps because analysis examines whether the evidence is consistent with the earnings fixation hypothesis of recognized intangibles.21 The evidence is consistent with our hypothesis that the high information earnings. Thus, so far, the evidence is consistent with irrational forecasts, which is well their bank term loans. The evidence is consistent with the hypothesis that borrower bargaining U.K. is compelling. This evidence is consistent with prior evidence from the U.S. and the ntal to shareholders. This evidence is consistent with DeAngelo, DeAngelo, and Rice (1984) level, respectively. This evidence is consistent with the prediction of hypothesis 3 that pected open interest. This evidence is consistent with Chatrath, Ramchander and Song (1996

5% level (one-tailed). This finding is consistent with the conclusion that the increase in his information exist. This finding is consistent with the view that the column provides information for wealthier municipalities. This finding is consistent with the conditional income convergence over days of the week.3 This finding is consistent with the prior literature on the Monday on their own accounts. This finding is consistent with Madhavan and Smidt (1993), who examine among floor traders. This finding is consistent with the expectations because floor traders hold a large amount of liquidity. This finding is consistent with Bondarenko and Sung (2003), who predict a reaction to unfavorable news. This finding is consistent with prior work by Brown and Harlow (1980) at the 0.02 level. This finding is consistent with the hypothesis that firms with a high market timing ability. This finding is consistent with the results of Henriksson (1984) and others that larger firms have more information than smaller firms. This finding is consistent with prior research suggesting that lending is more important in the financial industry. Of course, this finding is consistent with general concerns that exist about the impact of making (Category 28). This finding is consistent with previous research (e.g., Huxham, 20

Francis et al. (1998, p. 479) indicate that the LSP *consistent with N* expresses the idea that “things are partly similar”. However, my analysis suggests that this is just the surface meaning of this LSP. In academic discourse (esp. the RA genre), it highlights the results of the writer’s research by comparing them to the results/findings in the other’s past studies (e.g. *results from previous studies, the prior research of Saunders, Wahal (1997), DeAngelo, DeAngelo and Rice (1984), the finding of Elyasiani*).

This finding is further consolidated by the adjectives *prior* and *previous* modifying noun in this LSP. The following concordances of *consistent with previous N* are extracted from ALC and BC:

[Applied Linguistics]

w rate of successful inferencing seems consistent with previous findings from other L2 re  
 aient priming effect at SOA 32. This is consistent with previous findings of effective prim  
 he same items in Experiment 1a and 1b, consistent with previous findings. We cannot be sur  
 the early L2 learners. This result is consistent with previous research examining L2 segm  
 2). The results of this study are also consistent with previous research findings in that  
 d cultural background. This finding is consistent with previous research that describes th  
 ant proposals. The Discussion section, consistent with previous researchers (e.g., Belange  
 from these two studies are remarkably consistent with previous results, despite important  
 Test scores. All of the findings are consistent with previous results with the paper-bas  
 rformance. Although this result is not consistent with previous studies (Lee, 2001; Lee &  
 ng performance in the current study is consistent with previous studies of EFL (Lee, 2001,

[Business Studies]

Table 3 are important in that they are consistent with previous empirical studies in this  
 for Public Affairs, 1999, p. 2) and is consistent with previous empirical studies (Greenin  
 ificance of ownership concentration is consistent with previous findings of Bartkus et al.  
 attitudes scale was somewhat lowbut is consistent with previous findings (Singhapakdi et a  
 ral learning and organizing, which are consistent with previous literature. Doz (1996) fou  
 relationships (Category 36), which is consistent with previous literature (e.g., Gray, 20  
 gory (see Table 2). These findings are consistent with previous research in this area. Our  
 d evidence within each holding company consistent with previous studies. Specifically, we  
 tic acquisitions of public targets are consistent with previous studies (Sudarsanam and Ma  
 a positive mood/creativity relation is consistent with previous work proposing an importan  
 estimates produced by H&L are entirely consistent with previous work, where forecasts are

The adjective *previous* frequently co-occurs with nouns such as *findings, studies, researchers, literatures, results* irrespective of discipline. This LSP is thus used by writers in both fields to argue for the validity of their own research findings, by indicating that they are in line with those of previous scholars.

As well as linking current research to previous research, this group is also used to

construct internal relationships of continuity between different findings reported by the author her-/himself, usually within the same research paper (33% in ALC; 32% in BC). To illustrate, consider the following examples of *consistent with the results* extracted from ALC and BC.

[Applied Linguistics]

e interaction effect were significant, consistent with the results of model 1.2. The significant int task. This description of the data is consistent with the results of an analysis of variance (ANOVA th enough certainty. These results are consistent with the results of the D-studies, which showed a initial stress than type 2. Discussion Consistent with the results from the production experiment (E

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y to issue earnings forecasts. This is consistent with the results we report based on our measures o results from these tests are generally consistent with the results presented in our main analysis. T compared with around 1 in panel A) are consistent with the results in table 5 that the 4% terminal g of our sensitivity tests are generally consistent with the results reported in table 6. All subsampl or the multi-company articles. This is consistent with the results from Table 2 where the overall ab for the single-company group. This is consistent with the results in Table 4 where the t-statistics combined multi-company groups. This is consistent with the results from Tables 3 and 4 where we saw ngs based on market price give results consistent with the results based on market capitalization; h e smallest winners. These findings are consistent with the results in Table 1 described in Section 4 l markets. Of note, the intercepts are consistent with the results in Table 1, with Australia being 76, 19%) of no entry signals. However, consistent with the results reported in Figure 1, there is a

This LSP also functions as a connector between research findings and the writer's conclusion, structuring a logical relation between CAUSE and EFFECT. In other words, this LSP introduces the consequence of the writer's research, as in the following examples:

- This finding is consistent with the idea that our judgment task measured explicit knowledge, because such knowledge should be greater for individuals in later semesters of L2 study. (ALC: SLA2005\_6)
- Our results, which are consistent with this conclusion, clearly suggest that lexical connections remain active even when bilinguals have attained a high proficiency level in the two languages. (ALC: LL2006\_1)
- This pattern of results is consistent with our prediction that the coronal category is acquired earlier, due to its higher frequency of occurrence in input; consequently, decline in discriminability appears earlier for the non-native coronal contrast than for the non-native dorsal contrast. (ALC: Speech2003\_6)
- These findings are consistent with our predictions that learners would not be sensitive to violations in constructions that are different in the L1 and the L2. (ALC: SLA2005\_6)
- Although the paucity of data available for each item prevents statistical confirmation of these patterns, the results are consistent with our previous findings with American children. (ALC: Speech2003\_10)

- In summary, the intensity of several problems and concerns differed by sector, gender of owner, size of the business, legal structure, and age of the firm. These findings are consistent with Proposition 2 (that is, concerns and problems can be identified that are characteristic of different stages in business development). (BC: Management2000\_17)
- These findings are consistent with our expectations. Firms in the payor sector specialize in managing risk. (BC: Finance2005\_25)
- These findings are consistent with our contention that the risk of opportunism in relational contracting comes not just from transaction-specific investment, but from the organizational form itself. (BC: Strategy2004\_6)
- Together, these findings are consistent with financial expertise on audit committees improving corporate governance but only when both the expert and the appointing firm possess characteristics that facilitate the effective use of the expertise. (BC: Accounting2005\_15)

Every example indicates that the finding in the ongoing research supports the conclusion (or the idea) of the ongoing research. For instance, the last example is extracted from the last sentence of the Abstract of a business accounting article. Since RA abstracts summarize the contents of an article, its last sentence usually indicates the conclusion of the whole paper. In other words, *these findings* connect the writer's important findings gained from his/her research and the research consequences. Further similar examples are shown below:

- These results are consistent with the hypothesis that such earnings management is motivated by an attempt to delay (or minimise) reporting bad news (rather than to signal future performance). We therefore conclude that outside directors appear to play an important monitoring role in terms of helping to uphold the integrity and credibility of published financial statements. (BC: Finance2005\_14)
- Lakonishok and Vermaelen [1983] also report evidence consistent with the hypothesis that ex-dividend day price behavior reflects short-term trading activities. Frank and Jagannathan [1998] and Bali and Hite [1998] also suggest non-tax explanations for ex-dividend day price behavior. (BC: Accounting2005\_2)

In both examples, the research hypothesis is verified by the research results: the logical argument is structured by connecting theory and evidence. In doing so, the writer implicitly shows the validity of his/her research quality to his or her readers.

Hunston (1993) discovered that writers of scientific RAs provide positive values to their proposed claims (or research results) on two bases: that they fit a particular explanation and that they are consistent with the results obtained by other scholars. Both of these strategies are clearly at work in this LSP; as we have seen, it is typically utilized to legitimize

the writer’s research results by referring to antecedent theory and/or research findings.

### 9.1.3. Dependence

The third form of connection to be discussed here is *dependence*. The DEPENDENCE group indicates that ‘something relies on something’ or ‘something is affected by something because they are connected’. This group is often expressed by adjectives such as *dependent*, *contingent*, *conditional* and others in the pattern ADJ *on* N. Table 9.9 below summarizes the quantitative data for the adjectives in this group.

Order	ALC	Freq.	BC	Freq.
1	dependent	82	dependent	128
2	contingent	11	conditional	32
3	reliant	8	contingent	18
4	conditional	3	reliant	9
Total		104	187	
Prop.		36%	64%	

Table 9.9. The DEPENDENCE group in ADJ *on* N

As can be seen, this group is more strongly associated with BC than it is with ALC. My analysis suggests that this is largely because the discourse of business studies tends to express ‘independent’ relations through this group, and also because the type of the dependent entity is relatively fixed in applied linguistics, but relatively varied in business studies.

For example, the dependent relation expressed by the LSP *dependent on* N in business studies conversely indicates ‘independent’ relation in many cases by co-occurring with negatives. Table 9.10 below summarizes the high-frequency N2 nouns in this LSP in both corpora.

Order	ALC	Freq.	BC	Freq.
1	task	4	firm	13
2	number	3	stakeholder	9
3	memory	3	trust	8
4	writing	3	level	4
5	processes	3	hypothesis	4
6	disambiguating	3	CEO	4
7	proficiency	2	performance	4
8	gestures	2	labor	3
9	L2	2	relationship	3
10	links	2	actor	3

Table 9.10. The high-frequency nouns in *dependent on* N

The ‘depended-on’ entities in ALC are peculiar to the subject matter of this discipline (e.g. things relevant to language activity), whereas those in BC constitute a somewhat broader range of entities (e.g. business participants, research assumptions, states of affairs). In particular, *firm* and *performance* co-occur in a specific way with the LSP *dependent on N* in BC.<sup>42</sup> Let us consider the following concordances of this collocation.

[*dependent on + firm*]

oral relationships in equation (1) are dependent on firm size (i. e., that firm size affect tional approaches, however, are not as dependent on credibility or firm size in my sample. nd Schulman find that this reversal is dependent on firm size. They examine data for NYSE he following: 1. When a stakeholder is dependent on a firm, the stakeholder dare not harm ercive strategy; if the stakeholder is dependent on the firm, the participants recommended 0 dismissal are jointly and negatively dependent on firm performance, a positive correlati succession are jointly and negatively dependent on firm performance, a positive correlati k, 1978). 2. When a stakeholder is not dependent on the firm, it uses coercion. This is be pecifically, if the stakeholder is not dependent on the firm, the participants recommended stakeholder and the stakeholder is not dependent on the firm. (Imagine an entrepreneur sta eholder can either be dependent or not dependent on a firm, and a firm, in turn, can eithe terdependence: The stakeholder was not dependent on the firm, and the firm was not depende

[*dependent on + performance*]

ssue. Once integrated, SCM will become dependent on the performance of ERP systems. Without ity to survive and prosper may be less dependent on its performance and more dependent on 0 dismissal are jointly and negatively dependent on firm performance, a positive correlati succession are jointly and negatively dependent on firm performance, a positive correlati

Some concordances rather prioritize the independent relation rather than the dependent situation through negatives such as *not* and *less*, but others express the dependent relation in a negative way with the collocate *negatively*. These negative polarities *not* and *negatively*, the contrastive conjunction *however*, and the comparative adverb *less* emphasize the contrast to dependency, namely ‘independency’ (Martin & Rose, 2007, p. 88). Although the first example *dependent on + performance* seems to show no negative sense, a closer inspection of the co-text causes the reader to reject this expectation, as in the following:

- Potential liability from incorrect data is another issue. Once integrated, SCM will become dependent on the performance of ERP systems. Without human monitoring, erroneous data from one partner's ERP system could contaminate the SCM system and subsequently affect the operation of the entire supply chain. System security is also a concern. (BC: Management2003\_8)

<sup>42</sup> While *firm* in some examples might be interpreted as adjective (e.g. *firm size*), it is possible to re-interpret *firm size* as *the size of firm*, identifying that *firm size* is a double compound noun. Thus, I interpreted it as a noun, including the case of *firm performance*.

The above context expresses a warning and negative feelings about the dependent relation between the automatic systems: the performance of ERP systems has the possibility to affect the SCM system negatively. Thus, the dependent relation is negatively evaluated in business studies, but the independent relation is seen as rather more welcome. We will return to this argument in the next section (9.1.4), where we consider the DISTANCE group.

In contrast to BC, most examples of this phraseology in ALC seem to make observations of a more neutral kind. Although 10 examples of the collocation with *not* and *less* are found in the total 82 examples (12%), they simply express research observations with no positive/negative evaluation.

in obligatory contexts, should not be dependent on the topic of conversation or the chara  
g successfully on the tests may not be dependent on gaining knowledge of meaning and form,  
lexical memory because it would not be dependent on the possible relationships between pai  
rabic orthography, Arabs might be less dependent on local cues in the printed word when re  
nt schema means that students are less dependent on vocabulary knowledge in achieving adeq  
l be that Language Use scores are less dependent on the actual writing task than scores fo  
hat the repetition of structure is not dependent on the repetition of different aspects of  
. They argue that French gender is not dependent on higher order representations, and, in  
nerally, those statements that are not dependent on experience contain ser. The three cate  
en instrument. Such categories are not dependent on the copula that each participant selec

While the collocates *not* and *less* obviously express negative polarity, most of the examples above are not evaluatively negative because they simply describe ‘what a writer observes’ in the study.

#### 9.1.4. Distance

The fourth form of *connection* in the present data is *distance*. Adjectives in this group express the ways in which ‘people, things, or groups are (not) separated or different from one another’ in some respects, and in particular indicates whether or not ‘there is a certain disparity/similarity between two things’. Some adjectives in this group also indicate that ‘something is no longer affected by another thing’ (e.g. *free from* N), because one is in the location far from the place under influence of another. Thus, this group is especially expressed by adjectives in the pattern ADJ *from* N. (N.B. the preposition *from* particularly expresses either the distance between things or the source of something; this semantic group prioritizes the former meaning). Table 9.11 below summarizes adjectives in this group.

order	ALC	freq.	BC	freq.
1	different	242	different	266
2	far	43	distinct	33
3	distinct	30	far	28
4	absent	19	separate	15
5	separate	18	independent	13
6	separated	14	indistinguishable	13
7	distant	9	free	13
8	missing	6	absent	9
9	indistinguishable	6	exempt	9
10	free	6	separated	8
11	independent	5	missing	6
12	divorced	5	distant	4
13	inseparable	4	divorced	3
14	separable	4	unchanged	3
15	further	3	distinguishable	3
16	distinguishable	3	further	2
17	alienated	2	consistent	2
18	distanced	1	disengaged	1
19	equidistant	1	remote	1
20	unchanged	1	detached	1
21	detachable	1	inseparable	1
22	exempt	1	secure	1
23			immune	1
Total		424		436
Prop.		49%		51%

Table 9.11. The DISTANCE group in ADJ *from* N

As can be seen, the adjective *different* is by far the most frequent in this group in both corpora. While *different* obviously indicates the characteristic distance between two things, *independent* rather expresses the locational distance, especially whether or not one is influenced by another (i.e. they are not relevant to each other). Due to the limit of the size in this study, this section treats only some *distance* connections that most clearly present the disciplinary differences observed in this group.

One of the most interesting *distance* connections in this regard is the concept of *independence*. Applied linguistics is likely to regard the independent relation as the existence of irrelevance (or non-relevance) between things. Business studies, however, interprets independence as *freedom*, that is, as a favourable situation in which to conduct business activity without any restrictions. To illustrate this, let us consider the examples of the LSP *independent from* N from both corpora.

[Applied Linguistics]

- ...this linguistic effect on gesture indicates that lexicalisation patterns at least partially shape conceptual representations, which are to a large extent independent from the linguistic system. (ALC: Cognitive2006\_2)
- As such, New Complement Extraposition is a highly self-sufficient construction, fairly independent from the preceding context... (ALC: Corpus2005\_9)
- Like free weak pronouns and clitics, they will enter the numeration (the group of lexical items that makes up the sentence) as lexical items independent from verbs that will be inflected only for tense. (ALC: LL2005\_10)

[Business Studies]

- To seek to be independent from the group, to hold an independent perspective, and to stand as an individual against a group position are only undertaken after all other possible alternatives have been exhausted. (BC: Society2005\_12)
- In 1999, in an effort to restructure the Chinese telecommunications industry, the Chinese government split off the radio-paging sector from China Telecom and set up a new company independent from China Telecom named Guoxin Paging. (BC: Management2003\_12)
- Finally, outsiders may be more independent from the CEO and/or top management team and, therefore, better able to protect shareholder interests. (BC: Strategy2005\_3)

The examples above indicate that applied linguistics is likely to point out the mutual irrelevance of certain internal features in language, whereas business studies is likely to consider the independent relation as freedom without restrictions or pressures from others. In other words, independent/dependent connections are simply statements of fact in applied linguistics whereas they are linked to particular cultural values in business studies (i.e. independence is a good value, but dependence is a bad value). In short, this phraseology has completely different meanings and usages across the two disciplines.

Another instance is conversely ‘no distance’ between things expressed by several adjectives in ADJ *from* N. One of such examples is the case of the LSP *indistinguishable from* N. Let us consider all concordances of this LSP from both corpora:

[Applied Linguistics]

cognition in other words, appear to be indistinguishable from one another in terms of di  
nants that were presented and would be indistinguishable from a response selected from the  
speakers never reach a point of being indistinguishable from native speakers of a particu  
rts, Science, and Technology, 2002) is indistinguishable from that of many other Asian gov  
ogical group on its nonnatural list is indistinguishable from that of the comparison group  
their English proficiency is otherwise indistinguishable from inner-circle graduate studen

[Business Studies]

[2003]. FIRMS • OFF-BALANCE SHEET 289 indistinguishable from off-balance sheet financing  
 Time 1 = 0.0070, which is also indistinguishable from zero (p-value = 0.5222). Fur  
 ve when PME is above the threshold and indistinguishable from zero when PME is below the t  
 ause under corporate law, branches are indistinguishable from the parent corporation. Whol  
 s are faster to upgrade from Hold, but indistinguishable from unaffiliated analysts when t  
 46, or 87% of the sample), Time 2 is indistinguishable from Time 1 . The remaining 13%  
 ance ratio of the USspecific factor is indistinguishable from zero for all 20 iShares and  
 xcept in the IPO subsample where it is indistinguishable from zero. The findings indicate  
 e average difference in persistence is indistinguishable from zero for all samples except  
 , its time invariant volatility is now indistinguishable from that of the small banks and  
 iliated analysts either slower than or indistinguishable from unaffiliated analysts. We al  
 T HIGH coefficients are statistically indistinguishable from zero. Finally, as with the r  
 efficient on accruals is statistically indistinguishable from the coefficient on cash flow

This LSP often shows the particular semantic preference *indistinguishable from* NUMBER/SCORE in BC, as shown in the concordances above. In terms of the proportion between numerical and non-numerical phenomena in the use of this LSP, non-numerical descriptions account for 100% in ALC, whereas numerical statements account for 69% in BC. Thus, as discussed in previous sections, the connections drawn by this phraseology in applied linguistics are likely to focus on a wide range of features, whereas those drawn in business studies invariably feature numerical descriptions.

### 9.1.5. Detectability

The fifth form of *connection* in the present data is *detectability*. The DETECTABILITY group indicates whether or not something is visible, detectable or obtainable from something. Like the *distance* group, this group is also expressed by adjectives in the pattern ADJ *from* N. As previously mentioned, the preposition *from* especially marks the distance between things, or the source of something: this group prioritizes the latter meaning (e.g. the LSP *evident from* N presents ‘the source of evidence’). In other words, this group connects the things and its source. Table 9.12 below summarizes adjectives in this group.

order	ALC	freq.	BC	freq.
1	predictable	18	available	42
2	available	16	evident	9
3	evident	13	apparent	7
4	apparent	4	obtainable	1
5	invisible	1		
Total		52		59
Prop.		47%		53%

Table 9.12. The DETECTABILITY group in ADJ *from* N

In this group, in ALC the adjective *predictable* is the most frequent whereas in BC the adjective *available* is by far the most frequent. While *predictable* indicates the possible assumed relation between two things, *available* rather expresses a distant source of information detectable or obtainable by the target readers.

For example, one of the *detectability* connections—*predication*— indicates whether something is predictable from another. For instance, the LSP *predictable from N* expresses the possible assumed connection between things/information. This LSP is peculiar to ALC as can be seen in Table 9.12 above.

[Applied Linguistics]

epresentation is, to a certain extent, predictable from the phonological representation, a ated versions of the vowels are fairly predictable from the normal version both in the pre secondary articulation are thus fully predictable from the Language and Speech 356 Percep high language redundancy (i.e., highly predictable from lexical, syntactic, semantic, and ated words which are not independently predictable from constraints on word form. Consider 991) argued that grammatical gender is predictable from various semantic and morphophonolo o assess the extent to which gender is predictable from multiple probabilistic constraints ncerning the extent to which gender is predictable from semantic factors. REPRESENTATION O ient when the meaning of a morpheme is predictable from the prior sentence context. This w s across the two, in a fashion that is predictable from the statistical properties of inpu t of a phrase where they would be less predictable from context. We do not begin to test t lly opaque, since their meaning is not predictable from the meaning of their constituent m lly opaque (i.e., their meaning is not predictable from the meaning of their constituent m rs are systematic in a way that is not predictable from either the L1 or the L2 but is nev hen the position of the stress was not predictable from the word structure, but had preser cal items and is not straightforwardly predictable from syntactic structure (Jun, 1996, 19 when the meaning of that morpheme was predictable from prior sentence context than when t oveal preview when the target word was predictable from the preceding context (Balota, Pol

This LSP can be parsed in semantic sequence terms as: LANGUAGE FEATURES (e.g. *gender, vowels, meaning, stress, word*) + (v-link) + *predictable from* + ANOTHER LANGUAGE FEATURE, LANGUAGE THEORY, CONTEXT. This LSP connects one piece of information with another in a ‘hedged’ manner, thereby indicating that there is a lower degree of confidence in the expression of an assumed connection between them.

Another *detectability* connection worthy of note here is *informational source* or *location of information*. In this meaning, the LSP *available from N* connects the possible information and its source, or informs the reader about the location of some information.

### [Applied Linguistics]

- Scores (but not item responses) were also available from the Vastardis (1997) study with 371 Greek high-school students. (ALC: Testing2004\_16)
- The Hansard Corpus contains proceedings from the Canadian House of Commons throughout the 1970s. Its total size is 750,000 words and it is available from <http://www.comp.lancs.ac.uk/computing/research/ucrel/corpora.html>. (ALC: Corpus2006\_13)
- In both the writing and speaking measures, sentence-level and narrative tasks were roughly equally represented in the composite score (e.g., 54 points were available from the oral sentence level tasks and a mean of 63.3 points from the oral narratives and guided conversations) (ALC: LL2006\_9)

### [Business Studies]

- This will, however, only be the case if there are suitable alternatives available from other drug manufacturers. (BC: Society2005\_5)
- In this situation, an ideal strategy would be to look for additional systems that are compatible with the existing systems, or to look for systems that have middleware applications available from enterprise application integration (EAI) vendors. (BC: Management2003\_8)
- The pattern of MCARs presented in Table 3 is unaltered by the choice of methodology or index. Results are available from the corresponding author. (BC: Economics2005\_1)
- The major exception to this territoriality principle is the Community Trade Mark (CTM) available from the European Union. (BC: Law2003\_6)
- A preliminary analysis using electronic data available from the Investor Responsibility Research Center for 125 of our 207 firms indicated that shareholder rights, as measured using the Gompers, Metrick, and Ishii [2003] governance index, were stronger for COCO issuers in univariate but not multivariate tests. (BC: Accounting2005\_17)

Information sources found in ALC are usually previous studies (e.g. *the Vastardis (1997) study*), data sources such as URLs (e.g. *<http://www.comp.lancs.ac.uk>*), or research tasks (e.g. *the oral sentence level tasks*), whereas information sources in BC are more likely to be companies, institutions or organizations, or someone working for one of these (e.g. *other drug manufacturers, enterprise application integration vendors, the corresponding author, the European Union, the Investor Responsibility Research Center*).

#### 9.1.6. Affectedness

The sixth *connection* is *affectedness*. This group indicates ‘how one entity/group is affected by another entity/group’. This group is particularly expressed by adjectives such as *threatened, absorbed, influenced, affected* and others in the pattern ADJ by N. Although in many English

dictionaries published in the UK several of these words are not listed as adjectives (e.g. COBUILD 5th edition (Sinclair, 2006) lists *absorbed* as an adjective only with the ‘interested’ meaning), several English-Japanese dictionaries provide a much fuller list of their adjectival meanings (e.g. the unabridged GENIUS English-Japanese dictionary (Konishi & Minamide, 2002) lists *absorbed* as an adjective also with the state of absorption meaning). Such differences may be due to the fact that the former prioritizes practical description (i.e. how language is used in real life) whereas the latter focuses more on theoretical description (i.e. how language is theoretically systematized in a dictionary). Related to this are differences in policy with regard to the treatment of *-ed* forms which some linguists regard as the past participle of a verb and others regard as adjectives, particularly when followed by a prepositional phrase (e.g. I am *bored* by this; he is *involved* in drug smuggling). Following the description listed in English-Japanese dictionaries, I decided to opt for the more comprehensive approach, and to include the words with *-ed* form followed by the preposition *by* as adjectives in this group.

As might be expected, this pattern describes relations of power and force between things. However, as Table 9.13 below shows, this group can also express an *absence* of effect - the adjective *unaffected* stands at the top of the frequency list for ALC, and in second place in BC:

Order	ALC	Freq.	BC	Freq.
1	unaffected	13	possessed	30
2	threatened	5	unaffected	14
3	impressed	4	absorbed	12
4	confused	4	threatened	7
5	possessed	3	unencumbered	3
6	surprised	1	perturbed	2
7	concerned	1	concerned	2
8	daunted	1	obsessed	1
9	disappointed	1	surprised	1
10	conspicuous	1	intrigued	1
11	untouched	1	convinced	1
12	untainted	1	confused	1
13	stronger	1	impressed	1
14			fascinated	1
15			unhampered	1
16			encumbered	1
17			notable	1
Total		37		80
Prop.		32%		68%

Table 9.13. The AFFECTEDNESS group in ADJ *by* N

In general, business studies discourse seems to focus more on this meaning than applied linguistics. Indeed, one LSP, *absorbed by N*, only occurs in BC. This LSP describes situations in which one thing is subsumed by another (presumably more powerful or compelling) thing.

[Business Studies]

umber of participants and assets, were absorbed by larger ones. They are excluded from our ns and subsidiaries, be taken over and absorbed by another company, reorganize and rename l process be eliminated and their role absorbed by a larger standing Appellate Body.164 Wh nce a person's attention is completely absorbed by the activity or the goal object, that i t peaked; our attention was completely absorbed by the activity. Skills and challenges wer ss. A person's attention is completely absorbed by the activity or goal object and the exp gic transformations and tend to become absorbed by operational and corporate self-renewal gn, tracking, etc., are expected to be absorbed by the Gross Margin. The Matrixed Pareto a ustrial production in the TRNC must be absorbed by local demand. Furthermore, to the detri me period. Many small banks were being absorbed by the big players in the banking industry , however, many small banks were being absorbed by bigger banks and CCB found itself compe process, \$218 million in profits were absorbed by two unidentified creditors. An expert a

Adjectives by which N2 nouns are modified (e.g. *larger, big, bigger*) indicate the potential power of the entity at N2 to be able to absorb the entity at N1. The collocating amplifier *completely* and the modal *must* also foreground such force relations between two entities in the field of business. It is interesting to note that this 'survival of the fittest' view of corporate relations is viewed as entirely unproblematic by business studies researchers; that is, such acquisitions are presented in evaluatively neutral and normative terms, which suggests that they are to be seen as entirely natural and normal, and thus as an inevitable feature of how business is conducted.

Finally, business studies is more likely to focus on the particulars of how one entity is affected by another than is the case in applied linguistics. Key resources for making this meaning are the adverbs *positively* and *negatively*. The collocation with *positively/negatively* only occurs once in ALC (viz. *positively impacted by N*), but there are 22 examples in BC (viz. 10 examples with *positively*, and 12 with *negatively*). A selection of these is presented below:

[Business Studies: *positively* ADJ *by* N]

unication, unity, and motivation) were positively affected by business planning. As has al  
uild market share during downturns was positively affected by both of these variables (tho  
were, on balance, more negatively than positively affected by the crisis. A report from Ba  
nership and firm profitability. IOS is positively impacted by a firm's investments in fixe  
indicate that announcement returns are positively influenced by noncash methods and privat  
sequently their work attitudes will be positively influenced by their association with an  
. 0.370). Finally, commitment is being positively influenced by solidarity and long-term o  
ble. Finally, commitment is also being positively influenced by two relational behaviors.  
lities of underlying stock returns are positively influenced by the expected and unexpecte

[Business Studies: *negatively* ADJ *by* N]

ed likelihood that individuals will be negatively affected by culture shock (Black, 1990;  
s in these countries less likely to be negatively affected by competitive threats from US  
s oriented toward the local market are negatively affected by the crisis. There is evidenc  
s weak evidence that stock returns are negatively affected by the temperature. Furthermore  
cly traded in the US are significantly negatively affected by the legislation. It appears  
e strategic goal of innovation will be negatively impacted by environmental dynamism. In c  
h methods and private targets, and are negatively influenced by crossborder acquisitions.  
processes and firm performance will be negatively moderated by organizational stage. The p  
processes and firm performance will be negatively moderated by organizational stage of dev  
veness of simple strategy processes is negatively moderated by stage. Koberg, Uhlenbruck,  
formance and that this relationship is negatively moderated by organizational stage of dev

Overall, the relation of 'affectedness' prioritizes factual events in both applied linguistics and business studies. However, business studies is more likely to prioritize force relations between entities, and especially foreground the manner of affectedness with adverbs and modals to inform how one is affected by another.

### 9.1.7. Involvement

The seventh form of *connection* in the present data is *involvement*. As the name suggests, the INVOLVEMENT group indicates that people are involved in some form of activity or process in some respect. This group includes adjectives such as *involved*, *interested*, *engaged* and others in the pattern ADJ *in* N. Table 9.14 below summarizes the adjectives that occur in this group in ADJ *in* N in both corpora.

Order	ALC	Freq.	BC	Freq.
1	involved	280	involved	264
2	interested	131	engaged	127
3	engaged	101	interested	125
4	implicated	15	implicated	7
5	immersed	6	embroiled	5
6	disinterested	2	immersed	3
7	enmeshed	2	locked	3
8	entangled	1	tied up	3
9			uninterested	3
10			absorbed	2
11			bogged down	1
12			concerned	1
13			deep	1
14			enmeshed	1
15			entangled	1
16			wrapped up	1
Total		538		548
Prop.		49%		51%

Table 9.14. The INVOLVEMENT group in ADJ *in* N

While the total figure is almost identical in each corpus, the number of types is higher in BC (16) than in ALC (8): there is more variety in the representation of people's INVOLVEMENT in business studies than in applied linguistics. As can be seen, the top 3 adjectives, *involved*, *interested* and *engaged*, frequently occur in both corpora. A further similarity between the two datasets is that animate nouns frequently occur at N1 position in this phraseology. However, the kinds of animacy represented by these nouns are typically very different. To illustrate, consider Table 9.15 below.

N1				
Order	ALC	Freq.	BC	Freq.
1	processes	44	firms	30
2	learners	18	people	15
3	teachers	16	business	14
4	students	14	companies	14
5	language	12	organizations	13
6	researchers	11	employees	12
7	participants	8	parties	10
8	people	8	management	12
9	factors	7	individuals	10
10	knowledge	6	stakeholders	8

Table 9.15. High-frequency N1 nouns

As can be seen, *learners, teachers, students, researchers, participants* and *people* typically occur at N1 position in ALC, whereas *people, employees, individuals* and *stakeholders* occur at this position in BC. These observations are of course not at all surprising in themselves, but it is interesting to note that in ALC there is a greater emphasis on nouns expressing processes, than is the case in BC. What this suggests is that, for this pattern at least, applied linguists are more likely to see causation in relatively complex terms (i.e. as the result of processes), while business studies researchers are more inclined to attribute outcomes fairly directly to the activities of individual named entities.

Another disciplinary difference can be found from an analysis of N2 nouns: nouns in ALC are relevant to the language interpretation or activity such as *learning, production, reading, comprehension* and so on, whereas those in BC are relevant to business-specific activities or entities, such as *decision, exchange, planning, products, sales* and so on (see Table 9.16).

N2				
Order	ALC	Freq.	BC	Freq.
1	language	31	business	26
2	learning	21	activities	24
3	process	17	process	23
4	study	16	decision	15
5	production	14	market	13
6	reading	11	exchange	12
7	task	11	planning	11
8	research	10	relationship	10
9	comprehension	10	products	9
10	processing	9	sales	8

Table 9.16. High-frequency N2 nouns / *-ing* clauses

Many N2 nouns in BC particularly indicate interactive forms of relationship: transactions, discussions or forms of cooperation (e.g. *Ericsson representatives became involved in the group responsible for harmonizing...; each of those involved in the information exchange; a coworker representative involved in the investigatory interview; and the personal networks involved in the final negotiations leading up to...). The following concordances are randomly extracted from both corpora:*

### [Applied Linguistics]

f the aims listed were shared by those engaged in the development of the ELP. The ELP built on shifting attention from those engaged in the evaluating or reporting process to advanced-level courses, are frequently engaged in the lower-level processing when they read and indicate that they were not L2 learners engaged in the process of L2 acquisition, but multi on that students in the SA context are immersed in the native speech community. Beyond assesses how intimately the interviewer is implicated in the construction of candidate profiles demonstrate the ways in which race is implicated in the constructs of native English, stability of the interaction. Since we were interested in the effect on the performance of male a catalyst for discussions among those interested in the language and literacy development inferences. Researchers have also been interested in the metacognitive and cognitive strategies paradigms. Cognitive linguistics is interested in the minds of speakers and hearers. How introduce the nature of the complexity involved in the acquisition of standard English verses, and again ESL professionals were involved in the development of the materials. They used or child-directed, which child was involved in the exchange, and how old the child was as expected that if infants were still involved in the experiment, looking time would reco

### [Business Studies]

raphical proximity between the parties engaged in the exchange process, the activated resource customized fit, the customer is deeply engaged in the pre-purchase service encounter where multiple people, so a leader has to stay engaged in the process. Case and Levin handled that such, in RM stakeholders are actively implicated in the firm's overall marketing effort. characteristic that is clearly and directly implicated in the proposed trademark."16 Alternative E-Business Academicians have long been interested in the concept of strategy types (Fahey use these three measures because we are interested in the determinants of firm-level cost whereas the higher 27 We are primarily interested in the effect of beginning-of-year price makers, entrepreneurs and researchers interested in the small business sector. As was not Alternatively, two individuals can be involved in the conflict, commonly called interpersonal and influence of the individuals involved in the decision process (Isenberg, 1981; S The "purpose of the Act and the facts involved in the economic relationship" were key factors assumption that the relevant resources involved in the exchange process, including the processes of interdependent organizations involved in the process of making a product or service duty to shareholders and they are also involved in the transaction as purchasers. The pres

Applied linguistics especially targets the input/output of language or activity/situation relevant to language education (e.g. *acquisition, classroom, bottom-up processing, reading, recognition, test tasks*), whereas business studies particularly prioritizes actions, improvements, interactions or strategies that relate to the broad issue of 'how people/organizations are connected to business activity or research' (e.g. *decision making, development, final negotiation, information exchange, investigatory interview*). In other words, the INVOLVEMENT group describes the connection between people and their internal activity (e.g. language interpretation) in applied linguistics, but describes the connection between people/organizations and interactive activities (e.g. negotiation) in business studies.

Disciplinary differences in this group are also visible when comparing examples with the same N2 nouns across the two corpora. The following examples are examples of the INVOLVEMENT group with *process* and *developing*:

[The INVOLVED group + *process*]

- The three language profiles indicate that they were not L2 learners engaged in the process of L2 acquisition, but multilingual or L3 learners engaged in multilingual acquisition. (ALC: LL2006\_10)
- While the book stops short of being a handbook, it's nonetheless aimed at those who are involved in the process of strategic planning, and it is certainly valuable for anyone who ever wanted to read a serious attempt at linking the hard metrics of e-business (buyer conversion rate, unique visitors, abandoned shopping carts) with the soft. (BC: Strategy2002\_32)

[The INVOLVED group + *developing*]

- This continued growth in bilingual student populations in the United States through both immigration and program design creates a clear need to investigate crosslinguistic factors (those associated with the contrast between the first and the second language) as well as intralinguistic factors (those associated with the complexities of English) involved in developing English literacy skills over time. (ALC: TESOL2006\_16)
- ...businesses should be directly involved in developing profitable business structures in the community that are based on its competitive economic advantages and counter its competitive disadvantages. (BC: Society2005\_11)

In the examples above, applied linguistics prioritizes people's ability or skill (e.g. language processing), whereas business studies prioritizes the creation of profitable or productive 'business systems'. That is, the target of involvement is more internal and intangible in applied linguistics, whereas it is more external and quantifiable in business studies.

Such disciplinary differences in this group can also be seen by looking at the disciplinary specific keywords *language* in ALC and *business* in BC in the pattern:

[Applied Linguistics]

e, in essence, no different from those involved in language change in the inner and outer  
e and innate grammatical resources are involved in language learning and that the differen  
The initial state of the neural stuff involved in language processing is one of plasticit  
w general conclusions about mechanisms involved in language production, it is indispensabl  
cision alleviated some of the problems involved in language use and communication as e

[Business Studies]

countries. Russians are increasingly interested in business and the international market nomy of Vietnam—larger firms are more involved in business planning and use more sophisti is to identify the benefits and risks involved in business participation in decision-maki resolution, because they are actively involved in business operation and are able 268 BUS the number of people and organizations involved in business transactions increases, the po

Language is supposed to be learned, changed, or produced, whereas business is to be planned, operated and transacted. These noun(s) (phrases) in the pattern clearly show the different aims implied in each discipline, reflecting the different disciplinary cultures.

Finally, the LSP *interested in* N followed by a *wh-* clause (e.g. *how*, *what* and *whether*) reveals clear differences in the kinds of things that researchers are interested in in each discipline:

[Applied Linguistics]

- In contrast to Experiment 1, in which we were particularly interested in how listeners discriminated Tone 2 from Tone 3, in the current experiment we were interested in how secondary cues for all tones might get promoted. (ALC: Speech2004\_7)
- If we look at language learning from a broad semiotic perspective, we will be less interested in whether learners successfully acquire a particular linguistic structure and more interested in how they attempt to deal (sometimes successfully, other times less so) with specific communicative situations and with the linguistic, cognitive, social, and material resources available to them. (ALC: TESOL2006\_8)
- Since we were interested in whether the information about the CV structure is part of the metrical information, we examined its preservation together with different properties of the metrical information. (ALC: Cognitive2005\_11)

[Business Studies]

- The book is not for those interested in how the company survived, how it reinvented itself, or what it's up to now. (BC: Strategy2002\_39)
- In any successful brand positioning, it is critical to focus on those consumers who have some potential to be interested in what the brand has to offer. This perspective can be reduced to a simple principle that guides all targeting work: Start by figuring out who your best customers are and then find more like them. (BC: Strategy2002\_24)

As can be seen above, applied linguists tend to be interested in individual psychological

performance, whereas researchers in business studies are more interested in institutional forms of performance such as profitability levels. Thus, business studies is less likely to focus on individual ability or knowledge (e.g. see the first BC example *how the company survived*).

## 9.2. Relation 2: Attribute

We now turn from *connection* meanings, to the second set of *relation* meanings expressed by the pattern ADJ PREP N, which (as discussed at the beginning of this chapter) I have called *attribute* meanings. *Attribute* is simply paraphrased as ‘something belongs to something’, ‘someone/something has someone/something’ or ‘something is a part of something/someone’. Martin and Rose (2007, p. 80) describe the attributed relation inherent in people, things and places as follows:

“[P]eople, things and places belong to more general classes of entities, and at the same time they are parts of larger wholes, and are composed of smaller parts. These are known as classifying and compositional taxonomies respectively.....These taxonomies give rise to several types of lexical relation in discourse, including class-member and co-class, whole-part and co-part.” (Martin & Rose, 2007, p. 80)

Attributed relations exist among us all of the time in our life; we can only know about a thing’s location, position or situation by identifying where it stands within a complex network of taxonomical relations. The taxonomy in *attribute* expressed by the pattern ADJ PREP N is divided into two types, namely ‘something has something’ or ‘something is in something’ (see Figure 9.4).

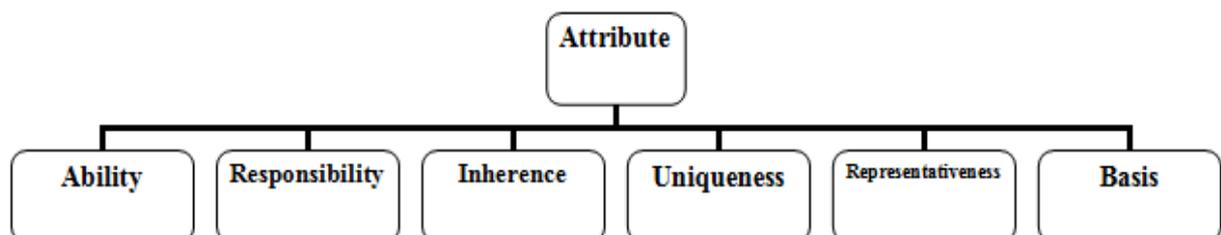


Figure 9.4. Hierarchy of *attribute*

Among six semantic groups allocated into *attribute* in Figure 9.4 above, the ABILITY group and the RESPONSIBILITY group express the first type, namely ‘someone/something has

something (e.g. ability, knowledge, skill, responsibility)', but the remaining 4 semantic groups indicate the second type 'something potentially lies in something' or 'something represents the feature of another' (Figure 9.5).

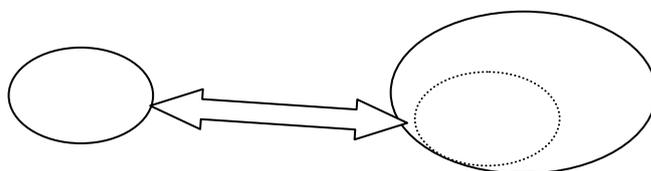


Figure 9.5. *Attribute*

This section attempts to reveal disciplinary differences in *attribute* meanings as they occur in ALC and BC. As a summary of my findings, six kinds of different relations are found in *attribute*. I will show that, through these relations, applied linguistics tends to focus on internally observable things in people (e.g. abilities), abstract things (e.g. difficulty), and unique features in language (activities), whereas business studies tends to focus on externally observable things associated with institutions (e.g. a firm's economic performance), and cause/problem relations in particular business situations. In particular, business studies is likely to clarify the locus of negativity or the responsibility for a given problem. In addition, my findings will show that applied linguistics discourse favours adding comments that show how a writer sees the specific relation between things, whereas business studies discourse prefers to make concise descriptions of such relations. Finally, I show how applied linguists are more likely to view phenomena in broad and generalized terms, whereas business studies scholars are more likely to specify and particularize. In the subsequent subsections, I will present evidence for all of these claims in detail.

### 9.2.1. Ability

The first of the six sub-classes of *attribute* meanings to be discussed in this section is *ability*. This group indicates whether or not someone / something has ability, capability or cognition and is especially expressed by adjectives *capable*, *aware*, *conscious* and others in the pattern ADJ of N. The pattern ADJ of N particularly links people and their (subjective) interpretations, abilities or skills. For instance, the LSP N1 (v-link) *aware of* N2 metaphorically indicates whether or not 'N1 recognizes N2' or 'N2 is in N1's consciousness'.

Thus, this group is a variant of *attribute*. Table 9.17 below summarizes adjectives in this group in ADJ *of* N.

Order	ALC	Freq.	BC	Freq.
1	aware	206	aware	110
2	capable	70	capable	68
3	unaware	22	unaware	14
4	conscious	12	cognizant	4
5	cognizant	5	conscious	3
6			ignorant	2
Total		315		201
Prop.		61%		39%

Table 9.17. The ABILITY group in ADJ *of* N

As can be seen, the total number of tokens is higher for ALC than BC. This invites the hypothesis that human abilities (e.g. capability, awareness, consciousness) are of more interest as research objects in applied linguistics than they are in business studies. Support for this view comes from the observation that animate entities such as *learners* (30), *students* (20), *we* (16), *participants* (15), *teachers* (9), *I* (8) and others are more likely to occur at N1 position in ALC than they are in BC, whereas smaller numbers of entities such as *they* (15), *we* (14), *managers* (10), *employee* (6), *I* (4), and others are found in this position in the data extracted from BC. The writer's ability marked by *I* and *we* is also more frequent in ALC (24) than BC (18).

While the abilities of people and things are observable in both corpora, the type of ability indexed differs between them. In particular, business studies authors tend to write about the (actual or potential) ability of institutions and technologies to improve business activities, whereas authors in applied linguistics are more focused on the specific abilities of language learners. Let us consider the examples of the LSP *capable of* N from both corpora:

[Applied Linguistics]

- It would follow that such learners are capable of encoding gender in terms of abstract structures mediating between the speech signal and the conceptual system. (ALC: LL2005\_5)
- In speech perception, it can be reflected in that listeners are capable of interpreting pitch variations in the speech of the others in accordance with these codes. (ALC: Speech2004\_5)
- When children are capable of representing spelling patterns, rather than merely mapping isolated sounds and letters in a linear manner, they have moved to the within word pattern stage. (ALC: TESOL2006\_16)

[Business Studies]

- Only companies that are capable of coordinating the relationship with producers by means of sharing plans and solving problems together as well as setting long-term contracts can gain access. (BC: Marketing2004\_24)
- Certainly, the Internet is capable of providing value to purchasing organizations through reduced purchasing costs, increased efficiencies, and more convenient access to information (Cohn et al., 2000). (BC: Marketing2004\_12)
- Manufacturers/suppliers need to maintain a service organization capable of delivering parts and services to customers. (BC: Marketing2004\_19)

In ALC, the language participants (e.g. *learners, speakers, students*) occur with this LSP, presenting the human ability to conceptualize linguistic information, such as learners' ability in encoding information, listeners' ability in handling pitches, and children's potential language ability. On the other hand, in BC, institutions (or groups of people in institutions) (e.g. *companies, organization, government*) occur with this LSP, presenting the potential performance of institutions or tools in carrying out various kinds of business activity, such as the internet's beneficial possibility, the potential of specific service organizations, and so on. The examples in BC are particularly notable in that they attach an implicit positive value with regard to the practice of making improvements in business performance.

Another ability is *awareness*. Awareness is a specific form of ability in people that is not externally observable but is a rather subjective thing; essentially, it evaluates how sensitive people are with regard to subtle variations and other phenomena. Applied linguistics is more likely to target this ability than business studies, as shown in the relatively higher figure of *aware* in ALC than BC in Table 9.17. In addition, the target of awareness relatively differs between two disciplines. Let us consider the following concordances of the LSP *aware of N* from both corpora.

### [Applied Linguistics]

alian students were at least partially aware of differences between certain pairs of Englishes, where each local team becomes more aware of differences than similarities as compared to others; however, many of them may not be aware of possible differences in rhetorical convention. About lexical items that teachers are aware of the difference in usage but have problems

Partington is clearly aware of the differences between semantic prosody and has assumed that students gradually became aware of the differences and adjusted as they made (Partington, 1989, p. 223). Blue (1993, p. 10), aware of the difficulties understanding law present in interviews with colleagues, I have become aware of the difficulties being experienced by both in linguistic competence: This teacher is very aware of the difficulties the children have due to because the NMET designers were fully aware of the difficulties involved in the reform, a theme on this point. But I want us to be aware of the inherent differences between spoken and written Englishes. If these learners are consciously aware of their word identification difficulties, or rather than when speaking their L1. They were conscious of differences in gesture use b

### [Business Studies]

period (perhaps suggesting that they were aware of the misreporting) are more likely to happen identifying cases where they were aware of the misstatement, lose more often. The main questions are whether investors were aware of these influences on research conclusions. How do financial practitioners know that financial practitioners were aware of the Monday effect as early as the 1980s, consistent with these studies. We are aware of the possibility that the WIND fund had a roof ripped off there. We are not aware of an example of a systematic disruption. The only study we are aware of that has examined the empirical findings (2002) and (2003). I only became aware of this work after I had formulated the findings for investors and regulators. Investors should be aware of the possibilities that differences exist (Rock, 1985). In the first paper we are aware of that documents the positive price effects. We are aware of that documents the positive price effects so that they are adequately aware of the causes of conflict and also credit card issuers also appear to be aware of this phenomenon, particularly in

In ALC, the LSP *aware of N* occupies 71% in the total instances of the collocation ‘*difference(s)/difficulty(-ies) + ADJ of N*’ (15/21). Researchers in applied linguistics are, thus, likely to recognize the difference/difficulty in things (esp. language features). On the other hand, business studies recognizes various observable things such as mistakes, influences, effects, possibilities, documents, causes and so on, showing no specific tendency in the target of awareness. In other words, people in applied linguistics attempt to be aware of rather abstract things subjectively, whereas people in business studies attempt to recognize rather particular things objectively.

In addition, applied linguistics RAs are more likely to describe the manner of people’s awareness than is the case in business studies. As discussed before, applied linguists are likely to add comments about the attitude, the relation, or the finding the pattern expresses. For instance, the LSP *aware of N* in ALC also presents this tendency by co-occurring with *-ly*

adverbs. Table 9.18 below summarizes the *-ly* adverbs with the LSP *aware of N* in both corpora.

Order	ALC	Freq.	BC	Freq.
1	consciously	5	keenly	3
2	fully	3	explicitly	2
3	critically	2	adequately	1
4	immediately	2	immediately	1
5	apparently	2	fully	1
6	acutely	2	especially	1
7	quickly	1		
8	only	1		
9	partially	1		
10	seriously	1		
11	certainly	1		
12	clearly	1		
13	keenly	1		
14	explicitly	1		
15	interactively	1		
Total		25		9

Table 9.18. *-ly* adverbs with *aware of N*

Both tokens and types of *-ly* adverbs are higher for ALC than they are for BC. Some of these adverbs indicate the writer's stance towards the specific form of awareness at issue, while others indicate the degree of awareness itself. On the whole, these adverbs emphasize the worth of people's awareness.

[Applied Linguistics]

- It is interesting that informal postexperiment conversations with participants revealed that native speakers of Arabic were sometimes consciously aware of the prominence of consonant information over vowel information in their English word identification processes. (ALC: TESOL2006\_13)
- Since the context plays an important part in the above parameters, they can be applied in the analysis of *need to* as well, though I am fully aware of some caveats. (ALC: Corpus2006\_12)
- The test constructors themselves were apparently aware of the conflict between their efforts to achieve reliability and their determination to produce positive washback. (ALC: Testing2005\_6)
- Partington is clearly aware of the differences between semantic prosody and connotation, but when he goes on to say that semantic prosody can also have an evaluative, functional meaning, like Sinclair and Stubbs, as well as be involved in a semantic transfer, like Louw, those differences begin to lose their distinctness. (ALC: Corpus2005\_1)

[Business Studies]

- In determining whether a director was an insider or an outsider, we were keenly aware of the lack of independence and potential inadequacies in firm monitoring posed by, so called, "gray" directors. (BC: Strategy2005\_3)
- In our experience, most people in these firms are hardworking, conscientious and talented and most are explicitly aware of the characteristics of their situation. (BC: Management2004\_6)
- Business schools must be especially aware of this double edge because they already exist on the border of university and corporate worlds and are juggling expectations about contributions to private versus public good. (BC: Society2004\_12)

In some cases, writers use *-ly* adverbs to intensify the evaluative element implicit in this phraseology, in order to portray themselves as reliable and expert members of their particular discourse communities (Charles, 2000). A good illustration of this is the second example above, in which the writer says ‘*though I am fully aware of some caveats*’. Since the *-ly* adverbs indicate the manner of people’s recognition towards things — that is, ‘how well people are aware of something’ — applied linguistics is, in other words, likely to ‘comment’ on how people interpret something. Since the subject matter of much applied linguistic research tends to be somewhat more abstract than is that of business studies, such subjective description is an essential resource for highlighting observations and interpretations of research findings.

Overall, human awareness appears to be an important concept in the research of both disciplines. However, it is rather foregrounded in applied linguistics and backgrounded in business studies. Applied linguistics also targets abstract things (e.g. differences and difficulties) and what is internally observable (e.g. language ability) in people, whereas business studies prioritizes more visible things (e.g. mistakes, documents, causes) and what is externally observable or quantifiable (e.g. potential/performance) in organizations, technologies, or sometimes people.

### 9.2.2. Responsibility

The second attribute is *responsibility*. This group indicates ‘someone or something has (legal) responsibility or commitment to someone or something’. That is, this group indicates the locus to which (negative) responsibility is attributed. Adjectives expressing *responsibility* are *responsible*, *accountable* and *liable* in the pattern ADJ *for* N. Table 9.19 below summarizes adjectives in this group in ADJ *for* N in both corpora.

Order	ALC	Freq.	BC	Freq.
1	responsible	97	responsible	172
2	accountable	3	liable	34
3			accountable	16
Total		100		222
Prop.		31%		69%

Table 9.19. The RESPONSIBILITY group in ADJ for N

Since this group is more than twice as frequent in BC than in ALC, we may fairly confidently propose that the attributed relation *responsibility* is more strongly associated with the discourse of business studies than it is with the discourse of applied linguistics. In particular, the adjective *liable* is peculiar to BC, largely because the legality implied in *liable* is closely relevant to the research contents in business studies. Let us consider the sample concordances of the LSP *liable for N* from BC:

[Business Studies]

prise, it will likely be held directly liable for a WARN Act violation. Specifically, it " that the defendants could not be held liable for all of the defendants' business losses w ts. Although, closed end funds are not liable for capital gains tax as long as the realise holders were not jointly and severally liable for firm liabilities prevent them from equat CLA, an affiliated company can be held liable for hazardous waste as an operator if it "di pressly or by implication agreed to be liable for intangible loss as part of the plaintiff of the partnership and are personally liable for its debts, and one or more limited partn rs are typically jointly and severally liable for partnership debts.201 In both Russia and loyees sought to hold parent companies liable for the acts of their wholly owned subsidiar arent companies could be held directly liable for the alleged WARN Act violation, the cour the partners are jointly and severally liable for the debts of the partnership.333 In the hrough December 31, 2002, insurers are liable for the initial amount of covered losses up erdict, the jury found Kimbell-Midwest liable for tortiously interfering with the contract wless action could justify holding him liable for unlawful conduct that in fact followed w rstepped its bounds and should be held liable for WARN Act violations. In contrast to the

In most cases, the liability indicates the negative business responsibility that is identified by nouns or adjectives by which nouns in the pattern are modified (e.g. *damage, abuse, hazardous, severely, loss, debts, failure, unlawful, violation*). The writers, thus, present the negative relation between people/things and the particular liability, and the locus to which the 'legal' responsibility is attributed. Since 'legality' (e.g. legal action) is the business matter from which people and institutions usually suffer in business activity, it is not surprising to find it being prioritized in business studies RAs.

This concept of responsibility for something negative is also expressed with the extended LSP (MODAL) *be held liable/accountable for N* in BC. It accounts for 10 of the total 34 examples in *liable for N* (29%) and 7 of the total 16 examples in *accountable for N* (about 50%):

company is an employer, it can be held liable for up to sixty days' back pay; benefits under 1301 of ERISA, an entity can be held liable for violations if "common control" exists among CLAs, an affiliated company can be held liable for hazardous waste as an operator if it "determines" which an affiliated company can be held liable for failing to comply with the WARN Act is not the affiliated companies could be held liable for the alleged WARN Act violation. Even though that the defendants could not be held liable for all of the defendants' business losses with the parent company "could not be held liable for the WARN Act violation."<sup>46</sup> Next, the court stepped its bounds and should be held liable for WARN Act violations. In contrast to the rise. If it is, then it should be held liable for direct violations under the WARN Act.<sup>161</sup> few directors actually have been held liable for corporate abuses, the ongoing threat of

research suggests that directors are held accountable for corporate failures (e.g., bankruptcies), work together in teams, and are held accountable for results do not need much managerial clear whether directors should be held accountable for these events. Boards are certainly issue whether directors would be held accountable for financial reporting failure. Audit trial experts are more likely to be held accountable for the failure. DIRECTOR equals 1 if minimal execution. Brokers should be held accountable for the execution cost incurred by their of their social category, are not held accountable for their actions (Backman, 1985; Bok,

This suggests that business studies researchers take a fairly direct and clear-cut 'cause and effect' view of the issue of moral responsibility; that is, the message is 'if you make a mistake, you will have to pay for it in some way.' In ALC, in contrast, this message is hardly found at all, largely because issues of legality are unlikely to be targeted as the research (subject) of most subdisciplines within applied linguistics. There are of course exceptions to this, such as language policy and politically committed branches of sociolinguistics. This caveat notwithstanding, it remains the case that the two disciplines focus on different things, leading to the disparity of subject matters between the two disciplines as manifested in the patterns analysed here.

### 9.2.3. Inherence

The third attribute is *inherence*. Unlike the semantic groups previously discussed, the *inherence* group particularly indicates 'the relation between inanimate things and their locus', or 'something exists as a part of something or not'. Adjectives in this group are *present*, *inherent* and *implicit* in the pattern ADJ *in* N. Table 9.20 below summarizes adjectives of this group in the pattern ADJ *in* N in both corpora.

Order	ALC	Freq.	BC	Freq.
1	present	153	present	70
2	inherent	41	inherent	68
3	implicit	24	implicit	27
Total		218	165	
Prop.		57%	43%	

Table 9.20. The INHERENCE group in ADJ *in* N

In Table 9.20 above, the adjective *present* in ALC occurs over twice as frequently as it does in BC, whereas the adjective *inherent* is relatively more frequent in BC than in ALC. In other words, more visible attributions are prioritized in applied linguistics, whereas more inherent features are foregrounded in business studies. In particular, the *-ing* clause in the pattern (i.e. the *-ing* clause by which the preposition *in* is followed) indicates a particular disciplinary activity in which an important feature lies. Such activities in applied linguistics are abstract, internal or intellectual phenomena such as *learning*, *translating* and *capturing*, whereas those in business studies are external goal-oriented actions such as *recruiting*, *assigning* and *implementing*.

As in Table 9.20 above, the LSP *present in* N occurs more frequently in ALC than it does in BC. The difference in this LSP between the two corpora, however, is in the collocating *-ly* adverbs as well. Table 9.21 below lists all *-ly* adverbs with this LSP.

ALC		BC	
Adv.	Freq.	Adv.	Freq.
<i>only</i>	4	<i>objectively</i>	1
<i>objectively</i>	1	<i>certainly</i>	1
<i>rarely</i>	1		
<i>usually</i>	1		
<i>strongly</i>	1		
<i>reliably</i>	1		
<i>really</i>	1		
<i>clearly</i>	1		
<i>actively</i>	1		
<i>actually</i>	1		
<i>hardly</i>	1		
<i>equally</i>	1		
<i>explicitly</i>	1		
Total	12	Total	2

Table 9.21. *-ly* adverbs with *present in* N

These adverbs describe how writers see the attributed relation. As can be seen, the LSP *present in N* much more frequently co-occurs with *-ly* adverbs in ALC than in BC. In other words, the subjective (epistemic) observation of inherent relations between things is more prioritized in applied linguistics than is the case in business studies.

The other difference between the two corpora lies in the type of entities in the attributed relation. Table 9.22 below outlines the top 10 nouns at both N1 and N2 positions of this group in the pattern in both corpora.

Order	N1				N2			
	ALC	Freq.	BC	Freq.	ALC	Freq.	BC	Freq.
1	information	9	challenges	6	language	14	environment	9
2	features	7	problems	5	speech	6	process	8
3	words	7	problem	5	text	5	firms	7
4	meaning	6	opportunities	5	context	5	transition	6
5	properties	6	bias	4	experiment	4	relationship	4
6	word	4	costs	4	word	4	organizations	4
7	constraints	4	uncertainty	4	signal	4	law	4
8	discourse	4	difficulties	3	stimuli	4	prices	4
9	effect	4	risks	3	English	4	research	3
10	difficulty	3	conflict	3	words	4	model	3

Table 9.22. Top 10 nouns at N1 and N2

The nouns at both N1 and N2 positions in ALC are likely to be features in language or something produced from language experiments (e.g. *word(s)*, *meaning*, *discourse*, *effect*, *signal*, *stimuli*): the attribute in applied linguistics indicates the relation between (language) features. On the other hand, nouns in BC are likely to be negative things at N1 position (e.g. *challenges*, *problems*, *bias*, *uncertainty*, *difficulties*, *risks*, *conflict*) and institutions, research targets or business situation at N2 position (e.g. *environment*, *transition*, *firms*, *organizations*, *law*, *prices*): the attribute in business studies indicates the locus of the negativity in business things.

As in Table 9.22 above, business studies is more likely to show the negative attribute than applied linguistics. This is largely because the LSP *inherent in N* potentially denotes the locus of problem in the both corpora (cf. compare the *inherent* figures in Table 9.20). Table 9.23 below summarizes all negative N1 nouns in the pattern N1 (v-link) ADJ *in* N2 of this group.

ALC			BC		
Negative Noun	<i>inherent</i>	others	Negative Noun	<i>inherent</i>	others
difficulty	3		challenges	6	
problems	3		problems	4	1(implicit)
constraints	2		problem	4	
weaknesses	1		uncertainty	3	1(present)
nothing	1		bias	1	2(present)
problem	1		risks	2	
tension	1		difficulties	2	
conflict	1		ambiguity	2	
challenge	1		violation	1	
difficulties	1		tensions	1	
dangers	1		corruption	1	
distance	1		constraints	1	
distinction	1		caveats	1	
force	1		ambiguity	1	
bias		1(present)	barriers	1	
			biases	1	
			inequities	1	
			heterogeneity	1	
			limitation	1	
			dilemma	1	
			flaws	1	
			discrimination		1(present)
Total	19	1	Total	37	5
Ratio	95%	5%	Ratio	88%	12%

Table 9.23. Negative N1 nouns in the INHERENCE group

In the INHERENCE group, the LSP *inherent in N* strongly co-occurs with negative nouns than other LSPs (95% in ALC; 88% in BC). Since COBUILD 5th edition (Sinclair, 2006) defines the sense of *inherent* as “[t]he inherent qualities of something are the necessary and natural parts of it”, the adjective *inherent* does not indicate the locus of any negative thing in nature.<sup>43</sup> In the British National Corpus (BNC), for instance, various neutral/positive N1 nouns indeed occur in this LSP (e.g. *possibility, potential, property, creativity, freedom*). Although the figure for this group is somewhat higher in ALC than it is in BC as shown in Table 9.20 above, the figures for collocations with negative N1 nouns in BC is over twice the total figure of ALC, as shown in Table 9.23. Thus, inherent things are likely to be negative especially in business studies.

Overall, applied linguistics tends to identify this particular type of relation in less observable phenomena inherent in language and people, whereas business studies attempts to clarify the locus of implicit problems, and to expand the writer’s discussion of it.

<sup>43</sup> COBUILD 5th edition indicates *Collins COBUILD Advanced Learners English Dictionary* 5<sup>th</sup> edition (Sinclair, 2006).

### 9.2.4. Uniqueness

The fourth attribute is *uniqueness*. The UNIQUENESS group indicates whether or not ‘something exists or occurs in a particular thing, place or situation’. This group is akin to the INHERENCE group in some respects, because uniqueness in a thing can be construed as a ‘feature’ inherent in it. Nevertheless, the frequency of adjectives such as *specific*, *unique*, *particular* and others in the pattern ADJ *to* N warrants the creation of an independent *uniqueness* group. Table 9.24 below summarizes the adjectives in this group in the pattern ADJ *to* N in both corpora.

Order	ALC	Freq.	BC	Freq.
1	restricted	84	restricted	39
2	specific	64	specific	39
3	unique	34	confined	29
4	common	30	common	19
5	confined	15	unique	18
6	particular	7	particular	6
7	peculiar	6	exclusive	2
8	native	3	peculiar	2
9	exclusive	1	local	1
10	endemic	1	native	1
11	local	1		
12	indigenous	1		
Total		247		156
Prop.		61%		39%

Table 9.24. The UNIQUENESS group in ADJ *to* N

Both tokens and types are higher in ALC than BC: this suggests that applied linguistics is more likely to identify a particular feature in a thing than is the case in business studies.

For example, *L2* co-occurs with only the LSP *unique to* N in this group in ALC, presenting the semantic sequences ‘FEATURE + (v-link) *unique to the L2*’.

#### [Applied Linguistics: *unique to* + *L2*]

determiner gender agreement, which is unique to the L2. We examined ERP responses during ERP data for the construction that was unique to the L2, suggesting that the learners were o violations of constructions that are unique to the L2 as opposed to constructions that d in the L1 and the L2, and one that was unique to the L2. Following the Spanish sentences, nguage similarity (similar, different, unique to the L2); acceptability (acceptable, unacc the L1 and the L2 and the construction unique to the L2. To evaluate these predictions, we ations of determiner gender agreement (unique to the L2) but were not sensitive to the vio lations of the construction that was unique to the L2. The results support our predictio highest ERP sensitivity (constructions unique to the L2). At an overt level, it appears th

In each of the above concordances this phraseology is being used to highlight the writer's findings about specific features that are peculiar to a second language. In this group, the collocation with *language(s)* also presents unique features of the specific language(s) (activity) in ALC.

[Applied Linguistics: the UNIQUENESS group + *language(s)*]

s common to all languages, and what is specific to individual languages? To what extent is enefits or concluded that effects were specific to certain language forms and developmenta and word identification processes from native to second language reading and that this tra ic knowledge to be hand coded, and are restricted to the language spoken by the developer. knowledge and practice is clearly not restricted to the language testing and assessment c minimum marks. This phenomenon is not confined to the language marks only. When compared w can we draw the line between what is common to all languages, and what is specific to in t result in a shared perceptual space, common to both languages. Two factors may be determ ause these come from Dutch and are not common to many languages. We couch our research ques

All LSPs except the LSP *common to N* express the unique features restricted to specific languages or language activities (e.g. *individual language, second language reading, language testing and assessment*). On the other hand, the LSP *common to N* expresses the common features among two or more languages (e.g. *all/both/many languages*).

In this group, ADJ *to particular N* in ALC and ADJ *to ~ firms* in BC, for instance, mark the specific entity to which a unique feature is being attributed in each corpus:

[Applied Linguistics: the UNIQUENESS group + *particular N*]

bulary learning in that study were not specific to the particular voice types used nor wer ency tests, on the other hand, are not specific to a particular curriculum; they assess a ings are too culturebound and narrowly specific to a particular variety of English to be u nerated in situ, and is therefore very specific to a particular context. The text which pr hat relevant knowledge and learning is specific to a particular endeavour in a particular g and teaching written genres that are specific to a particular context, and I have shown ome regional expressions they would be restricted to that particular region only. In addit rican ceremonial. The American DDs are restricted to a particular discourse community meet some that a YLL language class will be restricted to a particular, near-beginner level, pr l rhetorical features (not necessarily restricted to one particular move). Collot and Belm fall-rise or fall tones is by no means unique to one particular kind of spoken discourse. nurturing effectual practices that are indigenous to our particular contexts (p. 295).

[Business Studies: the UNIQUENESS group + *firms*]

t-focused strategy emphasizing factors specific to Internet firms, such as security of tra ing and maturity decisions, is largely confined to large firms in the sample. Among the co more likely for large firms but is not restricted to large firms), (d) the firm's goals an more likely for large firms but is not restricted to large firms), (c) the congruency of t more likely for large firms but is not restricted to large firms. Producers of branded pro es is meant to ensure that differences unique to service firms would not impact the analys t of earnings announcements is largely confined to small firms, with relatively little rea

The adjective *particular* emphasizes that this phraseological group targets particular things in ALC. Such things include not only language itself but also various entities relevant to disciplinary contents (e.g. *voice types, curriculum, discourse community, context, variety of English*). On the other hand, the concordances from BC show the specific features (not) attributed to specific firms (e.g. *internet firms, large firms, service firms* and *small firms*).

While adjectives in this group are likely to describe the unique properties of things, they are divided into two kinds— the first type particularizes a particular feature in a thing (e.g. *restricted, confined, unique, specific*), and the second type generalizes a commonality in groups (e.g. *common*). The uniqueness is the specificity in a particular language (activity) in applied linguistics (e.g. *L2*), but a particular institution in business studies (e.g. *internet firm*). At the same time, the commonality is the generality in two or more languages in applied linguistics (e.g. *both languages*), but two or more institutions in business studies (e.g. *all firms*).

### 9.2.5. Representativeness

We now turn to the penultimate *attribute* to be discussed in this section, *representativeness*. The REPRESENTATIVENESS group indicates whether or not ‘something presents a whole picture of something’, ‘something is a part extracted from something’ or ‘something illustrates what something is like’. This group is often expressed by adjectives such as *typical, representative, reminiscent* and others in the pattern ADJ of N. Table 9.25 below summarizes adjectives in this group in ADJ of N in both corpora.

Order	ALC	Freq.	BC	Freq.
1	typical	78	representative	59
2	representative	60	indicative	49
3	indicative	36	typical	17
4	reminiscent	15	reflective	14
5	reflective	8	suggestive	8
6	illustrative	7	reminiscent	8
7	suggestive	5	symptomatic	6
8	descriptive	1	descriptive	3
9			unrepresentative	2
10			emblematic	2
11			illustrative	1
Total		210		169
Prop.		55%		45%

Table 9.25. The REPRESENTATIVENESS group in ADJ of N

Several adjectives in this group indicate various relations between research entities such as taxonomical relations (viz. *typical*), whole-part relations (viz. *representative*), associated relations (viz. *reminiscent*) and so on. The figures in Table 9.25 above indicate that the concept of representativeness is more prioritized in ALC than it is in BC in purely quantitative terms (i.e. in the number of tokens in each corpus), but that this concept is more variously described in BC than it is in ALC (viz. types). It is also interesting to note that taxonomic relations (as represented primarily by the adjective *typical*) seem to be of much greater interest to applied linguists than they are to business researchers.

Concordance analysis of the LSP *typical of N* indicates that typicality in ALC focuses on language type/production/activity, whereas in BC it indicates a particular type of configuration/organization:

#### [Applied Linguistics]

g the aspects of the relation that are typical of reading and/or the features of those inv shall see, certain parts of speech are typical of the spoken variants of the Scandinavian ammatl constructions and categories typical of the written language. In Scandinavia tod from the calculation being presumably typical of the activity type rather than a more gen ouns, prepositions, and adjectives are typical of writing, while pronouns and adverbs (and erbs (and obviously interjections) are typical of speech. Why are pronouns, adverbs, and i nterjections and conjunctions are more typical of spoken language than written language, w , adjectives and prepositions are more typical of written language. A second conclusion mi question is plausibly regarded as more typical of literary registers. Again, this does not a degree of premeditation and planning typical of written texts. Following the arrangement g to Coates (1983:35) impersonal we is typical of lectures, sermons and other formal orato and non-standard words, which are all typical of spontaneous speech, are taken care of in

#### [Business Studies]

en goes on to contrast them with those typical of US banks of similar size, the answer is sample. Our sample, therefore, is not typical of the HGSC. Although the choice of the FTS ividual buyer. The greater uncertainty typical of novel, complex, important and risky purc first generation distribution firm is typical of this configuration. This organizational Universities or general hospitals are typical of this configuration. However, these outpu ron et al, 1999; Desarbo et al, 2005). Typical of this type of configuration is a research king. An old manufacturing firm may be typical of this type of organization. 2 Entrepreneu first-generation distribution firm is typical of this configuration. 3 Professional. This ntrols or formal communication exists. Typical of this type of organization is the researc w. Although this loose coupling may be typical of educational organizations (Weick, 1976), technologies examined here are indeed typical of diffusion behavior today, then we might vement (CPI), and similar programs are typical of efforts manufacturers have had to implem

The taxonomical relation links a feature to a particular genre of language activity in ALC (e.g.

*spoken variants, written language, literary registers, spontaneous speech*), but to a particular institution in BC (e.g. *US banks of similar size, the HSBC, this type of organization, educational organizations*). While the place in which the typicality lies is – as would be expected – very different in applied linguistics and business studies, both scrutinize and generalize what such a particular thing is like.

The LSP *representative of N*, on the other hand, presents the whole-part relation between a sample and a parent population. Table 9.26 below summarizes the high-frequency nouns at both N1 and N2 positions in both corpora.

Order	N1 nouns				N2 nouns			
	ALC	Freq.	BC	Freq.	ALC	Freq.	BC	Freq.
1	sample	3	sample	9	language	5	population	9
2	English	3	propositions	3	population	4	results	4
3	corpus	3	comments	2	English	3	business	4
4	population	2	sales	2	students	3	entrepreneur	3
5	respondents	2	group	1	test	3	strategy	3
6	test	2	guest	1	community	2	characteristics	3
7	issue	2	examiner	1	level	2	research	2
8	participants	1	findings	1	company	2	context	2
9	performance	1	statistics	1	content	2	firm	2
10	problems	1	opportunity	1	results	2	firms	2

Table 9.26. N1 and N2 nouns in N1 (v-link) *representative of N2*

The high-frequency N1 nouns in ALC are, for example, *English* (3), *corpus* (3) and *sample* (3), and those in BC are *sample* (9), *propositions* (3) and *sales* (2). On the other hand, the high-frequency N2 nouns in ALC are, for example, *language* (5), *English* (3), *students* (3) and *test* (3), and those in BC are *business* (4), *entrepreneur* (3), *strategy* (3) and *firm(s)* (2 each). In both corpora, the N1 nouns are likely to be a part, a sample or a feature, and the N2 nouns are likely to be its whole or parent population. Thus, this LSP explains what sort of data are used as the research samples in both disciplines, although the type of data differs between them (e.g. *corpus* vs. *sales*). Let us consider the following examples.

[Applied Linguistics]

- Obviously, a corpus is not representative of its language in any straightforward way. (ALC: Corpus2005\_11)
- On the face of it, the extent to which the three corpora from which the samples are drawn are representative of the language in general and of the three genres in particular, is an open question. (ALC: Corpus2006\_13)

[Business Studies]

- Our sample is representative of small scale business founders in Amsterdam. (BC: Management2000\_21)
- The sample was representative of firm age and type of manufacture. (BC: Management2000\_16)

All examples describe the sample/data used in the research to investigate its parent population. In other words, people in both disciplines attempt to foresee the whole picture from a piece. The difference in the type of sample, feature or parent population between the two corpora is due to differences in the particular subject matter of each discipline.

The LSP *reminiscent of N* also indicates the attributed relation between a feature and an entity. In this LSP, applied linguistics is likely to add comments ‘how a writer sees the relation’ through hedge (viz. *generally*), booster (viz. *highly*) or evaluative marker *V + that* clause (viz. [*n*]ote *that* ...). (N.B. hedges and boosters are discussed at length in Hyland 1994, 1996, 1998, 2000, 2002a). Let us consider the following examples of the LSP *reminiscent of N* from ALC.

- This form of correction and expansion is highly reminiscent of adult-child conversation. (ALC: LL2005\_1)
- The French portfolio reflects the former approach, so that the CEFR levels are fairly rigorously represented, with the wording and concepts in the document being generally reminiscent of the adult world. (ALC: Testing2005\_13)
- Note that the latter interpretation is reminiscent of the interpretation of the effect of L1 concreteness (and of L1 frequency, if it occurs at all) in terms of L1 information already stored in memory prior to the FL learning episode and the anchoring opportunities provided by this stored information (ALC: LL2006\_8)

In the second extract, the writer uses the booster (or amplifier) *highly* in order to strengthen the validity of his interpretation. On the other hand, boosters such as this are not very frequent in BC; here, writers are more likely to note simply that the relationship exists without adding an adverb. When this LSP is modified, it tends to be by a hedge (as underlined in the example concordance below) rather than by a boosting adverbial:

[Business Studies]

ion without cause and expendability is reminiscent of the proposed domination th  
n the latter's favor.<sup>21</sup> This result is reminiscent of the old contributory negli  
. His elaboration of "If P, then Q" is reminiscent of Hegel, or of Bertrand Russ  
liam Thompson Jr.<sup>15</sup> In a public battle reminiscent of the movement to urge U.S. -  
wned or controlled (note the language, reminiscent of the TWEA-based Cuban regul  
onduct be extreme and outrageous. Also reminiscent of its American counterpart,  
lity The Corporation is, in many ways, reminiscent of Lawrence Mitchell's book,

Since the meaning of reminiscence indicates a somewhat subjective or impressionistic link between one thing and another, the higher figure of *reminiscent* in ALC (16) than BC (8) indicates that applied linguistics is more imbued with overt expressions of writer subjectivity than is the case in business studies.

### 9.2.6. Basis

The sixth and final *attribute* to be discussed here is *basis*. The *basis* group indicates that 'someone or something reflects something'. This meaning group is often expressed by adjectives *based* and *founded* in ADJ *on* N. Table 9.27 below summarizes the figures of this group in the pattern ADJ *on* N in both corpora.

Order	ALC	Freq.	BC	Freq.
1	based	1448	based	1835
2	founded	3	founded	10
Total		1451		1845
Prop.		44%		56%

Table 9.27. The BASIS group in ADJ *on* N

The figures in Table 9.27 above indicate that the BASIS relation occurs more frequently in BC than it does in ALC. Closer analysis reveals that the BASIS relation is more various, more particularized and utilized more frequently to expand information in BC than it is in ALC.

The LSP *based on* N differs in the type of things attributed to the groundwork between the two corpora. This indicates the differences in the context of situation in the use of the LSP between ALC and BC. Table 9.28 below summarizes the high-frequency N1 nouns in N1 (v-link) *based on* N2.

Order	ALC	Freq.	BC	Freq.
1	study	27	results	59
2	stress	26	model	30
3	test	24	market	28
4	patterns	23	firms	27
5	English	23	performance	24
6	analysis	21	firm	21
7	items	19	study	19
8	accuracy	18	statistics	19
9	word	18	strategy	19
10	approach	18	regression	19

Table 9.28. The high-frequency N1 nouns

Nouns such as *study*, *analysis* and *approach* are ranked higher in ALC, whereas nouns such as *results*, *model* and *statistics* frequently occur in BC. Through this LSP, applied linguistics is likely to describe the overall picture of research, whereas business studies tends to specify the result or data gained in the research. In other words, this LSP is likely to occur in the following semantic sequences in each corpus:

	N1	ADJ PREP	N2
ALC	STUDY/ANALYSIS	<i>based on</i>	DATA/THEORY
BC	RESULT/DATA		

Table 9.29. Semantic sequence of *based on N*

My concordance analysis of the LSP *based on N* also revealed that it is used in different parts of the text in each discipline. It typically occurs in the first half of articles (in the abstract, introduction or methodology sections) in applied linguistics, and in the latter sections of articles (such as analysis and discussion) in business studies journal articles. (N.B. in order to confirm this tendency, it will be necessary for my future work to conduct a comprehensive quantitative analysis of this issue using the same number of RAs between the two disciplines).<sup>44</sup> In order to understand why this is the case, let us consider some examples of *study/analysis + based on N* from ALC as follows:

[Applied Linguistics: *study + based on N*]

- The study is based on a corpus of approximately 150 newspaper and magazine advertisements and television commercials. (ALC: Corpus2006\_4)

<sup>44</sup> I thank Dr. Oliver Mason for his invaluable comment on this matter.

- The study is based on two corpora of abstracts collected from L2 post-graduate dissertations (both masters and doctoral), and published journal articles in six disciplines. (ALC: ESP2005\_6)
- The study is based on the rather unique opportunity of accessing two versions of an authentic lecture given by a native speaker on two different occasions. (ALC: ESP2005\_9)
- This study is based on the application of a multivariate statistical procedure, cluster analysis, which is particularly useful in distinguishing various learner profiles. (ALC: LL2005\_7)

[Applied Linguistics: *analysis + based on N*]

- The analysis is based on the hypothesis that the use of the selected metatext categories is more restricted in Slovene academic writing than in English academic writing. (ALC: ESP2005\_14)
- The analysis is based on data from all participants who provided second occurrence gesture data (i.e., maintained and reintroduced reference) in both L2 visibility conditions. (ALC: LL2006\_16)
- As such, the analysis is based on a data set of 15,826 tokens. (ALC: SLA2004\_4)
- [T]his analysis, however, is based on the 323,302,789 tokens that COBUILD had in 2000. (ALC: ESP2006\_12)

The above examples from ALC introduce data, procedures or a supposed (original) hypothesis adopted for the on-going research (e.g. the corpus data, the statistical method). These descriptions are likely to be in the beginning parts of an article (viz. abstract, introduction or methodology), to present what sort of approach is taken for the on-going research. On the other hand, this LSP from BC specifies the results or data of analysis in rather the last half parts of an article (viz. analysis and discussion). Let us consider the examples *results/model + based on N* in BC as follows:

[Business studies: *results + based on N*]

- The analyses and results so far are based on annual forecasts. Separate analyses are also carried out using a sample of quarterly forecasts. (BC: Accounting2005\_10)
- The above results are based on a sample in which there are insider trades within the firm-months. (BC: Accounting2005\_1)
- In this table, the first two columns of empirical results are based on BHARs computed with the equalweighted and valuetypeweighted bankingspecific custom CRSP indexes, respectively. (BC: Finance2005\_11)
- The left side results are based on an at standard deviation of .0125, while the right side results are based on a level of .05. (BC: Economics2004\_12)

[Business studies: *model + based on N*]

- When the varying coefficient model is based on the continuous variable, Firm Size, as in Table 4, some further interesting results emerge. (BC: Finance2005\_57)
- The 2SLS estimates of the firm size varying coefficient model based on the discrete Sizedum variable (corresponding to middlemarket and large firms respectively) are summarized in the two righthand columns of Table 3 while those based on the continuous variable, Firm Size, are shown in Table 4. (BC: Finance2005\_57)
- The model in equation (1) is based on the existing literature on closedend country funds (e.g., Chang, Eun and Kolodny, 1995; and Lee and Hong, 2002). (BC: Finance2005\_54)

The examples with *results* above particularize the results of the analysis in an on-going piece of research, indicating ‘how the research result is gained from data, procedures, scores or entities’. The examples with *model* above also introduce the groundwork of the model in the form of statistics or equations, particularizing the data or information gained in the analysis. In other words, the LSP *based on N* is likely to detail the analysis or results of on-going research (in the last half parts of articles in business studies). This LSP is a particularly clear example of how even ‘the same’ phraseology can carry out very different functions in RAs in two disciplines.

The reason why the figure in BC is relatively higher than ALC may be that the attributed relation is more various in business studies than it is in applied linguistics. For instance, the LSP *founded on N* is likely to construct arguments systematically in the both corpora. In particular, this LSP in ALC occurs in the semantic sequence ‘RESEARCH/METHOD (v-link) *founded on* (THEORETICAL) ASSUMPTION’, and in BC occurs in the similar semantic sequences ‘ASSUMPTION/THEORY (v-link) *founded on* THEORY/ASSUMPTION’.

[Applied Linguistics: RESEARCH/METHOD (v-link) *founded on* (THEORETICAL) ASSUMPTION]

- Cook (1993) points out that Brown’s research, and earlier child grammars of the 1960s, were founded on the independent grammars assumption... (ALC: LL2005\_3)
- Criterion-based assessment systems are founded on the premise that agreement (with criteria as well as other assessors) rather than disagreement are essential for... (ALC: Testing2004\_10)
- First, construct-referenced assessment is founded on the assumption that .... (ALC: Testing2004\_10)

[Business Studies: ASSUMPTION/THEORY (v-link) *founded on* THEORY/ASSUMPTION ]

- The article develops hypotheses founded on resource dependence theory that examine organizational and environmental factors that might influence subsidiary government affairs activities. (BC: society2003\_7)
- Traditional theories describing marketing channel interactions are founded on the assumption that in the absence of suitable safeguards, economic agents are prone to opportunistic and self-interest-seeking behavior.....(BC: Strategy 2005\_6)

These examples summarize a theory or a method of the research by explaining its basis. However, this LSP in BC also occurs in other semantic sequences that particularize a thing targeted in the research:

[FEATURE (v-link) *founded on* MODEL]

- Selecting Participants Participation may be founded on a model of participatory democracy, in which all or most members of the community or the organization take part, compared with representative democracy, according to which a group of delegates represents all the members of the community or the organization. (BC society2005\_11)

[STRATEGY (v-link) *founded on* EXPECTATION]

- Every strategy must be founded on the expectations of the society, market, and community. (BC society2005\_11)

[AGREEMENT (v-link) *founded on* LANGUAGE]

- Although the agreement is usually founded on a written or oral expression, it may also be determined from the conduct of the parties.... (BC Law2003\_11)

[CONTACT (v-link) *founded on* RELATION]

- These contacts sometimes are founded on long-term relations, stemming from the periods when NK studied with them at the State Academy of Finance or worked with them in the Ministry of Finance. (BC Management 2000\_25)

These examples rather look at a particular feature and its basis, expanding the academic argument in a more specific and deep way. In other words, the BASIS relation in ALC prioritizes discourse consistency, whereas that in BC specifies the research contents and details the particular information in a text.

Therefore, in the BASIS group, applied linguistics is likely to summarize the overview of research, whereas business studies is likely to express detailed information about a

particular thing in order to deepen the author's argument.

### **9.3. Summary**

This chapter has presented my findings about the pattern ADJ PREP N based on the second major semantic theme identified in my data, *relation*. We have seen that the relations expressed by the pattern can be divided into two types, *connection* and *attribute*, and that the former type can be further subdivided into seven semantic groups, and the latter into six. We identified clear disciplinary differences in the kinds of entities described in relational terms, and it was argued that the research contents and disciplinary cultures of applied linguistics and business studies were qualitatively distinguished through a close analysis of these patterns. Overall, the picture that emerges from this analysis is that applied linguistics uses this pattern to make humanistic disciplinary meanings that focus on organic and internally observable things such as language features, people's linguistic abilities, student levels and so on, whereas business studies seems to use this pattern to construct a more mechanistic and depersonalized view of the world, preferring to deal with inorganic and externally observable things such as statistical scores, prices, institutional behaviours and processes, and so on. The next chapter will generalize how each discipline can be delineated from these specific findings.

## CHAPTER 10. Review of findings

“Discourse, in other words, has a beat; and without this rhythm, it would be very hard to understand” (Martin & Rose, 2007, p. 189)

### 10.1. Introduction

The purpose of this chapter is to review the complex set of findings obtained from my qualitative and quantitative investigations of the pattern ADJ PREP N presented in the preceding chapters, and in so doing to show how these findings delineate aspects of the disciplinary cultures of applied linguistics and business studies. As before, my claims and interpretations in this chapter are only based on the analysis of the pattern ADJ PREP N, and I only looked at a small sample of it. Accordingly, it is impossible to make broader claims about the nature of discourse in applied linguistics and business studies from these findings alone. However, even so, I believe that they still reveal a part of the nature of the discourse and culture of the two disciplines especially as they relate to the RA genre. (Needless to say, I admit that there are many ways in which a particular linguistic function can be possibly realised even in the same genre and, of course, in other genres). In particular, I aim to show how the quantitative and qualitative analyses work well in combination in order to identify distinctions in the use of adjective patterns between two epistemologically similar disciplines. I also aim to show how these findings allow us to speculate about the disciplinary values inherent in the behaviour of the pattern forms identified by corpus analysis. In short, my claim is that the approach adopted in this thesis is able to make a broadly *cultural* as well as a more narrowly *epistemological* delineation between the disciplines of applied linguistics and business studies in some ways.

### 10.2. Review of two analyses

In the current study, I first extracted all instances of the pattern ADJ PREP N from over 2.5 million words of corpus data taken from journals in applied linguistics (viz. ALC) and business studies (viz. BC). These instances were then investigated quantitatively and qualitatively in order to identify the linguistic and cultural characteristics of applied linguistics and business studies respectively.

The corpus-based quantitative analysis reported in Chapter 7 succeeded in identifying to a certain extent differences in the tokens and types of adjectives in the pattern

across the two disciplines. However, this analysis only confirms that there are significant and consistent disciplinary differences in pattern usage in the two disciplines; by its very nature, correspondence analysis focuses only on the surface forms of the patterns under analysis, and does not concern itself with any considerations of what these patterns mean in discourse. The same is true in the case of the one pattern for which disciplinary differences were not found by the procedure of correspondence analysis, the pattern ADJ *on* N. Simply because the LSP *based on* N frequently occurs in both corpora, this does not necessarily mean that it is used in the same way by writers in applied linguistics and business studies, nor does it necessarily mean the same thing across the two disciplines. In other words, a quantitative analysis cannot show what the numbers do not show: it is impossible to know whether and how a particular LSP (e.g. *based on* N) expresses different meanings and functions in the discourses of two (or more) different disciplines.

The corpus-based qualitative analysis, on the other hand, was able to present a full and detailed picture of precisely these different meanings and functions of particular adjective patterns and of the particular semantic groups associated with these adjective patterns. It particularly clarified the specific aura (or context of situation) expressed by the pattern in the particular disciplinary discourse. Typically, the particular context of situation reflecting each disciplinary culture was identified through the collocations of each pattern, thereby confirming the argument that collocation is a minimal set of textual meaning (cf. Louw, 2000, 2007). Collocation is also the starting point for identifying the broader semantic preferences and semantic sequences that express particular meanings and functions in discourse.

Through the qualitative analysis, the context of situation expressed by the pattern ADJ PREP N was found to be divided into two main types. The first type is inherent in written academic discourse irrespective of discipline. For instance, the LSP *consistent with* N is likely to express a connection between on-going and past studies in the both corpora. The second type was found to be imbued with a particular disciplinary discourse, and thus reflective of semantically distinct and differentiated disciplinary cultures. For instance, the LSP *equal to* N expresses numerical relations in BC, whilst the LSP *unique to* N describes the specific language features inherent in second language acquisition data in ALC. In other words, my qualitative discourse analysis clarified which particular patterns are particularly influenced (or not influenced) by a particular disciplinary culture.

In summary, the current study investigated the same data from different perspectives

based on corpus-based quantitative (viz. statistical-based) and qualitative (viz. discourse-based) analyses respectively, and found that each analysis produced complementary but distinct perspectives on these data.

### **10.3. Disciplinary cultures and values of two disciplines**

The disciplinary cultures of applied linguistics and business studies are, in some degree, delineated from the disciplinary values inscribed in the pattern ADJ PREP N. Although it may seem to be too broad to suggest the following values as peculiarities of each discipline, they are empirical facts about the meanings expressed by the variant forms of this pattern as it occurs in my corpora. That is, the following values are what I see through the investigation of this study.

Based on the analyses in the current study, applied linguistics emerges as a humanistic discipline which is characterized by an emphasis on what I have termed **animacy** (i.e. human agency and dynamic processes), **causation** (i.e. causal links between phenomena), **generalization** (i.e. drawing general conclusions from specific exemplars), **emotionality** (i.e. the affective states of research subjects and a readiness to express one's own affective attitudes towards research findings), **caution** (i.e. the tendency to make hedged knowledge claims), **neutrality** (i.e. the adoption of an objectively scientific textual voice), **past information** (i.e. an interest in historical contexts and in how current research relates to previous information), and **attributes** (i.e. the properties of things). On the other hand, the picture of business studies that emerges from my analysis is of a discipline that construes the world in more 'mechanistic' and dehumanized terms, and which is characterized by an emphasis on what I have termed **inanimacy** (i.e. static structures and states of affairs), **effect** (i.e. a greater concern with outcomes than with causes), **particularization** (i.e. a focus on individual cases and a reluctance to draw general conclusions from specific exemplars), **emotionlessness** (i.e. an absence of interest in the affective states of research subjects and a reluctance to express one's own affective attitudes towards research findings), **assertiveness** (i.e. the tendency to express claims in strong and unhedged forms), **equality** (i.e. the adoption of an egalitarian textual voice), **current information** (i.e. a comparative lack of interest in historical contextualization and a strong emphasis on the 'here-and-now'), and **connections** (i.e. an interest in taxonomic relationships between things). Figure 12.1 below summarizes the disciplinary cultures and values of each discipline extracted from the behaviour of the pattern

## ADJ PREP N.

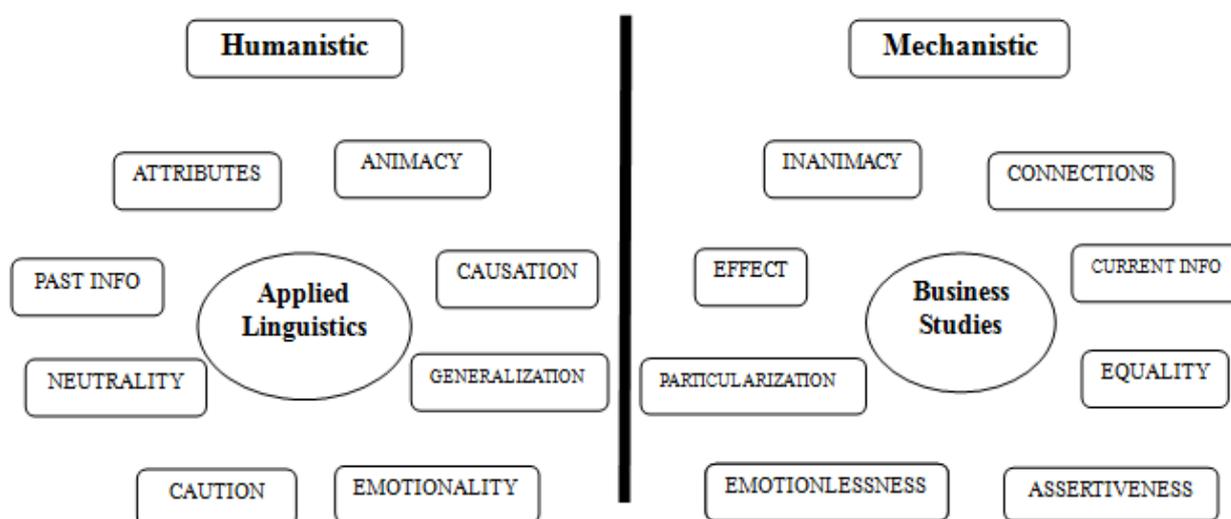


Figure 10.1. Disciplinary cultures and values of applied linguistics and business studies

Since one of the aims of applied linguistics is to improve the teaching and learning of additional languages, the involvement of both people and educational institutions and processes produces such humanistic values in applied linguistics. On the other hand, since the aim in business studies is to look for ways of improving business relationships, creating effective management systems, improving the quality of economic life and maximizing shareholders' wealth, the involvement of both the strategy and the practical benefits produces the 'mechanistic' values of business studies.

As summarized in Figure 10.1, the disciplinary cultures peculiar to applied linguistics and business studies are constructed from various disciplinary values that are identified from the discourse of the pattern ADJ PREP N. The following sub-sections will discuss each disciplinary value in detail.

### 10.3.1. Animacy vs. Inanimacy

Animacy emerges as a distinguishing feature between the two disciplines. In particular, the association of animate or inanimate entities with the pattern ADJ PREP N presents a clear difference in terms of the research contents and the subject matter of applied linguistics and business studies. Overall, my claim is that animate entities are likely to occur with patterns in applied linguistics (as represented by ALC), whereas inanimate entities tend to appear in

business studies (as represented by BC).

ADJ PREP N patterns in applied linguistics are likely to focus more on organic issues, especially the process or performance of human language activities: animate nouns often occur at N1 position (e.g. *students, learners, teachers, researchers*), and language activities, research objects or forms of performance occur at N2 position (e.g. *language acquisition, English literacy skills, language learning*). People and language are, in other words, closely tied to one another in this discipline. This is of course hardly surprising, as language is produced, interpreted, learned, taught or researched by people, but it does clearly show what makes applied linguistics distinctive as an academic discipline (and perhaps also what distinguishes it fundamentally from ‘mainstream’ linguistics, which tends to take a much more dehumanized, decontextualised and mechanistic view of language). Since applied linguistics attempts not only to contextualize language by relating it to social reality but also to reconstruct reality by attempting to find solutions to real-life language problems, it often needs to focus on less directly observable things— what is internally observable in people— by observing people’s language use in real life (e.g. the process of language interpretation, production, learning and so on). Thus, animate entities, namely people, are always involved in the subject matter of applied linguistics.

On the other hand, ADJ PREP N patterns in business studies are more likely to prioritize inorganic phenomena: inanimate nouns often occur at N1 position (e.g. *organization, company, firm, nation, country, management*), and business transactions, activities, relationships or situations occur at N2 position (e.g. *decision making, economic relationship, final negotiation*). For instance, whereas the attribute of ‘capability’ (e.g. *capable of N*) is always assigned to the linguistic abilities of particular human individuals or groups in applied linguistics, in business studies it is more likely to be evaluating the potential or performance of an organization. Since the purpose of business studies is fundamentally to identify practical strategies for accumulating wealth (Reinsch, 1991, 1996; Smeltzer, 1996), it is perhaps not surprising that the current analysis identified adjective patterns in this discipline as prioritizing things that are more externally observable or possible to evaluate, such as strategy, assessment, benefits or performance.

One problem with qualitative analysis is that it can seem impressionistic, and the reader may not be convinced by claims put forward on the basis of small numbers of examples from the data. In order to establish more firmly whether animate subjects are more

likely to occur in applied linguistics than they are in business studies, therefore, the subjects of *be* verbs in present and past tenses (viz. *is, am, are, was, were*) were extracted. (I decided to check only the subjects of *be*-verbs in ALC and BC, because my corpora are quite large and also because the concordancer used in the current study is not able to handle a vast amount of data at once. Although the tables 10.1 and 10.2 are not complete lists for all subjects extracted from each corpus, the data that they present are comprehensive enough for us to be reasonably confident about the quantitative claims we aim to make here about the animacy of subjects.) Among 68575 sentences with *be*-verbs in ALC, Table 10.1 below lists subjects at over 100 occurrences.

Order	Subjects	Freq.	Order	Subjects	Freq.	Order	Subjects	Freq.	Order	Subjects	Freq.
1	it	4456	22	language	262	43	difference	165	64	speech	123
2	there	3601	23	effect	258	44	responses	156	65	forms	122
3	that	3095	24	these	257	45	differences	152	66	errors	121
4	they	1776	25	information	251	46	tests	151	67	texts	121
5	which	1478	26	stimuli	236	47	condition	149	68	pattern	118
6	this	1396	27	group	225	48	experiment	147	69	variables	117
7	participants	792	28	analysis	219	49	conditions	145	70	questions	114
8	study	661	29	scores	216	50	context	138	71	children	112
9	words	625	30	effects	216	51	one	135	72	targets	112
10	what	578	31	English	214	52	subjects	134	73	priming	112
11	students	446	32	she	204	53	categories	133	74	studies	109
12	who	416	33	listeners	198	54	verbs	129	75	form	109
13	we	403	34	he	194	55	item	129	76	factors	108
14	items	367	35	speakers	191	56	interaction	128	77	nouns	108
15	data	367	36	groups	190	57	analyses	127	78	time	106
16	I	343	37	learning	185	58	meaning	127	79	teachers	105
17	learners	340	38	research	184	59	vowels	127	80	verb	105
18	word	328	39	sentences	180	60	structure	127	81	procedure	105
19	results	321	40	knowledge	174	61	question	125	82	level	102
20	task	289	41	corpus	173	62	performance	123			
21	test	271	42	tasks	168	63	model	123			

Table 10.1. Subjects occurring more than 100 times with *be*-verbs in ALC

As can be seen, in ALC, 12 kinds of animate subjects are found among 82 items.<sup>45</sup> In particular, various animate content nouns are detected, such as *participants, students, learners, listeners, speakers, children* and *teachers*: they are participants or targets in the research of applied linguistics. The total figure of these subjects is at 3744 occurrences altogether.

<sup>45</sup> The relative pronoun *who* is included in this list because it marks the existence of an animate subject in the sentence. On the other hand, the plural pronoun *they* is excluded here because it also refers to inanimate subjects. This rule is also applied to the list in table 10.2.

Among 64102 sentences with the *be*-verbs in BC, Table 10.2 below also summarizes the subjects at over 100 occurrences. As opposed to ALC, only eight animate nouns are included in the total of 69 items listed.

Order	Subject	Freq.	Order	Subject	Freq.	Order	Subject	Freq.	Order	Subject	Freq.
1	it	3429	19	variable	274	37	relationship	149	55	organizations	119
2	there	3208	20	companies	274	38	costs	147	56	dividends	117
3	that	2535	21	information	240	39	company	146	57	customers	116
4	this	1206	22	earnings	229	40	value	144	58	hypothesis	115
5	they	1093	23	performance	224	41	markets	142	59	issue	114
6	which	952	24	research	213	42	measures	141	60	I	114
7	firms	676	25	market	191	43	management	140	61	industry	112
8	results	657	26	strategy	190	44	process	139	62	values	110
9	who	484	27	paper	190	45	investors	135	63	finding	107
10	what	431	28	analysis	186	46	findings	135	64	growth	106
11	variables	414	29	size	178	47	approach	135	65	business	106
12	returns	408	30	these	167	48	managers	130	66	measure	105
13	study	391	31	directors	163	49	factors	128	67	coefficients	103
14	we	343	32	return	158	50	period	126	68	models	102
15	data	343	33	result	152	51	effect	124	69	differences	101
16	model	332	34	respondents	152	52	difference	122			
17	firm	311	35	article	152	53	organization	121			
18	sample	276	36	employees	150	54	relationships	119			

Table 10.2. Subjects occurring more than 100 times with *be*-verbs in BC

The animate content nouns that do occur are entities such as *respondents*, *employees*, *investors*, *managers* and *customers* — the typical participants in business studies research. The total figure of these eight subjects is at 1624 occurrences altogether.

Overall, the total for the most frequently-occurring animate subjects in ALC (3744) is more than double the score for those in BC (1624): animate subjects really are much more likely to occur in applied linguistics than they are in business studies. This result is also supported by a chi-square test of the above data at 0.01% level ( $p < 0.01$ ).<sup>46</sup> Therefore, we may conclude that animacy is one of the key disciplinary values that distinguishes the research foci peculiar to each discipline (e.g. human ability in ALC; company performance in BC), which in turn forms part of the different disciplinary cultures of applied linguistics and business studies.

<sup>46</sup> Although companies/institutions are sometimes interpreted as groups of people, it is often difficult to identify them automatically from corpora because they are pseudo-metaphorical in context.

### **10.3.2. Cause vs. Effect**

As argued in the previous sub-section, animacy/inanimacy is one of the key dimensions of difference in the use of ADJ PREP N patterns in applied linguistics and business studies. In particular, research focusing on people, and on the abilities and performance of people is foregrounded in applied linguistics, whereas human involvement is less prioritized in business studies; instead, the focus is on the strategies designed, the approaches adopted and the benefits expected. In short, the two disciplines evaluate very different things.

Leading on from this, we can also say that applied linguistics is more likely to focus on what is internally observable—abstract things—in people or language (e.g. people’s ability, motivation for learning English, language features), whereas business studies prioritizes what is externally observable—concrete things—in data, institutions, relationships, systems, events or situations. That is, applied linguistics concerns itself with phenomena that are highly delicate, organic and ‘interior’ (and often of a psychological nature), and which are thus less directly observable, whereas business studies focuses on more practical, inorganic and ‘external’ matters which are more directly observable as material practices, or as the outcomes of material practices: business strategies, economic benefits, statistics.

### **10.3.3. Generalizing vs. Particularizing**

We claimed in several Sections (e.g. Sections 8.1.3, 8.3.1, 9.2) that applied linguistics research is characterized by a preference for taking a broad overview of phenomena, and for drawing generalized inferences. These can be from particular problems, from the writer’s own original findings, from the observations of the abilities of people in a particular group (e.g. English learners of Japanese), among many other things. In order to show the validity of the research and also to gain the assent and acceptance of peers, writers in this discipline need to be very explicit about the broader relevance of their own research. In other words, it seems to be an expectation that the writer will present analogies to the reader, in order to demonstrate the utility as well as the scientific validity of the research.

On the other hand, business studies is likely to clarify and particularize a locus of responsibility, a problem or a cause that triggers a set of unfavourable business circumstances (cf. the RESPONSIBILITY group). By doing this, writers in business studies aim to provide business people with case studies that may help them to analyse and solve their own business problems. Business studies scholars are also interested in identifying demonstrably superior

business models, institutions, methodologies systems and strategies, as well as things that have market potential. Thus, this discipline is likely to speculate about future prospects by describing what researchers perceive to be ‘best practice’ in the current situation.

#### **10.3.4. Emotionality vs. Emotionlessness**

As we saw in Chapter 8, applied linguists seem to be more likely to take a welcoming stance towards the representation of people’s emotions in the discourse. This discipline particularly emphasizes positive emotions such as optimism and enthusiasm, and is keen to show ‘how strongly people have confidence, positive views, and passion about things’. Since this discipline is associated with the field of education, it encourages people to have such emotions, and evaluates them as its focal topic: this is one of the humanistic features in this discipline. Thus, we can claim that there is what might be described as a generally ‘upbeat’ evaluative mood in the discourse of applied linguistics.

Researchers in business studies, on the other hand, consistently show less interest in human emotions in general, and in positive feelings about business matters in particular, perhaps because such forms of subjectivity are unnecessary in business activity. Indeed, it may even be the case that expressing positive emotions is actually a taboo practice in the business discourse community. My explanation for this is related to the fact that the business situation is highly volatile and easily affected by unexpected day-by-day happenings. Business researchers are likely to be very mindful of this volatility, and thus inclined to take a more neutral and dispassionate stance towards business decisions, transactions, and activities.

#### **10.3.5. Caution vs. Assertiveness**

Applied linguists are likely to add comments to the description expressed by the pattern ADJ PREP N in order to highlight ‘how writers see things’ or ‘how writers feel about things’. That is, they tend to avoid making assertive claims, and frequently use linguistic ‘hedges’ such as (semi-)modals and stance adverbs in order to reduce the strength of their arguments, or to emphasize the subjective nature of evaluations and assessments. Since applied linguistics is interested in ambiguous, invisible and internal phenomena in people and language, as discussed previously, writers in this discipline may not be so confident about what they see, what they find, and what weight their speculations have. Consequently, they avoid making assertive and categorical judgments, and prefer to present their claims in a relatively cautious

and unostentatious fashion. This finding is consistent with the work of Afros and Schryer (2009), who found that language studies are markedly less assertive than neighbouring disciplines.

In applied linguistics, hedges frequently occur in *judgment* phraseologies presenting tentative and unconfident attitudes, whilst strong and clear emotions are often expressed in *affect* phraseologies. While this contrast is clear-cut in itself, we should also bear in mind that both *judgment* and *affect* phraseologies express subjective attitudes, and that such attitudes are more closely associated with the discourse of applied linguistics than they are with the discourse of business studies. In other words, writers in this discipline prioritize how they feel in their heart rather than how they think in their head. Since applied linguists may be more likely to disagree with each other than business studies scholars are, a radical or categorical judgment about a thing by an individual researchers is less likely to be accepted.

In contrast, the discourse of business studies prioritizes assertive or clear indications of the writer's (or other people's) attitudes, relationships, findings or research results. Allied to this is the observation that business studies RAs are much more likely than those in applied linguistics to use statistical approaches to research: matters of process and cause are entrusted to the computer, and the researcher can thus report the results in a confident and assertive way.

#### **10.3.6. Neutrality vs. Equality**

Applied linguistics is likely to present a neutral stance towards biased, dependent and unique relations observed in research data. This is largely because such relations are mainly described in the sections of RAs that describe the methodology, the data, the findings or the results obtained by the researcher. No value judgment is involved here: any problems or biases noted in the method or the results are presented in purely factual terms, and are thus normalized as an inevitable feature of 'real-world' research.

On the other hand, business studies is likely to praise unbiased or neutral situations as 'fair' business circumstances or 'equal' opportunities for business activity. In other words, business studies places high value on 'level playing fields'. In addition, states of independence are evaluated positively as 'freedom to conduct business activity without any restrictions from others'. Conversely, this discipline is likely to negatively evaluate dependent and biased relations, and is much more inclined to present current research as superior to past

research – an observation that leads us on to our next sub-section.

### **10.3.7. Past Information vs. Current Information**

Applied linguistics RAs incorporate substantial amounts of antecedent information from secondary sources such as journal articles, books, and websites. In business studies, however, researchers are much less likely to contextualize their own research in this way; instead, they prefer to attempt to gain information from people or organizations directly, and seem to place a much higher value on information produced at the current time. In this respect, business studies seems to be more concerned to connect research to the ‘real’ world of business than is the case in applied linguistics, despite the latter’s avowedly practical, problem-driven rationale. In other words, applied linguistics is likely to research things by consulting what was found in the past, whereas business studies is likely to speculate about the future by drawing on what happens now.

### **10.3.8. Attribute vs. Connection**

As in the investigation of the second theme *relation* in Chapter 9, there are two kinds of functional relations expressed by the pattern ADJ PREP N—*connection* and *attribute*. Patterns in the *connection* group consistently show higher figures for business studies than applied linguistics. Conversely, patterns in the *attribute* group are likely to show higher figures for applied linguistics than business studies. These observations indicate that applied linguistics is more concerned with relationships that exist *within* a research object than is the case in business studies. That is, applied linguists tend to look at internally observable things, whilst business studies is more interested in observing and analysing the external links of a research object—looking at externally observable things. For instance, in one of the attribute relations, REPRESENTATIVENESS, both disciplines are concerned with the validity of the research method or representation, but the act of generalization (e.g. how and why a sample is representative of its parent population) is more salient in applied linguistics than it is in business studies (although such relationships are more varied in business studies than they are in applied linguistics). Such relations tend to be foregrounded as a *prerequisite to* research in applied linguistics whereas they tend to be backgrounded as the *outcome of* research in business studies.

#### **10.4. Conclusion**

The fundamental assumption underlying this thesis is that there is a reciprocal relationship between the language choices and the epistemological and cultural values of particular academic disciplinary discourse communities. It is my submission that the foregoing detailed qualitative analysis of the pattern ADJ PREP N provides empirical support for this fundamental assumption. Specifically, my analysis has revealed a number of differences in the expression of researcher attitudes, in the way phenomena are observed, in the way relationships within and between phenomena are identified, and in the presentation of overall research aims, all of which lie behind, and help to construct, the distinct disciplinary cultures of applied linguistics and business studies<sup>47</sup> Applied linguistics and business studies are epistemologically akin to each other, but are culturally distinguished: my analysis of the behaviour of the lexico-grammatical patterns extracted for the purposes of this thesis has helped to reveal the nature of the gap between these two disciplines.

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<sup>47</sup> Needless to say, the different disciplinary culture is associated with the different subject matter of each discipline as well.

## CHAPTER 11. Conclusion

### 11.1. Summary and concluding remarks

The corpus-based analysis conducted in this thesis has enabled us to discover some of the particular language features and culture peculiar to two specific academic disciplines. In so doing, the current study has shown that an exhaustive qualitative corpus-based analysis combined with a sophisticated approach to statistical modelling is a rigorous and effective methodology for comparing specialized texts. Specifically, in this thesis I have attempted 1) to develop a new methodology (viz. the application of correspondence analysis in disciplinary research), 2) to identify linguistic differences in the use of the pattern ADJ PREP N between two disciplinary corpora, and 3) to establish the existence of cultural differences between the two disciplines. A correspondence analysis was performed in order to address aims 1) and 2). The multivariate analysis presented in this thesis moves beyond previous work on disciplinary differences in academic writing (e.g. Charles, Groom, Hyland), by adopting a more thorough and quantitatively sophisticated approach to identifying differences in the use of adjective patterns across disciplines. A discourse analysis was then performed in order to pursue aims 2) and 3). Here, a close and detailed study of the two broad themes expressed by the pattern ADJ PREP N, *attitude* and *relation*, succeeded in showing the qualitative differences inherent in applied linguistics and business studies. While I have focused on two academic disciplines in the current study, I believe that the method and approach in this study has the potential to contribute not only to the field of academic discourse analysis but also to the study of any specific discourse and to register analysis more generally.

Academic writers often utilize particular language patterns to convince target readers to accept them as worthy members in a particular discourse community (Charles, 2000). Such patterns convey a hidden but strong personal message in that they show that the writer is fully aware of, and able to use, disciplinary norms and conventions. By acquiring the correct use of the pattern, the academic writers are, therefore, able to express their claims successfully in the academic discourse. In other words, I have made a contribution to a tradition of research that argues that a Pattern Grammar approach can contribute to both general language research and disciplinary discourse research.

### 11.2. Answers to research questions

The answers to the research questions that I posed at the beginning of this thesis are presented

as follows:

[A new methodology]

RQ1) Is it valuable to apply a new methodology (viz. correspondence analysis) to disciplinary discourse research?

[Answer]

YES. My correspondence analysis succeeded in distinguishing 16 anonymous sub-disciplines into two groups of applied linguistics and business studies automatically. In other words, the computer identified some degree of variation in the tokens and types of adjective choice in the pattern ADJ PREP N across two corpora representing two academic disciplines. My assumption was, in other words, proved correct: discipline, context, pattern and word are closely interrelated.

[Language feature]

RQ2) What sort of differences are quantitatively and qualitatively identified in the pattern use between two disciplinary corpora through a corpus-based approach?

[Answer]

Differences were found in the use of each variant of the pattern ADJ PREP N, in the kinds of adjective featured in each pattern variant, and in the collocates and semantic sequences identified in or around the pattern.

Adjectives in the pattern systematically differed in terms of the distribution of tokens, types, TTRs and semantic groups across the two disciplines.<sup>48</sup> Based on such figures, my correspondence analysis can be judged to have succeeded in dividing 16 anonymous sub-disciplines into each group of applied linguistics and business studies clearly. Overall, adjective choice in each pattern variant is, by and large, peculiar to each discipline.

Collocations with the pattern were also found to be differentiated across the two disciplinary corpora. Noun collocates of the pattern particularly revealed the disciplinary features in terms of animacy, research targets, research content, and semantic sequences linked to particular discourse functions. From these findings it was possible for us to see how each particular disciplinary culture is realized in the patterns typically used in the RAs of each discipline.

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<sup>48</sup> Differences in the use of adjectives in the patterns can be paraphrased as differences in the use of LSPs.

Adverb collocates particularly highlighted ‘how writers see things’: their function is to provide an epistemic viewpoint or comment on the description expressed by the pattern, thereby indicating the writer’s attitudes (Martin & Rose, 2007, p. 44). While many amplifiers, diminishers and stance adverbs occur in both disciplinary corpora, each discipline may have its own preferred types. This allows us to conclude that the kinds of writer attitudes expressed in and sanctioned by the academic discourses of applied linguistics and business studies seem to be distinct and clearly differentiated.

The *-ing/wh-* clauses with the pattern presented information about actions (viz. *-ing* clause), questions and issues (viz. *wh-* clause) and methods (viz. *how* clause) that are peculiar to each disciplinary corpus. In applied linguistics, these clauses describe language learning, acquisition or interpretation whereas those in business studies describe business activity, relationships of mutual benefit or economic profits. We also noted a strong correspondence between particular semantic groups and particular *-ing/wh-* clauses. For instance, in business studies, the *-ing* clauses *explaining*, *determining* and *predicting* frequently occur with the IMPORTANCE group in the pattern ADJ *in* N. Such collocations are helpful in revealing the specific context of situation peculiar to each discipline.

The (semi-)modals (auxiliary verbs) that were found to occur with different pattern variants express writer’s attitudes such as certainty, emotion and epistemicity. For example, the commentative feature in applied linguistics was realized in the frequent use of (semi-)modals, and it was noted that this is not a feature of business studies discourse. Such modal collocates are thus also a valuable source of information about the disciplinary culture peculiar to each discipline.

The same can also be said of the semantic sequences expressed by particular LSPs. In particular, semantic sequences revealed the difference in both information and functions denoted by the pattern between academic discourse of applied linguistics and business studies (e.g. *available from* N, *based on* N, *equal to* N, *unique to* N).

[Disciplinary culture]

RQ3) What sort of insights into disciplinary culture can be gained and generalized from an investigation of the pattern ADJ PREP N in applied linguistics and business studies?

[Answer]

Differences in pattern use revealed differences in the disciplinary cultures of applied

linguistics and business studies on several counts. The cultural values of applied linguistics were found to be broadly humanistic, being characterized by an emphasis on the organic, on affect and emotion, on the commentative and so on. This reflects the fact that this discipline is fundamentally concerned with humanity in general and education in particular. In contrast, my analysis of business studies discourse uncovered a very different set of cultural values. The world-view of business studies is mechanistic, and the values that it promotes prioritize the inorganic, the absence of affect and emotional judgments, clarification and so on. Again, this resonates with the popular view of this discipline (Smeltzer, 1996; Reinsch, 1991, 1996) as concerned primarily with finding ways to gain maximum profits, to advocate the creation of an ideal business society, and to facilitate daily business tasks, in turn carefully evaluating current matters in particular situations. While applied linguistics and business studies are both epistemologically categorized as ‘soft-applied’ disciplines, my analysis shows that these two disciplines are often profoundly different in their cultural backgrounds, purposes, stances, activities, attributes, content, habits and approaches to knowledge.

### **11.3. Limitations for the current study and future works**

Several limitations that I have faced in the current study have opened up a number of new research topics for future studies to pursue. This small section details these limitations for the current study and future works in detail.

The first limitation is that of corpus design. In corpus-based studies such as the current study, the procedure of corpus design would be the most significant aspect for the later in-depth analysis being conducted. In this regard, I believe that my future study should be directed toward further expanding the size of corpora. Although the major findings of the current study may well remain intact, further increase in the size of disciplinary corpora would bring about a more accurate ‘pattern profile’, especially in terms of the patterns with relatively low frequency. The larger corpora can generate more accurate quantitative pattern-lists that are particularly desirable for the in-depth studies and the material design. At the same time, this will make it possible to compute several statistic scores for the collocations of the pattern as well (e.g. T-score, MI-score, Log-likelihood score). That is, the larger corpora will increase the authenticity and reliability of the data handled and investigated in the corpus-based study.

A second limitation of the current research concerns the issue of representativeness. No matter how carefully a corpus is constructed, it can only ever be representative of a language or language variety to a very limited degree. In the case of the current research, it must be acknowledged that if I had chosen a different set of journals and/or sub-disciplines, this might have yielded different findings. However, this is true not just for the present study, but for corpus research in general; representativeness is an ideal for the corpus designer, but in reality it can only ever be approximated and not fully achieved. It could be argued that this is somewhat less of a problem when the researcher is building a corpus designed to represent a specialized discourse community such as those studied in this thesis. However, it must still be acknowledged that 'applied linguistics' and 'business studies' are only generalizations, within which there is a great deal of discursive variation. For example, both disciplines encompass work by researchers who favour qualitative methods on the one hand, and researchers who work with quantitative data on the other. In putting articles in these very different research traditions together under the general labels of 'applied linguistics' and 'business studies', we inevitably lose this level of detail. The only way to solve this problem, of course, is to make finer distinctions at a sub-disciplinary level, and to build a much larger corpus which would allow researchers to investigate and make claims about phraseological variation at this micro-level. At the same time, however, this does not mean that the level of analysis chosen for the present study is therefore invalid. On the contrary, one of the key findings of this research has been that adjective patterns from different journals in applied linguistics tend to cluster more closely with each other than they do with adjective patterns in business studies, and vice versa. This being the case, the current research may be seen as providing empirical justification for 'applied linguistics' and 'business studies' as general labels. In short, the issue of representativeness is inextricably linked to questions of perspective and level of detail. What the present study has done is provide a platform or basis for further work which could, given a large and varied enough corpus, use exactly the same methodology to 'zoom in' and study variation at more fine-grained levels of analysis.

The third limitation to be discussed here is that of the genre (i.e. RAs) treated in the current study. In order to make a broader claim on the nature of discourse and culture of applied linguistics and business studies, I may have to investigate other genres of the two disciplines (e.g. review articles, textbooks, lectures, and so on). The amalgamation of the findings from such various genres would more confidently present the real natures of

disciplinary culture of the two disciplines than those presented in the current study.

Two further dimensions in which the current study were necessarily restricted were those of the academic disciplines and the type of grammar pattern selected for investigation. In order to make broader claims about soft-disciplines as a whole, I would like to conduct more extensive disciplinary research on several soft disciplines based on not only adjective, but also noun and verb patterns followed by prepositions. I believe that this line of research based on self-compiled corpora will uncover the norms and cultures peculiar to each soft discipline from a phraseological viewpoint, and will also contribute to the identification of the cultural delineation of the broad knowledge domain of the soft disciplines as a whole. At the same time, it would be also interesting and useful to compare two or more closely neighbouring disciplines (e.g. linguistics and applied linguistics) to examine the in-depth nature of a particular academic discourse. In this regard, the in-depth investigation of sub-disciplines of a particular discipline would be also needed to see how each pattern contributes to an academic discipline and varies among other sub-disciplines in its nature.

The sixth limitation of the thesis concerns the validity of the statistical approach that the current study utilized. In Chapter 4, I argued that correspondence analysis surpasses other statistical approaches in the simplicity of its procedures and ability to visualize complex data sets as two-dimensional plots. However, it is still open to question whether or not the result produced from the correspondence analysis is very different from, for example, keyword analysis in some respects. In this regard, comprehensive trial tests of the validity of several statistical approaches would be welcome, and it would be useful to compare each result produced from each approach in order to evaluate them side-by-side. This is because there is a possibility that what correspondence analysis cannot detect can be detected by other statistical approaches, and vice versa. If this is the case, subsequent research may lead to the development of more comprehensive significance testing measures.

The final limitation is the language feature (i.e. semantic sequences) treated in the current study. In the current study, semantic sequences rather than semantic motifs are focalized since specific CPs are targeted, namely the pattern ADJ PREP N. However, I believe that the findings in the current study would be a starting point for the identification of semantic motifs, because semantic motifs represent the commonality among the different phraseologies peculiar to a disciplinary discourse. In order to make a broader claim on the phraseological nature of each discipline, other CPs will have to be examined for my future

works.

#### **11.4. Suggestions for language education**

While the current study has targeted epistemological aspects of the disciplinary discourse, I believe that it is quite possible to expand this research into more educationally relevant areas, namely ESP research and education. As Flowerdew (2000) has pointed out, for example, few corpus-based studies in ESP have probed into the field of applied linguistics. The current study attempted to fill this gap by comparing language use in applied linguistics with that of business studies. The results of this study may be useful to learners of academic English pursuing higher studies in the fields of applied linguistics and business studies, to teachers of academic English, and to researchers in these fields.

Based on a corpus linguistic approach, the current study has revealed how the close and careful observation of pattern use can provide insights into the “probabilistic implicit knowledge” peculiar to a particular discipline (cf. Kennedy, 2003). Such knowledge can be utilized by both ESP teachers and learners as a means of seeing in a very concrete way how “discourse is situated in unequal social relationships and how its meanings are represented in social ideologies” (Hyland, 2002b, p. 393). Rather than just telling students that language and discipline are mutually constitutive, the approach adopted here can actually show students what this looks like, exploiting the fact that patterns and their collocations are “much closer to context of situation” than other more abstract features of language such as syntax (Firth, 1957a, 1957b; Louw, 2007). By consciously raising awareness of the features of the pattern peculiar to a particular discipline, novice writers may also become better able to express their claims and structure their arguments in ways that are in tune with the disciplinary culture, and will thus present themselves as operating at the same level of discursive sophistication as expert writers in their field. By commanding pattern and collocation as “control mechanism[s] available to the writer” (Sinclair, 2004, p. 198), writers are also thus enabled to interactively share knowledge and experience with readers in their discourse community. Since the main aim of ESP is to equip English learners with “the communicative skills to participate in particular academic and professional cultural contexts” (Hyland, 2002b, p. 393), the findings from the current study therefore have the potential to contribute in a practical way to this field.

A corpus is “an object sample of authentic language in the real world” (Louw, 2007,

p. 156). By investigating a corpus, the current study has investigated the discursive worlds of two academic disciplines, reflecting the disciplinary culture through the glass of language – specifically, through the pattern ADJ PREP N. I believe that the language features extracted from the corpora compiled for this study provide reliable information for language teachers who want to know how authentic discourse is constructed in each discipline. I also believe that such information can be applicable to the ESP material/syllabus design and thus to the classroom (Flowerdew, 1993). As Lee and Swales (2006, p. 68-71) suggest, self-compiled corpora designed for individual purposes are “a valuable resource” for discovering “variations of specific lexico-grammatical patterns”. I hope that language teachers compile their own corpora, and that they will go on to use these corpora to critically evaluate the monolithic statements about academic writing given by ESL textbooks (Sánchez, 2000). Ultimately, I hope they will go on to create their own original and reliable teaching materials suitable for their own classrooms. Finally, I suggest that ESP learners have to be exposed to a range of linguistic features across not a single but several academic disciplines, by presenting their contexts rather than only grammar points. Language learners ultimately need to acquire the knowledge of both grammatical and discourse features peculiar to a discipline, and it is through continuous awareness-raising ESP learning that such knowledge is best acquired.

## APPENDICES

### Appendix A: Histograms for tokens, types and TTRs of each pattern **ADJ PREP N**

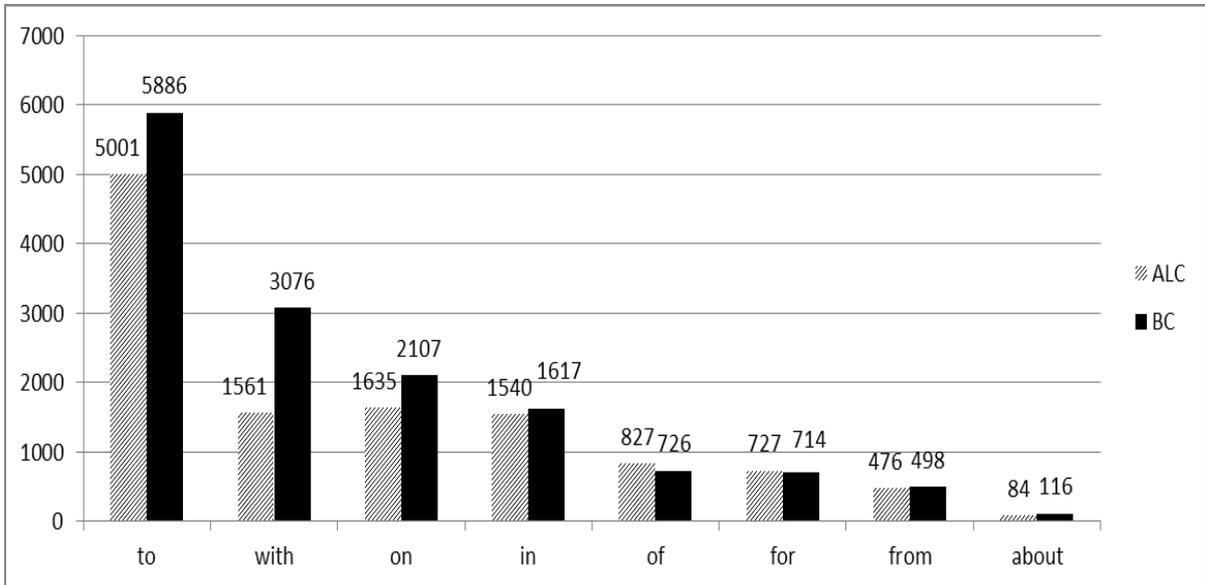


Figure A-1: Histogram for tokens of 8 high-frequency patterns

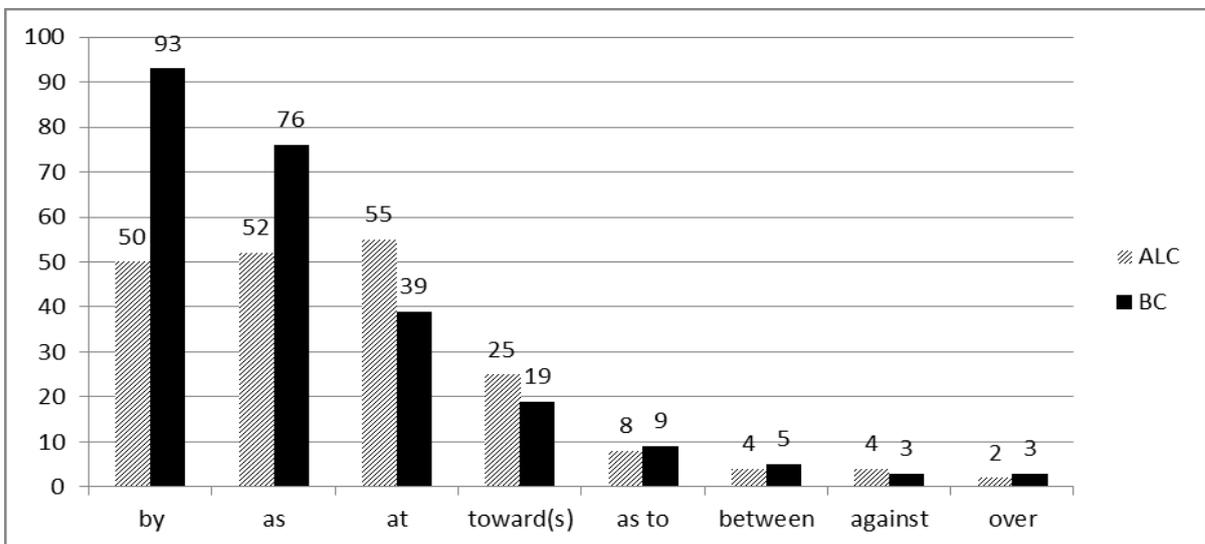


Figure A-2: Histogram for tokens of 8 low-frequency patterns

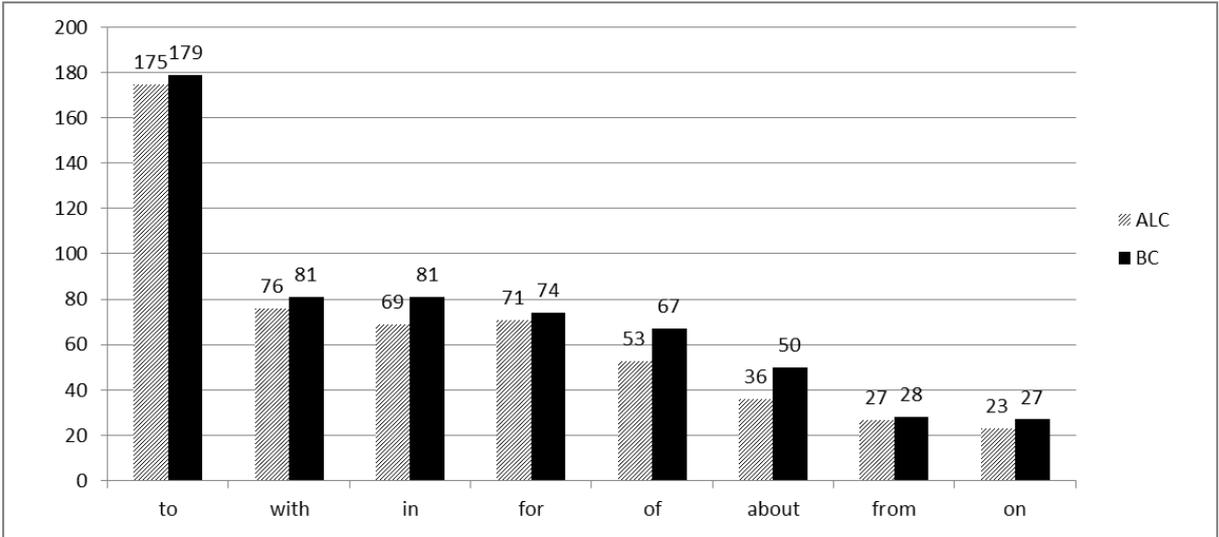


Figure A-3: Histogram for types of 8 high-frequency patterns

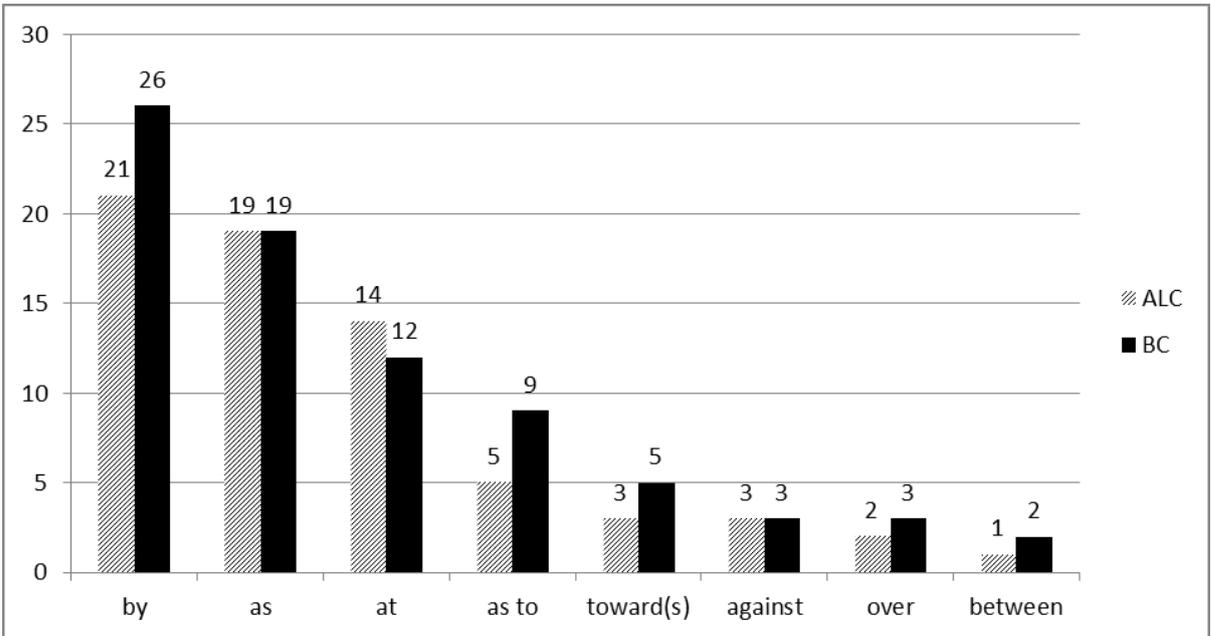


Figure A-4: Histogram for types of 8 low-frequency patterns

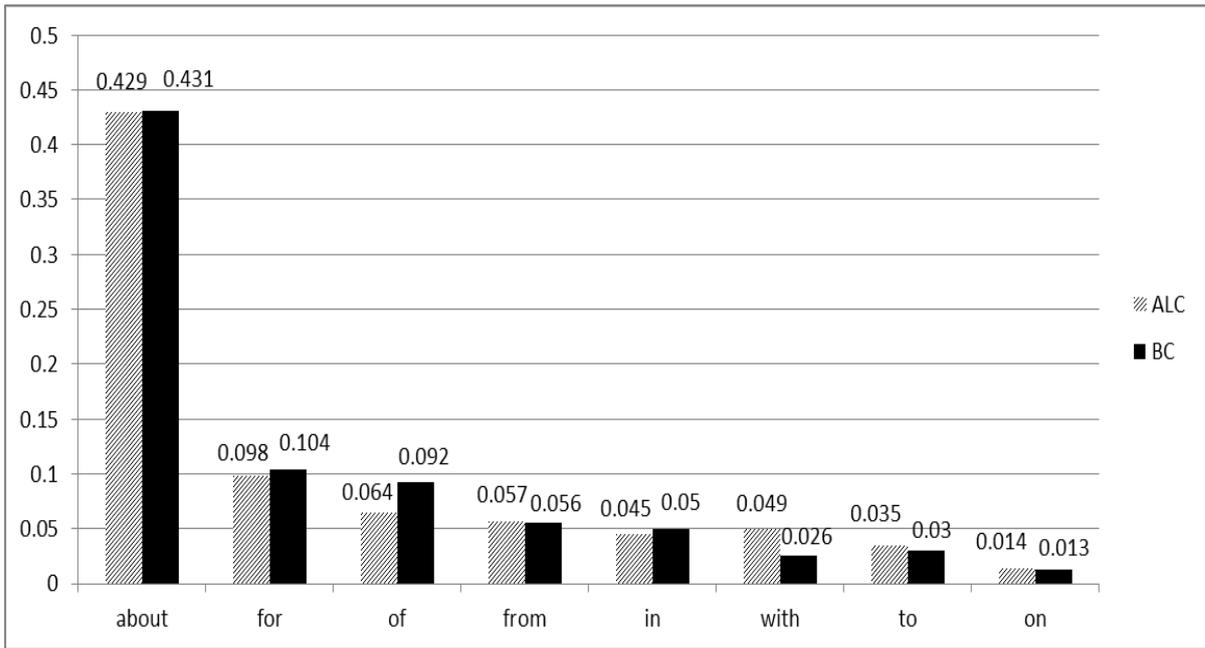


Figure A-5: Histogram for TTRs of 8 high-frequency patterns

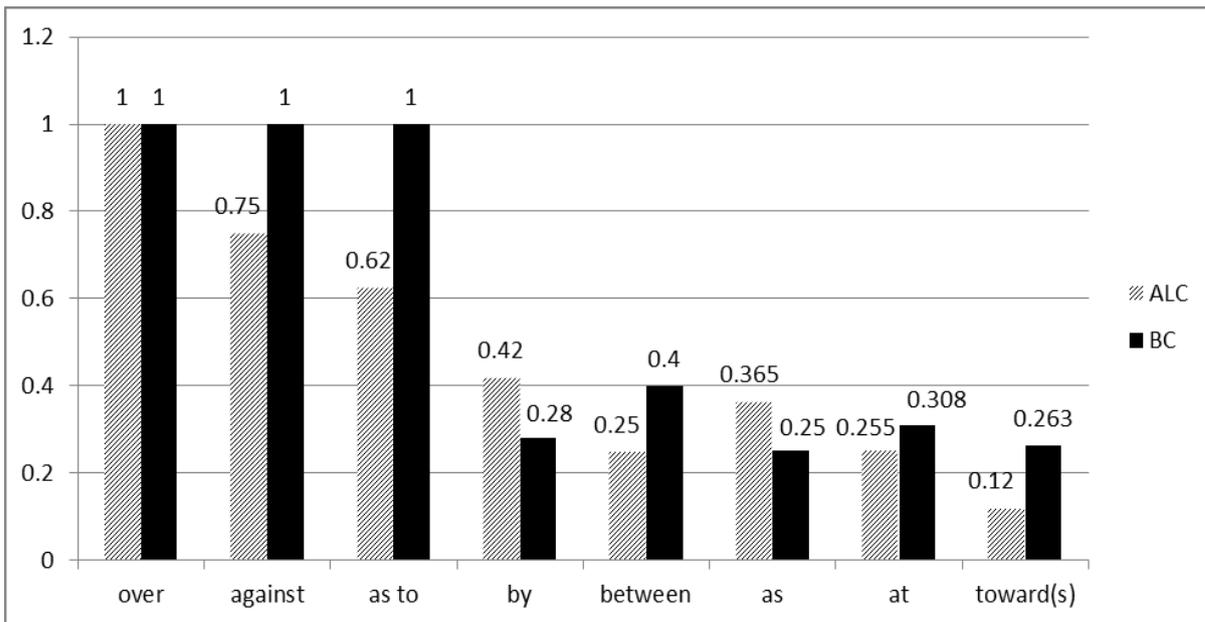


Figure A-6: Histogram for TTRs of 8 low-frequency patterns

Appendix B: Tables for adjectives in the pattern **ADJ PREP N**

Table B-1. Adjectives in the pattern *ADJ about N*

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	confident	11	knowledgeable	11	27	equivocal	1	negative	1
2	clear	8	optimistic	8	28	skeptical	1	uncomfortable	1
3	enthusiastic	6	cautious	7	29	uncertain	1	uneasy	1
4	explicit	5	serious	6	30	open	1	indifferent	1
5	positive	4	uncertain	6	31	silent	1	neutral	1
6	cautious	4	clear	5	32	aggressive	1	shy	1
7	worried	4	informative	5	33	selective	1	agnostic	1
8	apprehensive	3	enthusiastic	4	34	conscious	1	insistent	1
9	sure	3	pleased	4	35	accurate	1	sure	1
10	unsure	3	worried	4	36	wrong	1	undecided	1
11	specific	3	explicit	4	37			precise	1
12	happy	2	ambivalent	3	38			unclear	1
13	optimistic	2	good	2	39			vague	1
14	curious	2	unconcerned	2	40			forthcoming	1
15	informative	2	anxious	2	41			open	1
16	good	1	apprehensive	2	42			secretive	1
17	uncomfortable	1	curious	2	43			honest	1
18	apathetic	1	suspicious	2	44			rigorous	1
19	anxious	1	unsure	2	45			careful	1
20	nervous	1	inconclusive	2	46			careless	1
21	serious	1	frank	2	47			reflective	1
22	ambivalent	1	silent	2	48			smart	1
23	assertive	1	good (Happy)	2	49			starry-eyed	1
24	certain	1	crazy	1	50			right	1
25	definitive	1	passionate	1	Total		84		116
26	dubious	1	happy	1					

Table B-2. Contingency table for the pattern *ADJ about N*

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
accurate											1					
aggressive											1					
agnostic	1															
ambivalent					1		2						1			
anxious							2					1				
apathetic									1							
apprehensive		1	1									3				
assertive											1					
careful				1												
careless				1												
cautious		1	1	2	1		1	1	1		1				1	1
certain										1						
clear							4	1	1	2	1	1			1	2
confident									4	1	3	1		1	1	
conscious													1			
crazy							1									

curious							2			1				1	
definitive															1
dubious										1					
enthusiastic				1	1		2			3	2	1			
equivocal								1							
explicit				1	1	1	1			1	1			2	1
forthcoming					1										
frank	1						1								
good					1			1							1
happy					1					1	1				
honest								1							
inconclusive							2								
indifferent							1								
informative	2	2					1		1			1			
insistent				1											
knowledgeable		1			1	4	2	2							
negative					1										
nervous											1				
neutral					1										
open								1		1					
optimistic	2			1	5				1						1
passionate								1							
pleased					4										
positive											1			1	2
precise								1							
public						1	1								
reflective				1											
right				1											
rigorous								1							
sceptical													1		
secretive					1										
selective												1			
serious								6							1
shy								1							
silent	1						1		1						
smart								1							
specific										2			1		
starry-eyed				1											
sure										1			1		1
suspicious						2									
uncertain	1	1	1	1		2							1		
unclear								1							
uncomfortable								1							1
unconcerned		2													
undecided							1								
uneasy					1										
unsure				1	1									2	1

vague					1										
worried		1		1	2				1	2					1
wrong										1					

Table B-3. Adjectives in the pattern ADJ for N

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	available	97	responsible	172	39	obligatory	2	valid	3
2	responsible	97	available	85	40	open	2	adequate	2
3	necessary	86	necessary	77	41	unnecessary	2	dangerous	2
4	appropriate	72	appropriate	41	42	unprepared	2	favourable	2
5	useful	47	liable	34	43	unsuitable	2	great	2
6	suitable	35	suitable	26	44	built	1	ideal	2
7	essential	32	essential	25	45	concerned	1	indispensable	2
8	sufficient	25	useful	22	46	damaging	1	ineligible	2
9	crucial	21	critical	21	47	destined	1	insufficient	2
10	enough	18	good	19	48	early	1	late	2
11	prepared	16	accountable	16	49	equipped	1	notorious	2
12	beneficial	15	costly	16	50	excellent	1	profitable	2
13	good	14	open	12	51	fine	1	pushed	2
14	helpful	14	crucial	11	52	impractical	1	unnecessary	2
15	ready	10	sufficient	11	53	ineligible	1	unsuitable	2
16	adequate	8	beneficial	10	54	instructive	1	apt	1
17	valid	8	known	10	55	invaluable	1	cut out	1
18	fit	7	prepared	10	56	known	1	destined	1
19	acceptable	6	helpful	8	57	mandatory	1	early	1
20	critical	5	ripe	8	58	noteworthy	1	fatal	1
21	inappropriate	5	eligible	7	59	practical	1	fearful	1
22	advantageous	4	bad	6	60	pressed	1	handy	1
23	eligible	4	right	6	61	ripe	1	healthy	1
24	ideal	4	bound	5	62	safe	1	ill-prepared	1
25	insufficient	4	due	5	63	short	1	impractical	1
26	noted	4	fit	5	64	strapped	1	instructive	1
27	accountable	3	noted	5	65	unavailable	1	notable	1
28	bound	3	valuable	5	66	unqualified	1	optional	1
29	compulsory	3	advantageous	4	67	usable	1	payable	1
30	qualified	3	convenient	4	68	useless	1	perfect	1
31	right	3	famous	4	69	valuable	1	qualified	1
32	sorry	3	game	4	70	well-known	1	ready	1
33	vital	3	inappropriate	4	71	wrong	1	renowned	1
34	bad	2	mandatory	4	72			unprepared	1
35	grateful	2	acceptable	3	73			vital	1
36	meant	2	enough	3	74			well-known	1
37	notable	2	unavailable	3					
38	notorious	2	usable	3					
					Total		727		714

Table B-4. Contingency table for the pattern ADJ *for* N

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
acceptable					2	1				1	2	1	1			1
accountable	5	1	1	1			4	4			1				2	
adequate					1		1		1		1				2	4
advantageous	1			1		1	1			1			2	1		
appropriate	4	2	3	9	8	5	4	6	3	2	18	10	7	5	11	16
apt				1												
available	14	6	26	13	9	4	6	7	11	11	11	7	22	13	8	14
bad		2		3				1		2						
beneficial	1	2			1	2	2	2	1			5	5		2	2
bound	1			4							1					2
built													1			
compulsory											2					1
concerned									1							
convenient		2						2								
costly		3	4	2		4	2	1								
critical	1	2		1	2	9	2	4			1			2	2	
crucial			1	1		3	4	2	2	1	5	2	2	5	2	2
cut out								1								
damaging											1					
dangerous					1		1									
destined					1											1
due	5															
early								1						1		
eligible		1	1	3			1	1				1			1	2
enough							1	1	1	3		2	4	3	3	2
equipped											1					
essential			2	1	5	12	2	3	4	2	3	7	3	3	4	6
excellent														1		
famous		1			1			2								
fatal				1												
favourable						2										
fearful				1												
fine											1					
fit					1			4				1	1	3		2
game		4														
good			1	13	2		3	2	1	1		1	2	2	3	4
grateful										2						
great		1						1								
handy								1								
healthy					1											
helpful		1		1	1	2	2	1	2	1		5	1		5	
ideal								2		1			2			1
ill-prepared				1												
impractical				1						1						
inappropriate		1		1	1			1	2						3	

indispensable			1				1									
ineligible				2												1
instructive			1												1	
insufficient					1		1		1			1			1	1
invaluable																1
known		2	1			1	3	3		1						
late				1				1								
liable			2	31			1									
mandatory			1		1		2					1				
meant										1		1				
necessary	2	4	7	16	10	14	15	10	7	7	14	11	20	9	7	11
notable				1							1				1	
noted				1	3		1				2	1	1			
noteworthy															1	
notorious				1			1			2						
obligatory														1		1
open		2		3	2	2		3		1		1				
optional							1									
payable	1															
perfect								2								
practical										1						
prepared				1	2	2		4	2		3	3			4	4
pressed									1							
profitable	1	1														
pushed					2											
qualified		1									1	1			1	
ready				1						1	3		5		1	
renowned		1														
responsible	16	17	9	43	9	38	21	19	13	8	9	6	13	15	15	18
right			2	1		1		3		2	1					
ripe				4		1	1	2							1	
safe															1	
short												1				
sorry												1			2	
strapped										1						
sufficient			4	1	1	5			2	3	3		2	9	3	3
suitable		1	5	2	8	4	4	2	2	4	11	1		2	2	13
unavailable	1			1	1				1							
unnecessary				1	1				1		1					
unprepared					1											2
unqualified																1
unsuitable						1	1			1						1
usable								3								1
useful	1		1	1	3	6	3	7	3	10	9	8	5	1	6	5
useless															1	
valid	1		1		1					2	2		1	1	1	1
valuable	1					1		3							1	

vital							1				2	1				
well-known				1						1						
wrong										1						

Table B-5. Adjectives in the pattern ADJ from N

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	different	242	different	266	16	inseparable	4	divorced	3
2	far	43	available	42	17	separable	4	unchanged	3
3	distinct	30	distinct	33	18	apparent	4	distinguishable	3
4	absent	19	far	28	19	further	3	constant	3
5	separate	18	separate	15	20	distinguishable	3	further	2
6	predictable	18	independent	13	21	alienated	2	consistent	2
7	available	16	indistinguishable	13	22	distanced	1	disengaged	1
8	separated	14	free	13	23	equidistant	1	remote	1
9	evident	13	absent	9	24	unchanged	1	detached	1
10	distant	9	evident	9	25	detachable	1	inseparable	1
11	missing	6	exempt	9	26	invisible	1	secure	1
12	indistinguishable	6	separated	8	27	exempt	1	immune	1
13	free	6	apparent	7	28			obtainable	1
14	independent	5	missing	6	Total		476		498
15	divorced	5	distant	4					

Table B-6. Contingency table for the pattern ADJ from N

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
absent		1		2	1	2		3	1	1	6	1	1	5	3	1
alienated															2	
apparent			2	4		1					2					2
available	7	9	12	1	5	1	2	5		3	2	3			4	5
consistent		1			1											
constant		2					1									
detachable															1	
detached							1									
different	50	75	63	14	24	8	21	10	33	13	19	36	33	46	39	25
disengaged					1											
distanced											1					
distant				1		1	2		4			2			3	
distinct	2	4	5	7	2	3	4	6	2		4	10	3	5	5	2
distinguishable	2			1					2					1		
divorced				1			2								5	
equidistant									1							
evident	3		2		2	1	1		3	1		3	3	1	1	1
exempt		6			2		1								1	
far			1	10	2	6	4	5	13	3	6	1	2	5	9	4
free	1	2	3	4	2			1					1	2	2	1
further	1			1						1					2	
green												1				
immune							1									
independent	1	2	2		3	1	2	2	1	2		1				1

indistinguishable	8		4	1								1	1	1	2	1
inseparable								1					1		3	
invisible										1						
missing	1	2			1	1	1			1	1	1	1			2
obtainable		1														
predictable									10				2	6		
remote					1											
secure							1									
separable									3						1	
separate	2	1	1	6	1		1	3	4	2	3	2		1	5	1
separated	1	1	1		3			2	1	2	3	3			3	2
unchanged	2			1									1			

Table B-7. Adjectives in the pattern ADJ *in* N

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	involved	280	involved	264	42	wrong	5	poor	4
2	present	153	significant	156	43	alone	5	immersed	3
3	interested	131	important	129	44	skilled	4	locked	3
4	engaged	101	engaged	127	45	valuable	4	tied up	3
5	similar	71	interested	125	46	right	4	uninterested	3
6	significant	67	present	70	47	justified	4	proficient	3
7	evident	58	inherent	68	48	unusual	4	versed	3
8	important	50	evident	65	49	rich	3	safe	3
9	useful	45	successful	54	50	easy	3	slow	3
10	inherent	41	useful	53	51	critical	3	careful	3
11	different	41	effective	41	52	disinterested	2	ineffective	3
12	effective	36	high	34	53	enmeshed	2	unsuccessful	3
13	successful	34	implicit	27	54	firm	2	wrong	3
14	the same	29	critical	27	55	deficient	2	absorbed	2
15	implicit	24	low	24	56	poor	2	clothed	2
16	low	21	similar	24	57	versed	2	secure	2
17	proficient	20	rooted	24	58	decisive	2	obvious	2
18	rooted	20	different	21	59	ineffective	2	useless	2
19	high	18	helpful	18	60	entangled	1	vital	2
20	prominent	18	relevant	16	61	wanting	1	comparable	2
21	relevant	18	experienced	15	62	safe	1	unanimous	2
22	apparent	17	long	14	63	long	1	steeped	2
23	implicated	15	apparent	11	64	slow	1	bogged down	1
24	helpful	14	instrumental	11	65	vital	1	concerned	1
25	comparable	14	cautious	11	66	meticulous	1	deep	1
26	identical	14	valuable	10	67	unsuccessful	1	enmeshed	1
27	lacking	13	crucial	10	68	fortunate	1	entangled	1
28	influential	12	alone	10	69	steeped	1	wrapped up	1
29	experienced	12	the same	9	70			forthright	1
30	crucial	11	right	8	71			deficient	1
31	confident	9	implicated	7	72			fluent	1
32	essential	9	lacking	7	73			clad	1
33	instrumental	8	influential	7	74			shrouded	1
34	cautious	8	beneficial	6	75			comfortable	1

35	fluent	7	essential	6	76	easy	1
36	beneficial	7	prominent	6	77	confident	1
37	correct	7	correct	6	78	happy	1
38	immersed	6	embroiled	5	79	quick	1
39	careful	6	rich	5	80	invaluable	1
40	comfortable	5	identical	5	81	pivotal	1
41	obvious	5	justified	5	Total	1540	1617

Table B-8. Contingency table for the pattern ADJ *in* N

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
absorbed					1		1									
alone			2	5		2		1		1		1	1		2	
apparent		1	4	1	1		3	1		1	3	1	5	5	1	1
beneficial		1	1		2	1		1			3	1	2			1
bogged-down								1								
careful						1		2		3			3			
cautious	6	1	3					1		1	1	1	4		1	
clad				1												
clothed				1	1											
comfortable							1								1	4
comparable		1		1					6	1	1	1	3	1		1
concerned		1														
confident				1					1	1	1	1	3		2	
content		1	1				1	2	1	1	2	2	1		5	5
correct				4			2						3	3		1
critical		1	2	6	7	6	3	2	1			1			1	
crucial		1	2	1		4		2	2		4	2		1		2
decisive													1			1
deficient								1							1	1
different	1	5		1	7	1	1	5	5	2	6	6	6	8	4	4
disinterested												1			1	
easy				1							1					2
effective	4	5	6	4	6	2	6	8	3	1		4	10	2	11	5
embroiled							5									
engaged	4	1	9	33	8	31	31	10	5	6	20	14	20	3	23	9
enmeshed							1								1	1
entangled								1				1				
essential			1		1	2		2	1		4		2			3
evident	3	8	9	4	17	6	15	3	8	5	8	2	5	9	10	11
experienced		4	1	1	3	2	2	2			3	1	1		3	4
firm	6	1	12	3	6	3	5	3			1				1	
fluent					1						1	3	2	1		
forthright							1									
fortunate									1							
happy								1								
helpful	1	2	2	2	4	4	2	1	1	1		2	2		2	5
high	3	12	4		5	1	5	4	1	2	4		3	1	2	1
identical			2	1	1		1		1	1	1	4	3	3	1	

immersed				1			1	1	1			1	2		2	
implicated				4		1	2					2	6	2	4	1
implicit	4	5	4	4	3	2	5		1	3	4		6	1	4	3
important	6	10	19	5	27	29	19	9	4	3	13	7	8	3	9	3
effective			1			1		1					1		1	
influential	1		1	2		1	2		1	1	1	1	1		5	2
inherent	3	3	10	13	8	13	8	10	2	5	6	13	4	2	7	2
instrumental				1	3		3	4		1	1	2		1	2	1
interested	8	14	8	13	21	13	27	20	7	19	22	16	11	10	24	21
valuable					1											
involved	3	11	30	16	30	85	48	39	38	12	38	38	45	16	29	56
justified				3			1	1			2			1		1
lacking	2	1		1			2	1	1	1	6				2	3
locked							3	1								
long	13				1						1					
low	5	2	1		5	6	3	3	1	2	1		10	4	1	
meticulous									1							
obvious					2					2	1			1	1	
pivotal						1										
poor				1			1		1						1	
present	1	15	9	18	10	7	6	3	32	6	27	25	15	36	1	10
proficient				1		2			1		3	5	3		8	
prominent		2	3		1				2	4	5	1	2		4	
quick						1										
relevant	2	3	5	1	2		1	2	3	3	3	2		1	2	4
rich					2		1	1		1	1			1		
right				4		1	1	1	1		1		1			1
rooted	1			5	5	2	4	7	2	2	1	2	1	1	9	2
safe				1	1											1
secure	1				1											
shrouded								1								
significant	48	32	41	2	6	4	13	9	27	2	3	10	11	12		2
similar	4	5	3	5	1	1	3	2	17	1	5	18	17	7	3	4
skilled															1	3
slow	1				1	1							1			
steeped				1			1					1				
successful			4	6	22	3	8	11		1	3	9	5	4	11	1
the same		5			2		1	1	6	3	5	3	2	5	1	3
tied up			2		1											
unanimous	1						1									
uninterested			1		1			1								
unsuccessful				1	1			1								1
unusual									1		1	2				
useful	8		8	4	9	10	7	7	1	7	6	7	1	3	8	11
useless		1						1								
valuable	1		1		2		3	3			2	1	1			
versed				1	1			1			2					

vital		1				1				1					
wrapped up		1													
wrong				2					4						1

Table A-9 below shows the complete table for adjectives in the pattern ADJ *of* N in ALC and BC. While the LSP *net of N* occurs 39 times in BC, *net* is sometimes used as a noun forming the pattern N *of* N (e.g. *a background net of potential resources*). Thus, the examples of such noun usage are removed from the total figure— the genuine adjective pattern *net of N* occurs 35 times in BC. COBUILD 5th edition defines the word *net*, “A net amount is one which remains when everything that should be subtracted from it has been subtracted”: the word *net* is interpreted as the vocabulary peculiar to business accounting. Indeed, 28 of the total 35 examples (80%) of this LSP are from accounting and finance sub-disciplines.

Table B-9. Adjectives in the pattern ADJ *of* N

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	aware	206	aware	110	35	uncertain	3	descriptive	3
2	independent	91	independent	77	36	ashamed	2	rid	3
3	typical	78	capable	68	37	critical	2	wary	3
4	capable	70	representative	59	38	east	2	west	3
5	representative	60	indicative	49	39	fearful	2	afraid	2
6	indicative	36	net	35	40	guilty	2	certain	2
7	predictive	33	short	32	41	suspicious	2	east	2
8	true	23	supportive	24	42	wary	2	emblematic	2
9	unaware	22	worthy	24	43	appreciative	1	ignorant	2
10	short	18	free	22	44	descriptive	1	inclusive	2
11	free	17	typical	17	45	hopeful	1	suspicious	2
12	worthy	17	reflective	14	46	innocent	1	tolerant	2
13	reminiscent	15	true	14	47	intolerant	1	unrepresentative	2
14	conscious	12	unaware	14	48	perceptive	1	assured	1
15	full	11	predictive	10	49	scared	1	beloved	1
16	reflective	8	full	9	50	sick	1	bereft	1
17	illustrative	7	guilty	9	51	south	1	disrespectful	1
18	certain	6	mindful	8	52	thoughtful	1	disruptive	1
19	proud	6	reminiscent	8	53	tired	1	empty	1
20	rid	6	suggestive	8	54			fearful	1
21	unsure	6	critical	7	55			fond	1
22	cognizant	5	incapable	7	56			frightened	1
23	devoid	5	symptomatic	6	57			illustrative	1
24	fond	5	exclusive	5	58			leery	1
25	suggestive	5	protective	5	59			persuaded	1
26	supportive	5	proud	5	60			possessed	1
27	afraid	4	clear	4	61			respectful	1
28	mindful	4	cognizant	4	62			shy	1
29	confident	3	deserving	4	63			sure	1
30	incapable	3	devoid	4	64			tired	1
31	north	3	south	4	65			uncharacteristic	1
32	respectful	3	unsure	4	66			unworthy	1
33	sure	3	conscious	3	67			void	1
34	tolerant	3	convinced	3	Total		827		726

Table B-10. Contingency table for the pattern ADJ of N

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
afraid					2						1	1			1	1
appreciative															1	
ashamed															1	1
assured		1														
aware	4	7	3	12	19	20	25	20	13	27	33	24	43	3	40	23
beloved						1										
bereft				1												
capable	1	6	6	21	5	14	10	5	1	7	9	5	11	7	11	19
certain						1		1					4	2		
clear				1	1		1	1								
cognizant					3			1			4				1	
confident											1					2
conscious							2	1		1	1	3	2		4	1
convinced						1	2									
critical	1			2			3	1							1	1
descriptive			1	2							1					
deserving				1	1		2									
devoid		1		2			1			1		1	2			1
disrespectful				1												
disruptive						1										
east		1						1							1	1
emblematic						1	1									
empty					1											
exclusive				3	1		1									
fearful						1									1	1
fond								1	1		2				2	
free	1	1	5	1	1	3	9	1			1	1	4	3	4	4
frightened								1								
full				2	4	1		2	1	5			1	1	2	1
guilty				5	1	1	1	1		2						
hopeful															1	
ignorant				1	1											
illustrative							1				2	3	1		1	
incapable				5		2			2	1						
inclusive			1		1											
independent	15	7	24	11	5	5	7	3	30	7	3	11	14	10	8	8
indicative	3	4	8	7	6	5	10	6	1	4	4	4	9	6	2	6
innocent										1						
intolerant															1	
leery					1											
mindful	3			1			4				2				2	
net	10	4	18		1	1	1									
north									1					1		1
perceptive												1				
persuaded							1									

possessed					1											
predictive			1		6	1		2	3			11	15	3		1
protective				4			1									
proud				1	3		1			1	1				4	
reflective	1		2	2	3	3	1	2			1	3	3			1
reminiscent				7				1	5		2	3	2	1		2
representative	2	2	10	3	10	17	11	4	1	11	12	5	5	3	5	18
respectful								1				1				2
rid						1		2	2	1	1				1	1
scared															1	
short	3	2	2	11	3	1	1	9			2	5	1	3	1	6
shy								1								
sick																1
south				1	1	1		1					1			
suggestive			3	1	2		2		1		1	1	1	1		
supportive	3	1	7	2	6		5						5			
sure							1			1			1		1	
suspicious					1			1						1		1
symptomatic			2		1	1		2								
thoughtful																1
tired					1											1
tolerant					2						2					1
true	1	3		2	4	1	2	1	3	6	5	2	2	2	2	1
typical		1	2		2	10	1	1	3	21	20	9	2	3	6	14
unaware	1		2	1	2	1	2	5	6	1	5		5	3	1	1
uncertain											1				1	1
uncharacteristic					1											
unrepresentative							2									
unsure			1	1			1	1			2	1		1	2	
unworthy				1												
void				1												
wary				1				2		1					1	
west		2	1													
worthy		1	1	13	1	4	2	2	2	7	2	1	1	1	2	1

Table B-11. Adjectives in the pattern ADJ *on* N

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	based	1448	based	1835	15	long	2	hard	3
2	dependent	82	dependent	128	16	fast	2	neutral	2
3	high	25	conditional	32	17	silent	1	optimistic	2
4	correct	15	contingent	18	18	strong	1	binding	2
5	low	14	high	11	19	wrong	1	intent	2
6	contingent	11	short	11	20	neutral	1	strong	1
7	reliant	8	founded	10	21	easy	1	specific	1
8	hard	3	reliant	9	22	short	1	unanimous	1
9	taxable	3	low	8	23	ambiguous	1	vague	1
10	intent	3	long	7	24			keen	1
11	founded	3	silent	6	25			apart	1

12 conditional	3 clear	5	26	good	1
13 clear	3 agreed	4	27	ambiguous	1
14 agreed	3 fixated	4	Total	1635	2107

Table B-12. Contingency table for the pattern ADJ *on* N

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
agreed						2	1	1			2			1		
ambiguous		1								1						
apart		1														
based	289	234	291	159	205	279	226	152	143	162	115	226	201	140	199	262
binding				2												
clear				3	1	1				1			1	1		
conditional	14	3	15						1					1		1
contingent	2		2	2		6		6	2			4		2	3	
correct												3	8		2	2
dependent	1	4	11	5	30	19	45	13	6	3	3	19	18	10	3	20
easy																1
fast														2		
fixated					3			1								
founded			1	1	2		5	1				1				2
good						1										
hard				1	1		1								3	
high					2	3	2	4			2	1	1	12	5	4
intent					1		1				2		1			
keen					1											
long	7								1		1					
low		1			3		1	3					2	8	1	3
neutral					2										1	
optimistic	1	1														
reliant			5			3	1				3		2	1		2
short	7					1	1	2		1						
silent	1		2	2				1	1							
specific								1								
strong	1												1			
taxable											3					
unanimous						1										
vague								1								
wrong									1							

Table B-13. Adjectives in the pattern ADJ *to* N

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	due	737	related	1286	91	intrinsic	6	intrinsic	6
2	related	608	due	668	92	vulnerable	6	invisible	6
3	similar	452	similar	444	93	acceptable	5	loyal	6
4	sensitive	218	subject	241	94	akin	5	marginal	6
5	relevant	175	equal	202	95	complementary	5	pertinent	6
6	opposed	146	available	161	96	immune	5	tantamount	6

7	available	121	important	150	97	native	5	visible	6
8	necessary	109	necessary	146	98	responsive	5	acceptable	5
9	close	107	sensitive	126	99	traceable	5	accustomed	5
10	identical	96	contrary	122	100	true	5	advantageous	5
11	given	91	opposed	116	101	accountable	4	alert	5
12	restricted	84	relevant	111	102	apparent	4	attuned	5
13	new	74	close	97	103	basic	4	clear	5
14	specific	71	attributable	83	104	damaging	4	dissimilar	5
15	important	68	given	66	105	evident	4	indebted	5
16	contrary	65	committed	63	106	fair	4	inferior	5
17	subject	64	critical	59	107	impervious	4	antithetical	4
18	familiar	60	key	59	108	inadequate	4	disposed	4
19	next	56	open	57	109	incidental	4	hostile	4
20	attributable	54	equivalent	50	110	meaningful	4	indifferent	4
21	equivalent	54	identical	50	111	near	4	parallel	4
22	appropriate	52	applicable	48	112	opposite	4	subordinate	4
23	attached	51	unrelated	44	113	proportional	4	welcome	4
24	connected	48	restricted	41	114	subordinate	4	accountable	3
25	central	46	comparable	40	115	detrimental	3	adaptable	3
26	devoted	43	essential	38	116	disposed	3	apparent	3
27	unrelated	42	specific	38	117	foreign	3	beholden	3
28	comparable	41	devoted	37	118	germane	3	complementary	3
29	equal	38	central	35	119	inherent	3	germane	3
30	unique	36	prone	35	120	loyal	3	immune	3
31	susceptible	35	free	33	121	peripheral	3	inadequate	3
32	common	32	new	33	122	additional	2	inherent	3
33	open	30	appropriate	32	123	advantageous	2	kind	3
34	key	29	responsive	32	124	alien	2	logical	3
35	suited	26	inclined	31	125	favourable	2	nice	3
36	accessible	24	attached	30	126	generous	2	offensive	3
37	crucial	24	vulnerable	30	127	inaccessible	2	proportionate	3
38	applicable	23	connected	28	128	indifferent	2	resistant	3
39	interesting	23	susceptible	28	129	indispensable	2	responsible	3
40	analogous	22	beneficial	27	130	inferior	2	sympathetic	3
41	superior	22	confined	27	131	local	2	accurate	2
42	essential	20	superior	24	132	nice	2	additional	2
43	insensitive	20	analogous	22	133	receptive	2	dear	2
44	clear	19	dedicated	21	134	sympathetic	2	evident	2
45	critical	19	akin	20	135	tangential	2	exclusive	2
46	oriented	19	common	19	136	accurate	1	faithful	2
47	grateful	18	bound	18	137	alert	1	meaningful	2
48	irrelevant	18	conducive	18	138	alive	1	misleading	2
49	unfamiliar	18	costly	18	139	allied	1	near	2
50	dedicated	17	detrimental	18	140	ancillary	1	paramount	2

51	free	17	unique	18	141	antagonistic	1	peculiar	2
52	adjacent	16	attracted	17	142	attentive	1	reducible	2
53	amenable	16	grateful	15	143	averse	1	traceable	2
54	inclined	16	liable	15	144	beholden	1	unaccustomed	2
55	adapted	15	proportional	15	145	confusing	1	agreeable	1
56	confined	15	suited	15	146	costly	1	answerable	1
57	pertinent	15	amenable	14	147	disloyal	1	basic	1
58	conducive	14	crucial	14	148	disproportionate	1	confusing	1
59	different	14	good	14	149	doomed	1	disadvantageous	1
60	mean	14	opposite	14	150	embarrassing	1	disloyal	1
61	parallel	14	oriented	14	151	endemic	1	disproportionate	1
62	preferable	14	helpful	13	152	exclusive	1	doomed	1
63	used	14	next	13	153	faithful	1	favourable	1
64	visible	14	preferable	13	154	fascinating	1	friendly	1
65	committed	13	affiliated	12	155	fatal	1	generous	1
66	prone	13	familiar	12	156	incomprehensible	1	habituated	1
67	attuned	12	accessible	11	157	indigenous	1	impervious	1
68	beneficial	12	fundamental	11	158	invaluable	1	inapplicable	1
69	good	12	interesting	11	159	invisible	1	inappropriate	1
70	particular	12	adapted	10	160	liable	1	incidental	1
71	appealing	11	internal	10	161	logical	1	injurious	1
72	dissimilar	11	obligated	10	162	married	1	invaluable	1
73	natural	10	true	10	163	misleading	1	invulnerable	1
74	blind	9	adequate	9	164	obligated	1	local	1
75	habituated	9	appealing	9	165	oblivious	1	native	1
76	integral	9	damaging	9	166	offensive	1	natural	1
77	resistant	9	mean	9	167	paramount	1	oblivious	1
78	bound	8	predisposed	9	168	pivotal	1	obvious	1
79	peculiar	8	foreign	8	169	reducible	1	opaque	1
80	accustomed	7	harmful	8	170	rude	1	painful	1
81	adequate	7	insensitive	8	171	self-evident	1	prejudicial	1
82	fundamental	7	integral	8	172	senior	1	privy	1
83	inappropriate	7	particular	8	173	tantamount	1	recognizable	1
84	internal	7	used	8	174	tuned in	1	subservient	1
85	obvious	7	dangerous	7	175	unused	1	tangential	1
86	predisposed	7	different	7	176			unequal	1
87	attracted	6	fair	7	177			unfamiliar	1
88	helpful	6	irrelevant	7	178			unsympathetic	1
89	indebted	6	receptive	7	179			wedded	1
90	intelligible	6	attentive	6	Total		5001		5886

Table B-14. Contingency table for the pattern ADJ to N

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
acceptable				1			4	1		1	2			1		1
accessible		2		1	6		1	1		11	4	1	2		5	1
accountable							3			4						
accurate		1		1							1					
accustomed					1	1		3		1		1	1	1	1	2
adaptable					1		1	1								
adapted		1			1	7	1		1	2	7			1	2	2
additional					1			1	2							
adequate				3	2	3	1	2			2		1		1	3
adjacent									1			1	2	13		
advantageous		1	1	1	2	1					1		2			1
affiliated	10		1			1										
agreeable							1									
akin		2		9	4	1	1	3	1	1				1	1	1
alert				2	2	1									1	
alien												2				
alive															1	
allied															1	
amenable	1		2	3		2	4	2		2	2	3	6		1	2
analogous	4		1	7	4	3		4	10	1	1	2		3	2	3
ancillary											1					
answerable							1									
antagonistic															1	
antithetical				4												
apparent				1	1	3				1					1	2
appealing		1			2		4	2	1	6	1	1	1			1
applicable			6	17	7	4	6	9		3	5	3	5	1	1	5
appropriate	3	6	4	7	6	6	3	6	7	4	9	10	4	6	3	17
attached	2	4	5	4	8	5	2		8	6	8	9	4	9	5	2
attentive			1	3	2						1					
attracted	1		1		2	3	9	1	1	1	2	1		1		
attributable	21	8	24	12	3	5	3	8	8	2	3	7	20	5	2	7
attuned				3			1	1			5			5		2
available	11	24	20	26	27	14	15	25	13	16	16	12	16	11	28	9
averse											1					
basic				1							1			1	1	1
beholden								3			1					
beneficial	2	2	3	3	8	4	4	4	1		1		3	1	5	2
blind									5	1		1		2		
bound			4	6	4	2	1	1		2	1	2			2	1
central	1		3	12	4	4	7	4	6	9	11	2	1	2	11	6
clear				1				4	1	4	5	2	2	1		4
close	19	17	24	5	10	6	5	12	30	14	4	22	10	13	6	10
committed				3	13	9	20	18	2		4			1	5	1
common	2	2	6	4	5	1	2	1	4	6	7	6		4	4	4

comparable	21	2	8		3	1	2	3	11	3		4	7	8	5	3
complementary			1	1				1			1	1	1	1		1
conducive	1			2	3	6	3	3			2	3	1		5	3
confined	2	2	9	6	3	2	3	2	2	2	1	1	2	1	2	4
confusing					1											1
connected		2	1	4	5	4	7	5	13	3	7	2	1	8	12	2
contrary	10	14	38	14	3	8	17	19	9	8	7	13	7	9	9	3
cool																1
costly	2	1	5			1	3	7			1					
critical	1	3	1	12	12	14	3	24	3			5		3	7	1
crucial	1	1	2	2	1	5	3	4		4	3	7	1	3	10	3
damaging			1	6		1	1		1						2	1
dangerous				9				1								
dear				2												
dedicated				5	3	2	8	3	2	4	2	2			3	4
detrimental	1	2	3	1	4	4	2	1					1	1	1	
devoted	1	3	1	5	10	7	9	2	4	7	10	3	3	3	9	4
different			6			1			2	2		1	1	6	2	
disadvantageous			1													
disloyal					1											1
disposed			1					3				1		1		1
disproportionate				1						1						
dissimilar					2	2		1	5			1	4		1	
doomed				1								1				
due	57	156	144	70	84	68	38	55	180	69	59	80	98	135	17	101
embarrassing																1
endemic											1					
equal	57	34	84	7	7	2	4	7	5	1	4	1	7	6	3	11
equivalent	13	9	11	5	6	2	2	2	6	12	5	10	2	6	3	10
essential	1	4	2	7	12	7	5	9	3	2	4	5	1	2	8	6
evident						2			1							3
exclusive			1	1							1					
fair				5			1	3	3	1	2		1		1	
faithful				2									1			
familiar				5	1	2	1	3	2	3	5	8	24	4	5	9
fascinating	1															1
fatal										1						
favourable						1				1	1					
foreign	6				2									1	2	
free			1	20		4	4	4	2	1	1	1	2	2	4	5
friendly					1											
fundamental			1	3	1	3	2	1		1	1		2		1	3
generous				1												2
gemane					1		2	1				2		1		
given		4	4	10	17	14	16	2	3	9	16	15	8	10	16	14
good		1		1		8	2	3		1	4			2	1	5
grateful	10	2			1		1	1		3	1	7		7		

habituated							1							8	1	
harmful				5		2	2									
helpful				2	1	5	4	8		1	1				4	3
hostile				1	2		1									
identical	12	6	18	7	3	2	1	1	47	3	2	12	11	15	4	2
immune			1	1				1	3			2				
impervious		1										2	1	1		
important	10	28	23	26	46	59	45	42	36	14	38	20	51	17	39	22
inaccessible														2	1	
inadequate			1	1	1						1		1		2	
inapplicable		1														
inappropriate			2				1			1		3	1	3	2	2
incidental				1								2	1	1	1	
inclined	2	1	4	4	6	5	5	4		1	4	3	2	3	3	1
incomprehensible												1				
indebted	2	2					1			1		2		1	1	1
indifferent	1	2		1										2		
indigenous															1	
indispensable						1			1		1					1
inferior	1		3			1									2	
inherent		3							1		1	1				
injurious				1												
insensitive	1	1	4	1			1		4	1			4	9	2	
integral					2	1		5	1		1				3	4
intelligible													2		4	
interesting	4	3	15	3	11	7	8	5	4	23	20	16	8	6	3	6
internal				2	3	1	3	1	2	1		3			1	
intrinsic				2				4	1	1			2	1	1	
invaluable						1				1						
invisible						5	1				1					
invulnerable								1								
irrelevant	1		3				1	2	1	1	1	3	1	5	3	3
key			4	4	10	14	8	19	2	1	1	5	8	3	6	3
kind				2				1								
liable			1	6	1		7			1						
local		1								1	1					
logical				4	1	1					1		1			1
loyal					3		1	2							3	
marginal	6															
married															1	
mean	3		1	2	2		1			1		2			9	2
meaningful				1				1					1	1		3
misleading			3		1					1						
native					1				1		1			1	1	1
natural				1	1				3	2	1		1	5	1	
near				1			1			1		1	1	1		
necessary	7	12	24	55	19	26	25	32	19	20	20	32	34	22	25	34

new			2	12	1	11	2	5		4	8	3	2	9	3	45
next		1		2	2	1	3	4	11	9	5	4	7	8	7	5
nice					1			2		1						1
obligated				7	2	1	1								1	
oblivious	1															1
obvious					1				1	2		1		1		2
offensive				4								1				
opaque	1															
open		4	6	25	8	5	7	3	2	6	6	2	2	1	9	2
opposed	10	8	20	19	17	4	26	12	17	27	24	21	21	13	14	9
opposite	2	5	3	1	1		2		1			2			1	
oriented					5	3	3	3		1	6	1	2	2	4	3
painful								1								
parallel					2	1	1		5	2		4			1	2
paramount						1	1							1		
particular				3	2	1		2	2	1	3		1	1	3	1
peculiar				1	1				2	3	1			1		
peripheral										1			1	1		
pertinent				3	1		1	1			5	5	1		2	2
pivotal									1							
predisposed			1	1	5	2				1		2	1	2		1
preferable			1	4	4	1	2	3	1	1	3	1	2		4	3
prejudicial							1									
privy			1													
prone	2	7	3	5	8	2	5	3	4	3	1	1	1	2		1
proportional	1	3	1	3	2	2	1	2				1		3		
proportionate			1		1		1									
receptive		1	1	4	1								1		1	
recognizable				1												
reducible				2					1							
related	182	187	256	77	207	110	169	101	76	50	49	144	92	42	64	95
relevant	9	5	20	25	25	6	12	15	15	9	21	20	21	20	40	31
resistant				1	1			1	1		2	3	1	1	1	
responsible							3									
responsive		6	2	4	4	4	10	2			1		1		2	1
restricted	6	8	9	2	5	4	7		18	17	10	5	6	8	8	12
rude												1				
self-evident											1					
senior										1						
sensitive	22	28	28	6	9	6	20	7	60		8	44	40	50	7	12
similar	102	87	95	34	44	27	29	27	97	41	21	90	54	80	42	30
specific	4	3	5	6	6	7	2	6	7	14	13	7	13	4	10	3
subject	24	16	53	87	12	17	25	11	11	7	9	7	8	7	11	6
subordinate				2	1	1			4							
subservient				1												
suited			1	3	1	2	5	3		2	6	1	6	2	5	4
superior	2	2	3	3	3	2	4	5	3		1	4	10		4	1

susceptible	1	2	4	11	3	1	5	2	5		5	16	3	4	1	2
sympathetic			1	1				1			1				1	
tangential			1							2						
tantamount		1	1	4												1
traceable	1					1					1	1	1	2		
true		1		3		1		5			1				2	2
tuned-in															1	
unaccustomed								2								
unequal			1													
unfamiliar							1	1			3	1	7		3	3
unique	4	2	1	1	1	5		4	1	3	8	2	15		5	2
unrelated	14	5	10	5	3		4	3	18	1	2	10	6	3	1	1
unsympathetic				1												
unused											1					
used				1	2	3		2		5			1	2	1	5
visible						1	5		6		2	4		1	1	
vulnerable	3		2	7	8		8	2	1		1				3	1
wedded							1									
welcome					1		1	2								

Table B-15. Adjectives in the pattern ADJ *with* N

Order	ALC	Freq.	BC	Freq.	Order	ALC	Freq.	BC	Freq.
1	associated	575	consistent	1307	42	dotted	2	excellent	2
2	consistent	361	associated	1211	43	supplied	2	displeased	2
3	concerned	144	concerned	81	44	rife	2	content	2
4	compatible	92	inconsistent	80	45	firm	2	taken	2
5	familiar	91	firm	63	46	taken	2	disenchanted	2
6	inconsistent	31	familiar	29	47	tied up	2	fitted	2
7	congruent	29	compatible	29	48	choked	1	fraught	2
8	connected	16	involved	27	49	continuous	1	generous	2
9	aligned	15	aligned	20	50	great	1	stuck	2
10	incompatible	13	satisfied	16	51	consumed	1	pregnant	1
11	comfortable	12	connected	14	52	coterminous	1	unsatisfied	1
12	filled	11	congruent	14	53	happy	1	unsuccessful	1
13	unfamiliar	10	affiliated	14	54	finished	1	popular	1
14	satisfied	10	synonymous	11	55	good	1	pleased	1
15	imbued	9	filled	8	56	honest	1	successful	1
16	interspersed	8	expert	8	57	impressed	1	rich	1
17	affiliated	7	wrong	7	58	lenient	1	riddled	1
18	fraught	7	dissatisfied	7	59	identical	1	uncomfortable	1
19	synonymous	6	comparable	7	60	uncomfortable	1	rife	1
20	involved	6	commensurate	7	61	through	1	patient	1
21	level	6	unfamiliar	7	62	packed	1	decorated	1
22	replete	5	consonant	6	63	littered	1	consumed	1
23	wrong	5	level	5	64	popular	1	disillusioned	1
24	content	4	unhappy	4	65	patterned	1	exasperated	1
25	consonant	4	in touch	4	66	parallel	1	embossed	1
26	covered	4	acquainted	4	67	concomitant	1	blessed	1

27	comparable	4	competitive	3	68	simultaneous	1	alone	1
28	tense	3	comfortable	3	69	alone	1	burdened	1
29	commensurate	3	incompatible	3	70	cognate	1	concurrent	1
30	fitted	3	replete	3	71	acquainted	1	busy	1
31	in touch	3	obsessed	3	72	riddled	1	loaded	1
32	busy	3	honest	3	73	unconnected	1	littered	1
33	interchangeable	3	identical	3	74	rich	1	occupied	1
34	concurrent	3	happy	2	75	sick	1	parallel	1
35	stuck	2	preoccupied	2	76	successful	1	out of touch	1
36	crowded	2	open	2	77			frank	1
37	economical	2	liberal	2	78			finished	1
38	preoccupied	2	imbued	2	79			good	1
39	loaded	2	interspersed	2	80			impressed	1
40	open	2	sympathetic	2	81			grey	1
41	dissatisfied	2	entangled	2	Total		1561		3076

Table B-16. Contingency table for the pattern ADJ *with* N

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
acquainted				1	1		2				1					
affiliated	3		3		2	2		4			1	2		2	1	1
aligned	1		3	2	2	5		7	1		2			3	7	2
alone				1									1			
associated	187	186	276	82	142	75	160	103	82	75	32	100	84	64	61	77
blessed								1								
burdened							1									
busy								1							1	2
choked															1	
cognate													1			
comfortable					1	1	1			1	4		1		3	3
commensurate			2	3	1			1					2			1
comparable	2	1	4						2	1			1			
compatible		1	7	3	5	8	1	4	39	2	1	13	9	19	6	3
competitive		2		1												
concerned	3	4	9	7	17	11	18	12	14	18	31	15	13	11	19	23
concomitant												1				
concurrent		1							1		1	1				
congruent				1	10	2	1		10		3	8	2	1	2	3
connected			3	1	3	2	2	3	4	3	4	1		1	3	
consistent	329	273	395	53	97	19	64	77	102	8	9	54	57	80	18	33
consonant		1		2		1		2					1	1	1	1
consumed								1								1
content			1		1						1				2	1
continuous											1					
coterminal														1		
covered										1				3		
crowded											1				1	
decorated					1											
disenchanted					1	1										

disillusioned			1													
displeased		1		1												
dissatisfied				2	3	2									1	1
dotted												1			1	
economical										2						
embossed					1											
entangled				2												
exasperated				1												
excellent					2											
expert	1		7													
familiar				5	4	4	6	10	1	4	11	17	8	5	21	24
filled	1				3		1	3	1	2	3	1	2	1	1	
finished		1														1
firm	4	20	14	1	10	8	4	2		1	1					
fitted		2								1				1		1
frank			1													
fraught		1						1				1	1		3	2
generous			1					1								
good				1					1							
great									1							
grey							1									
happy					1			1							1	
honest							2	1								1
identical			1		1	1					1					
imbued				1	1					6	1				2	
impressed								1								1
in-touch					2		1	1			2				1	
incompatible			1	1	1				5	1		1	1	4	1	
inconsistent	6	24	25	18	4			3	20	1		5	1	3		1
interchangeable										1						2
interspersed		1						1	3	2	2			1		
involved	1		3		10	3	6	4		1	2				2	1
lenient																1
level		3			1		1					1	1	1		3
liberal								2								
littered							1									1
loaded							1			1	1					
obsessed								3								
occupied					1											
open					1			1			2					
out-of-touch								1								
packed											1					
parallel	1											1				
patient	1															
patterned									1							
pleased							1									
popular			1							1						

pregnant				1													
preoccupied								2		1						1	
replete				2				1		1	1		2				1
rich					1						1						
riddled				1												1	
rife								1	1	1							
satisfied				1	9	3	2	1			1			1	7	1	
sick										1							
simultaneous														1			
stuck				2							1						1
successful			1								1						
supplied											1	1					
sympathetic							2										
synonymous		2	2	2	1		2	2		2			1		2	1	
taken				1		1					1						1
tense										1	2						
through																1	
tied up										1						1	
uncomfortable						1					1						
unconnected											1						
unfamiliar				1	3		2	1			4	1	1		3	1	
unhappy				1	1		1	1									
unsatisfied			1														
unsuccessful				1													
wrong				1	3		3						1		2	2	

Table B-17. Adjectives in each low-frequent pattern

Order	ALC		BC		Order	ALC		BC	
	Adj.	Freq.	Adj.	Freq.		Adj.	Freq.	Adj.	Freq.
	<i>against</i>					<i>between</i>			
1	biased	2	effective	1	1	intermediate	4	variable	3
2	white	1	impressive	1	2			neutral	2
3	firm	1	biased	1	Total		4		5
Total		4		3		<i>by</i>			
	<i>as</i>								
1	same	(135)	same	(53)	1	unaffected	13	possessed	30
2	important	13	important	21	2	threatened	5	unaffected	14
3	effective	8	useful	9	3	impressed	4	absorbed	12
4	significant	6	effective	8	4	confused	4	threatened	7
5	useful	3	significant	8	5	available	3	unencumbered	3
6	acceptable	3	valuable	6	6	recognizable	3	available	3
7	familiar	2	attractive	4	7	possessed	3	enforceable	2
8	suitable	2	necessary	3	8	evident	2	perturbed	2
9	unsuitable	2	popular	3	9	surprised	1	concerned	2
10	helpful	2	ineffective	2	10	concerned	1	better	2
11	misleading	2	viable	2	11	daunted	1	payable	1
12	recognizable	1	vital	2	12	disappointed	1	attainable	1
13	prominent	1	acceptable	1	13	obtainable	1	obsessed	1
					14	explicable	1	surprised	1

14	valid	1	adequate	1	15	conspicuous	1	intrigued	1
15	welcome	1	crucial	1	16	identifiable	1	convinced	1
16	irrelevant	1	inadequate	1	17	detectable	1	confused	1
17	satisfactory	1	notable	1	18	untouched	1	impressed	1
18	necessary	1	noticeable	1	19	untainted	1	fascinated	1
19	essential	1	prominent	1	20	stronger	1	unhampered	1
20	active	1	unique	1	21	better	1	encumbered	1
Total		187(52)		129(76)	22			explainable	1
	<i>as to</i>				23			attainable	1
1	unsure	3	unclear	1	24			accessible	1
2	uncertain	2	undecided	1	25			notable	1
3	clear	1	informed	1	26			punishable	1
4	confused	1	clear	1	Total		50		93
5	divided	1	confused	1		<i>over</i>			
6			curious	1	1	cautious	1	crazy	1
7			specific	1	2	privileged	1	sovereign	1
8			silent	1	3			privileged	1
9			ambiguous	1	Total		2		3
Total		8		9		<i>toward(s)</i>			
	<i>at</i>				1	oriented	13	oriented	9
1	good	21	good	10	2	biased	11	biased	5
2	successful	13	adept	8	3	favourable	1	positive	2
3	effective	4	effective	6	4			weighted	2
4	horrified	3	successful	5	5			charitable	1
5	skilled	2	skilled	3	Total		25		19
6	bad	2	great	1					
7	adept	2	poor	1					
8	efficient	2	competent	1					
9	unsuccessful	1	bad	1					
10	excellent	1	expert	1					
11	expert	1	efficient	1					
12	proficient	1	surprised	1					
13	surprised	1							
14	impatient	1							
Total		55		39					

Table B-18. Contingency table for the low-frequent patterns

	BAC	BEC	BFI	BLA	BMN	BMK	BSO	BST	LCG	LCP	LES	LLL	LSL	LSP	LTS	LTT
<i>biased-against</i>		1							1						1	
<i>effective-against</i>							1									
<i>firm-against</i>							1			1						
<i>impressive-against</i>					1											
<i>white-against</i>									1							
<i>acceptable-as</i>						1			2							1
<i>active-as</i>													1			
<i>adequate-as</i>								1								
<i>attractive-as</i>	3							1								

<i>crucial-as</i>				1												
<i>effective-as</i>			1		2	3	2		2				1	1	2	2
<i>essential-as</i>																1
<i>familiar-as</i>												2				
<i>helpful-as</i>															2	
<i>important-as</i>	1	4	5	1		2	4	4		3	2	1	1	1	2	3
<i>inadequate-as</i>					1											
<i>ineffective-as</i>	1					1										
<i>irrelevant-as</i>												1				
<i>misleading-as</i>											2					
<i>necessary-as</i>				1				2				1				
<i>notable-as</i>							1									
<i>noticeable-as</i>				1												
<i>popular-as</i>			1			2										
<i>prominent-as</i>							1			1						
<i>recognizable-as</i>												1				
<i>(same-as)</i>	7	11	9	12	3	4	4	3	52	8	8	10	16	29	10	9
<i>satisfactory-as</i>																1
<i>significant-as</i>	2	2	1	2	1					1	3		1			1
<i>suitable-as</i>									1		1					
<i>unique-as</i>							1									
<i>unsuitable-as</i>														2		
<i>useful-as</i>			1	3	1	3		1				1	1			1
<i>valid-as</i>																1
<i>valuable-as</i>						2	2	2								
<i>viable-as</i>				1				1								
<i>vital-as</i>				1	1											
<i>welcome-as</i>																1
<i>ambiguous-as to</i>				1												
<i>clear-as to</i>							1							1		
<i>confused-as to</i>				1								1				
<i>curious-as to</i>					1											
<i>divided-as to</i>															1	
<i>informed-as to</i>					1											
<i>silent-as to</i>				1												
<i>specific-as to</i>								1								
<i>uncertain-as to</i>															1	1
<i>unclear-as to</i>					1											
<i>undecided-as to</i>					1											
<i>unsure-as to</i>											1				1	1
<i>adept-at</i>			2	1	2	1		2						1	1	
<i>bad-at</i>						1						2				
<i>competent-at</i>								1								
<i>effective-at</i>			1	1	2			1	1				2	1		1

<i>efficient-at</i>		1										1	1			
<i>excellent-at</i>														1		
<i>expert-at</i>						1				1						
<i>good-at</i>				1		5	1	3				4	3	7	5	2
<i>great-at</i>								1								
<i>horrified-at</i>															1	2
<i>impatient-at</i>										1						
<i>poor-at</i>	1															
<i>proficient-at</i>														1		
<i>skilled-at</i>								3				1	1			
<i>successful-at</i>				1	1	1	1	1	1			3	4	2	1	2
<i>surprised-at</i>						1					1					
<i>unsuccessful-at</i>										1						
<i>intermediate-between</i>												1	3			
<i>neutral-between</i>						2										
<i>variable-between</i>		1	2													
<i>absorbed-by</i>			1	2	6	2	1									
<i>accessible-by</i>						1										
<i>attainable-by</i>					1											
<i>available-by</i>		1			1	1				1					1	1
<i>better-by</i>						1	1								1	
<i>concerned-by</i>				2			1								1	
<i>confused-by</i>					1					1		1			2	
<i>conspicuous-by</i>										1						
<i>convinced-by</i>				1												
<i>daunted-by</i>										1						
<i>detectable-by</i>														1		
<i>disappointed-by</i>										1						
<i>encumbered-by</i>				1												
<i>enforceable-by</i>				1			1									
<i>evident-by</i>										1				1		
<i>explainable-by</i>			1													
<i>explicable-by</i>														1		
<i>fascinated-by</i>								1								
<i>identifiable-by</i>														1		
<i>impressed-by</i>								1		1					2	1
<i>intrigued-by</i>								1								
<i>notable-by</i>			1													
<i>obsessed-by</i>								1								
<i>obtainable-by</i>												1				
<i>payable-by</i>					1											
<i>perturbed-by</i>	2															
<i>possessed-by</i>	16		4	2	4	1	1	2								3
<i>punishable-by</i>				1												

<i>puzzled-by</i>											1					
<i>recognizable-by</i>											1			1	1	
<i>stronger-by</i>									1							
<i>surprised-by</i>								1			1					
<i>threatened-by</i>	1		1		2	1	2	1		1					4	
<i>unaffected-by</i>	7	1	5		1							1	3	3	1	5
<i>unencumbered-by</i>						3										
<i>unhindered-by</i>				1												
<i>untainted-by</i>																1
<i>untouched-by</i>															1	
<i>cautious-over</i>													1			
<i>crazy-over</i>					1											
<i>privileged-over</i>							1			1						
<i>sovereign-over</i>							1									
<i>biased-toward(s)</i>	1		1			2	1		2				4	1	2	2
<i>charitable-toward(s)</i>				1												
<i>favourable-toward(s)</i>											1					
<i>negative-toward(s)</i>															1	
<i>oriented-toward(s)</i>					4	2	2	1		1	6	1	1	1	2	1
<i>positive-toward(s)</i>	1				1											
<i>weighted-toward(s)</i>		2														

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