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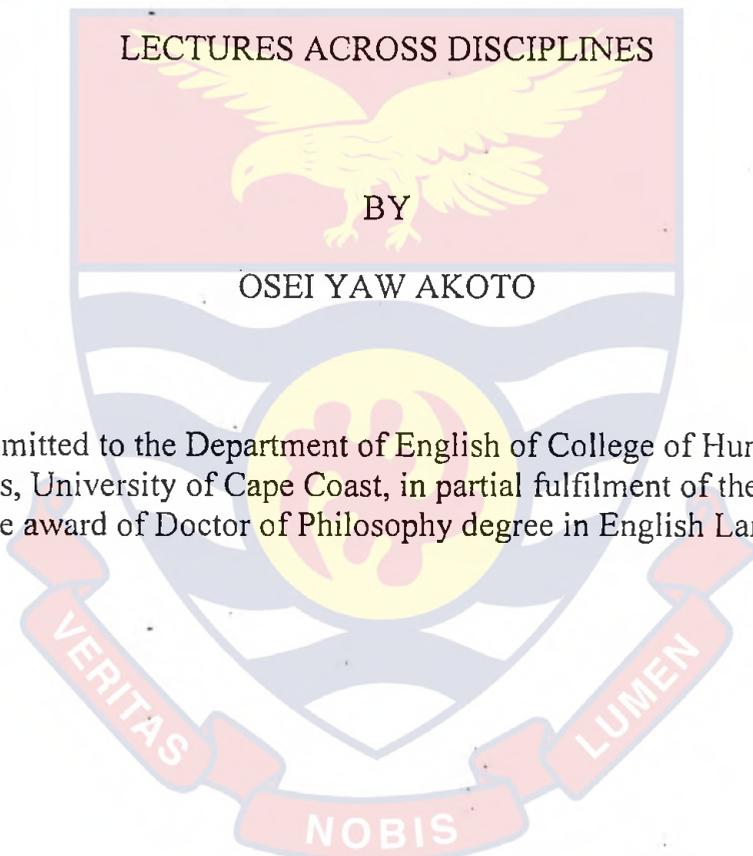
A CORPUS-BASED STUDY OF PERSONAL PRONOUNS IN UNIVERSITY

LECTURES ACROSS DISCIPLINES

BY

OSEI YAW AKOTO

Thesis submitted to the Department of English of College of Humanities and Legal Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Doctor of Philosophy degree in English Language



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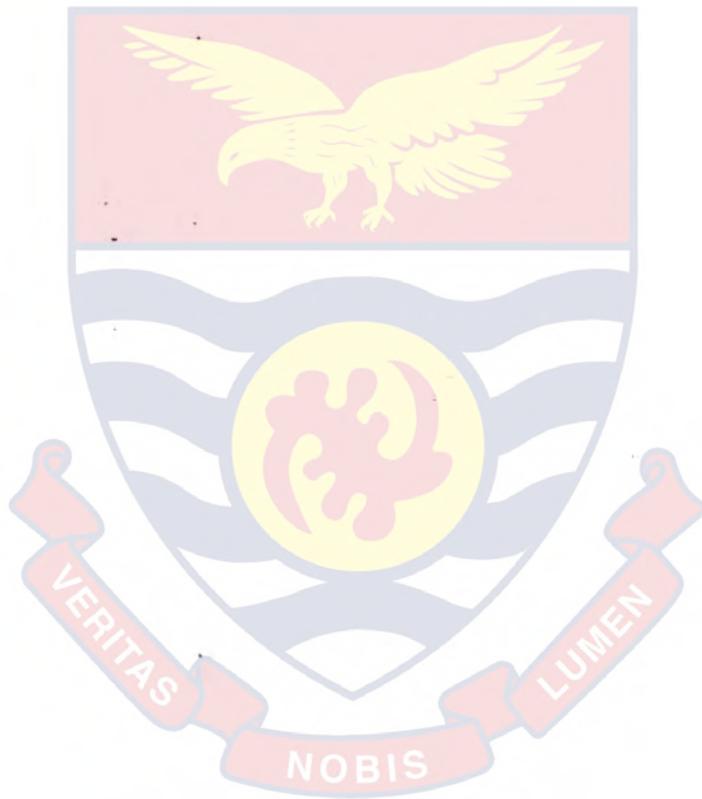
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ABSTRACT

The present study investigated variation in the distribution, discourse references and functions of *I*, *we* and *you* (tri-PP) in classroom lectures across three broad knowledge domains – Humanities (HS), Social Sciences (SS) and Natural Sciences (NS). To accomplish this task, I audio-recorded classroom lectures from two public universities in Ghana; transcribed and processed them into computer readable forms. The subcorpora were normed, and the concordance tool in *AntConc* was used to generate the occurrences of the tri-PP. The computerized analysis was complemented by manual analysis, to determine the discourse references and functions which were conditioned by pragmatic factors. The log-likelihood significance test was used to check statistical significance. The analysis showed that NS employed more of the tri-PP, followed by HS and SS. While disciplinarity influenced the use of *we* at HS vs NS, and SS vs NS, it did not affect its use at HS vs SS. Again, the study showed that *I*, *we* and *you* designated common referents like *lecturer* across all the disciplinary supercommunities (DSs), albeit with variation in statistical significance. Finally, speaker-reference pronouns performed several discourse functions including *I as a representative*, and *I as a guide*, with statistical differences across DSs. The findings deepen our understanding on disciplinarity in relation to *I*, *we* and *you* usage in classroom lectures. They further lead to a more robust theoretical consideration of the discourse references and functions of the tri-PP in classroom lectures. The findings have implications for pedagogy and further research on pronominal usage.

KEY WORDS

Corpus-based

Discourse Functions

Lecture

Metadiscourse

Personal Pronouns

Referents



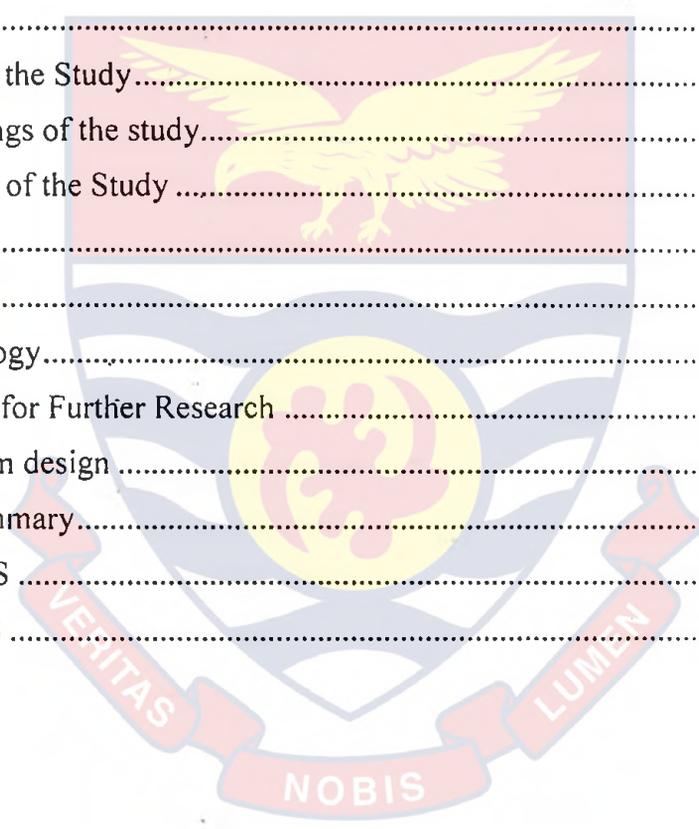
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LIST OF ABBREVIATIONS AND ACRONYMS

1PP	First Personal Pronoun
2PP	Second Personal Pronoun
3PP	Third Personal Pronoun
ANON	Anonymous
BASE	The British Academic Spoken English
BNC	British National Corpus
CAMSNAE	Cambridge Corpus of Spoken North-American English
CANCODE	Cambridge and Nottingham Corpus of Discourse in English
CB	Corpus-based
CBL	Corpus-based Linguistics
CD	Corpus-driven
CDL	Corpus-driven Linguistics
CL	Corpus Linguistics
CLAWS	Constituent Likelihood Automatic Word-tagging System
CS	Communicative Skills
CS	Corpus Size
DoE	Department of English
DS	Disciplinary Supercommunity
EAP	English for Academic Purposes
ELC	Engineering Lecture Corpus
ELT	English Language Teaching

ESAP	English for Spoken Academic Purposes
EWAP	English for Written Academic Purposes
Freq.	Frequency
HS	Humanities
HSC	Humanities Corpus
HSL	Humanities Lecturer
ICE	International Corpus of English
ICTs	Information and Computer Technologies
IT	Information Technology
KNUST	Kwame Nkrumah University of Science and Technology
LCIE	Limerick Corpus of Irish English
LCL	Large Class Lecture
LL	Log-likelihood
MICASE	Michigan Corpus of Academic Spoken English
NB	Normalization Base
NF	Normed Frequency
NNE	Non-Native English
NS	Natural Sciences
NSC	Natural Sciences Corpus
NSL	Natural Sciences Lecturer
PhD	Doctor of Philosophy
POS	Part of Speech

PP	Personal Pronoun
RF	Raw Frequency
SAT	Speaker Audience Text
SCL	Small Class Lecture
SFG	Systematic Functional Grammar
SFL	Systemic Functional Linguistics
SS	Social Sciences
SSC	Social Sciences Corpus
SSL	Social Sciences Lecturer
SSS	Social Sciences Student
TA	Teaching Assistant
TEAP	Teaching English for Academic Purposes
UCC	University of Cape Coast
UCREL	Unit for Computer Research on English Language
UK	United Kingdom
US	United States



CHAPTER ONE

INTRODUCTION

Chapter One defines the fundamental issues related to the study. Specifically, it discusses the background to the study, statement of the problem, research questions, assumptions underlying the study, delimitations and scope of the study, and synopsis of the study.

Background to the Study

English for Academic Purposes (EAP) plays a useful role in academia. EAP is classified into English for Spoken Academic Purposes (ESAP) and English for Written Academic Purposes (EWAP). Similarly, registers in academia, in terms of the mode, are classified as written and spoken registers. Since time immemorial, research has remained in favour of the written registers due to some factors as accessibility to corpora, cost involved in building a corpus, absence of transcription, and availability of resource (human and machine). However, from the early part of the 20th century, quite a significant attention has been given to spoken academic registers to demonstrate their usefulness in the academy. Fortanet (2005) provides a taxonomy of these registers –she used the termed ‘genre’ instead of ‘register’.

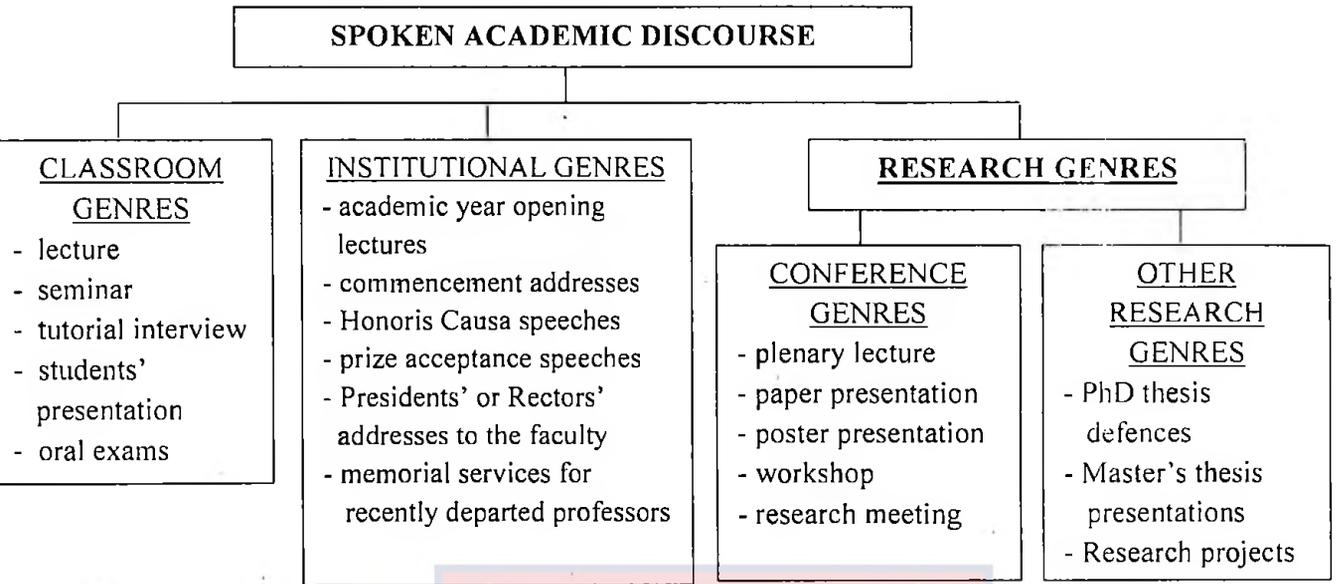


Figure 1: Classification of academic registers according to their purpose (Fortanet, 2005)

Fortanet's taxonomy raises a number of concerns, and one's full or partial acceptance of this model depends largely on how one conceptualises academic discourse. Hyland (2009: 1) defined academic discourse as "...the ways of thinking and using language which exist in the academy". In Hyland's (2009) view, the 'academy' is limited to teaching and research; hence, genres which do not directly relate to these central goals of higher education cannot be regarded as part of academic discourse. Thus, only classroom and research genres (See Figure 1) may be accepted by Hyland (2009) –although it is quite problematic to understand why Hyland cites 'office hour meetings' (p. 27) as an academic genre. Hyland's position can be described as narrow. On the contrary, Fortanet (2005) views academic discourse as involving other genres which tangentially relate to the 'academy' and, therefore, can be described as *pseudo-academic genres*.

In this study, I subscribe to Hyland's (2009) narrow stance that academic discourse is limited to teaching-research paradigms. This narrow scope encompasses "instructional-pedagogical academic discourse..." and "research-oriented academic discourse..." (Bellés-Fortuño, 2009: 907). Hence, *institutional genres* in Fortanet's model are appropriately regarded as part of institutional discourse, which concerns "features which are attributed to institutional practice, either manifestly or covertly, by professionals", and is "characterized by rational, legitimate accounting practices which are authoritatively backed up by a set of rules and regulations governing an institution" (Sarangi & Roberts, 1999: 15).

Although Fortanet's (2005) classification of spoken academic discourses is detailed, it still excludes some important spoken genres like inaugural lecture, public lecture, memorial lecture, guest lecture, proposal defence, and other genres outlined by Hyland (2009) such as colloquia, peer study groups, conference presentations, and admission interviews – which are all central in the activities in the academy. Fortanet (2005) places academic lecture under classroom genres; it (classroom lecture) is considered one of the key teaching methods or instructional genres (Crawford Camiciottoli, 2007; Hyland, 2009; Yaakob, 2013). It appears to be the first spoken academic genre that fresh university students encounter as they are socialized into the higher educational academic discourse community (Hyland, 2009; Yaakob, 2013). It is, therefore, said to be a medium via which most disciplines introduce their students to the theoretical and historical traditions that give shape and distinctiveness to the subject knowledge (Hart, 1998).

Lecture, therefore, makes it “possible for one to make an epistemic progression from the state of ignorance to a state of knowledge” (Osei, 2008:22). It is considered and indeed is the most commonplace, oldest teaching strategy (Fortuno, 2006), mainly because almost all lecturers worldwide received instruction through lecturing (Yaakob, 2013). More so, it is comparatively cheaper, quicker and more efficient (Sajjad, 2011). Pritchard (2010) attributed the primacy of academic lecture as the chief classroom genre, and teaching methodology to its ability to allow experts to communicate through multiple channels such as writing, visuals and speech.

Lecture discourse has, therefore, garnered the attention of scholars who have studied it from multidisciplinary perspectives, resulting in numerous theorizations and conceptualizations (e.g Crawford Camiciottoli, 2007; Sajjad, 2011; Yaakob, 2013). Sajjad (2011) argues that among the myriad of instructional genres, “lecturing is still, in the 21st century, the most widely used format”. The phrase *widely used* can be interpreted as across disciplines and geographies (as in institutions and countries). Thus, across the three disciplinary supercommunities (DSs): Humanities (HS), Social Sciences (SS) and Natural Sciences (NS), lecture remains the preferred mode of instruction (Eslami-Rasekh, Eslami-Rasekh & Simin, 2012; Hyland, 2009). In this study, I use *Humanity Scientists* (following Starke-Meyerring & Paré, 2011) rather than *humanists* which appears ambiguous and misleading) to refer to scholars in the Humanity Sciences, or Humanities (HS).

Lecture studies, (i.e. *lecturology*), has a long standing history. It goes as far back as 16th century (Yaakob, 2013). Since then, several scholars who can best be addressed as *lecturologists* have given some attention to this key academic spoken genre. As lecturers aim at providing rhetorically and persuasively effective discourse (Adel, 2010; Bitchener, 2010; Yaakob, 2013), they draw on an array of linguistic, rhetorical, and pragmatic strategies. Fortanet (2004) classifies these strategies into direct (e.g. questions, nominations, imperatives, personal pronouns (PPs) and indirect (e.g. geographical references, and shared knowledge). PPs are perceived as indicators of interpersonal interaction (Atabek & Yildiz, 2010). Yeo and Ting (2014) maintain that PPs are pragmatic-linguistic resources that are deployed in both speech and writing especially, in such originally perceived functionally and structurally monologic genre as the lecture. PPs, therefore, constitute a part of rhetorical repertoire which demonstrates “metadiscourse-consciousness” (Akoto, 2013:4), stressing discourse as an act of social engagement (Hyland, 2005a & b). Though there is a plethora of PP research on written discourse (e.g. Carter-Thomas & Chambers, 2012; Dontcheva-Navratilova, 2013; Hyland, 2002a & b, 2001a; Kuo, 1999; Munoz, 2014a & b; Tang & John, 1999), there are few studies on PPs in the spoken mode.

Statement of the Problem

Currently, the scholarship on academic discourse in Ghana is heavily centred on written registers such as RA (Ngula, 2015), postgraduate thesis (Afful, 2016; Akoto, 2013; Arhin, 2011; Asafo-Duho, 2011; Musa, 2014a & b).

undergraduate thesis (Afful & Akoto, 2010; Afful & Nartey, 2014), and undergraduate essay (Afful, 2005, 2009, 2010). The spoken registers thus remain greatly underexplored (contra Afful, 2017; Antwi, 2015; Mensah, 2017; Owusu-Ansah, 1992). This situation is critical, particularly, when spoken academic registers in recent times have engendered the attention of applied linguists, corpus linguists, discourse analysts, literacy specialist, among others, from the European and Asian contexts (e.g. Yeo & Ting, 2014; Yaakob, 2013; Ädel, 2010; Aguilar, 2008; Crawford Camiciottoli, 2007). Thus, results of this study can be compared to such studies on *I*, *we*, and *you* in classroom lectures from native speaker context to ascertain the native-nonnative variation. Again, given the current attention on the geopolitics in academic discourse (e.g. Canagarajah, 2002), Africa, in general, and Ghana, in particular, need to contribute to this global pursuit.

Consequently, the present study adopts a corpus-based approach to explore PPs, specifically *I*, *we* and *you* (hereafter called *tri-PP*), key rhetorical and interactive resources in classroom lectures (Fortanet, 2004; Okamura, 2009; Rounds, 1987a) across three broad knowledge domains –Humanities, Social Sciences, and Natural Sciences. Specifically, the study focuses on variation in the range, discourse referents and functions of the above mentioned tri-PP, as they are employed by Ghanaian academics in their interaction with students in the classroom.

Research Questions

The present study is underpinned by the following research questions.

1. What is the distribution of *I*, *we* and *you* across Humanities, Social Sciences and Natural Sciences classroom lectures?
2. What are the semantic referents of *I*, *you*, and *we* across Humanities, Social Sciences and Natural Sciences classroom lectures?
3. What are the discourse functions of *speaker pronouns* across Humanities, Social Sciences and Natural Sciences classroom lectures?

Assumptions Underlying the Study

The present study is premised on three assumptions.

Firstly, studies into disciplinary variation can be broadly considered from ‘micro’ and ‘macro’ viewpoints. From the micro perspective, a discipline is considered as a discourse community in its own right, possessing its own norms, practices, and culture (Becher, 2001; Biglan, 19873; Hyland, 2009). For example, Sociology is considered as a disciplinary discourse community because it is distinct from other disciplines in terms of its subject matter, epistemology, rhetoric and language use (Afful, 2005; Akoto, 2013). However, from the macro viewpoint, a class of disciplines is perceived as a discourse community (See Biglan, 1973; Hyland, 2009; McDonald, 1994). Thus, Social Sciences which comprises a number of disciplines with similar epistemology, ideology, culture, rhetoric and language use is regarded as a discourse community. In this study, broad divisions of

disciplines are each considered as one entity. Thus, Humanities (HS), Social Sciences (SS) and Natural Sciences (NS) are considered as disciplinary supercommunities (DSs). The study, thus, adopts the *macro-stance* to explore the discourse referents and functions of *I*, *we* and *you*. Individual disciplines that are selected are, therefore, representatives of their respective DSs. Whitehead's (2011) continuum of self-identity is, therefore, appropriated in this study.

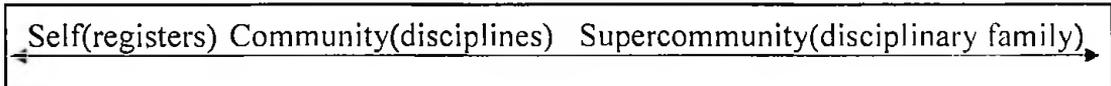


Figure 2: Continuum of epistemic domains (adapted from Whitehead, 2011)

In this context, registers such as thesis, examination, lecture and RA within the disciplines are represented by *self*, while the disciplines are represented by *community*. The term *supercommunity*, therefore, represents the wider disciplinary domains (i.e. Humanities, Social Sciences and Natural Sciences). It is obvious from Figure 2 that genres (*self*) are subsets of community, while community is a subset of supercommunity. Thus, supercommunity is a universal set that embraces a community, and all that a community comprises. Hence, the study uses the term, *disciplinary supercommunity (DSs)* to refer to Humanities, Social Sciences and Natural Sciences.

Another assumption underlying this study is that academic lectures can be internally and externally monologic and/or dialogic (Crawford Camiciottoli, 2007). The lecture is said to have undergone an evolution, semantically and methodologically (Friesen, 2011), affirming Hyland's (2000: 5) contention that

“genres are in a state of constant evolution...”. Classroom lecture was regarded as a one-way form of communication, and also mainly concerns *reading* or giving of notes extemporaneously (Friesen, 2011). Hence, some scholars such as Yeo and Ting (2014), distinguishing between traditional (non-participatory) and modern (participatory) forms of lectures, noted that lecture, in contemporary times, involves some interpersonal resources (Yaakob, 2013), to engage student audience “in the process of learning rather than being a mere listener” (Kashiha & Heng, 2013:133). Yaakob (2013) further observed: “good lecturers are seen to include *interactive elements* (Emphasis mine) to attract the students’ attention and increase their motivation to listen to the lectures, such as multimedia presentation software like PowerPoint and video clips” (p. 1). *Interactive elements* do not make reference to the text internal world, rather discourse external world (Ädel, 2006; Hyland, 2005b, 2002a & b). These ‘text external world’ interactive elements have been explored to ascertain their effects on the effectiveness of contemporary lectures in the academy. On the other hand, there are text-internal world interactive resources which are referred to as interactive resources, which generally create dialogic space in texts for ‘triangular’ interaction among the three key players in academic texts (writer, reader and the text itself) (See Ädel, 2006; Akoto, 2013; Hyland, 2005). The resources for interaction in discourse are variously labelled as *metadiscourse* (Ädel, 2006; Aguilar, 2008; Hyland, 2005a & b), *appraisal* (Martin, 2000), *stance* (Conrad & Biber, 1999), *evaluation* (Hunston, 1994), and *pronominal resources* (Rounds, 1987a & b). Key among these interactive resources are PPs which are

considered the most visible manifestation of speaker presence in text (Afful, 2010; Carter-Thomas & Chambers, 2012; Hyland, 2002a & b). They also enhance students' comprehension of lectures (Yeo & Ting, 2014) and enable lecturers to appreciate that "it is the teacher's responsibility to create the conditions in which understanding is possible" (Yaakob, 2013: 6).

Finally, it is assumed that university lecture is influenced by the sociorhetorical practices and ideologies (Aguilar, 2008; Hyland, 2000, 2009; Jordan, 1997; McDonald, 1994) of DSs. Lecturers, therefore, adopt "discipline-approved practices...sanctioned social behaviours, epistemic beliefs and instructional structures of academic communities" (Hyland, 2000:1-2) in their use of the tri-PP. I, therefore, opted for Faigley's (1986) (cited in Hyland, 2000) view that discourses can be understood from the perspective of the disciplinary community rather than the individual. Hence, lectures recorded as part of the corpus do not reflect the idiosyncrasies of the individual –although that may also have some effect (Plaza, & Álvarez, 2013). DSs are largely "...human institutions where actions and understandings are influenced by the personal and interpersonal, as well as the institutional and sociocultural" (Hyland, 2000: 9). Hence the idea of DS implies a certain degree of both intra-community(disciplinary) and inter-community alliances (Whitehead, 2011; Hyland, 2000). Thus, a lecturer speaks as a Sociologist and also generally as a Social Scientist.

Scope of the Study

Teubert (2005) maintains that it is a writer's responsibility to delimit his/her study. He noted that "delimiters include linguistic, spatial, temporal, social, topical and medial parameters" (p. 4). This section, therefore, defines the boundaries of the present study. Firstly, academic lectures are variously described as written/scripted (Nelson, 1996; Samson, 2002), 'planned monologues' (Samson, 2002: 183), electronic/e-lecture (Pathak, & Kathpalia, 2005) or televised (Owusu-Ansah, 1992). This study is, however, limited to spoken (unscripted) academic lectures.

Again, the study is limited to the explicit use of the tri-PP (*I. we and you*) in the lecture corpus. It is said that speakers explicitly and implicitly (as in imperative constructions) employ PPs (Ädel, 2006; Wales, 1996). However, the present study limits itself to the explicit use of PPs. Hence, PPs in imperative structures are excluded from the analysis. The reason is that imperatives (without the pronouns) serve their own pragmatic purposes (Hyland, 2005b) and, therefore, if the authors want to use PP they will have made that choice. This, to some extent makes this study different from such studies as Kuo (1999: 127) that considered "the hidden *you* of the imperative..." and studies that are silent on this matter. Most importantly, imperative *you* is not considered because "it does not appear as a surface structure" (Kuo, 1999: 127).

The literature clearly outlines monologic and dialogic lectures (e.g. Crawford Camiciottoli, 2007). However, researchers are usually silent on the type

of lecture they use in their studies, be it monologue or dialogue, as it will have implication for the presence or absence of some linguistic resources. On dialogic lectures, where lecturers call for students' inputs, there are three issues to be considered and that may result in some *mini* corpus taxonomy: lecturer-only input, student-only input, and lecturer + student input lecture corpora. For instance, in Zhihua's (2011) study, the corpus included inputs from lecturers and students, leading to what may be termed *lecturer-I*, *student-I*, *lecturer-you* and *student you*, since the analysis on referents has lecturer as speaker, and student as speaker. The corpus for the present study is thus lecturer-only input corpus.

Lecture corpus can be classified into lecture-part corpus and full lecture corpus, depending on what is considered in building the corpus (Biber & Conrad, 2009). There are corpora on lecture introduction and conclusion, and a number of studies with different focuses have used these (e.g. Lee, 2009; Thompson, 1994; Shamsudin & Ebrahim, 2013; Yaakob, 2013; Yeo & Ting, 2014). The present study, however, includes all the entire lectures. The 'all-lecture-corpus' allows us to see the broader picture regarding frequency, discourse referents and functions of *I*, *we* and *you* use, contrary to what pertains in a lecture-part. as in lecture introduction or closing (e.g. Cheng, 2012; Jalilifar, & Shahri, 2016).

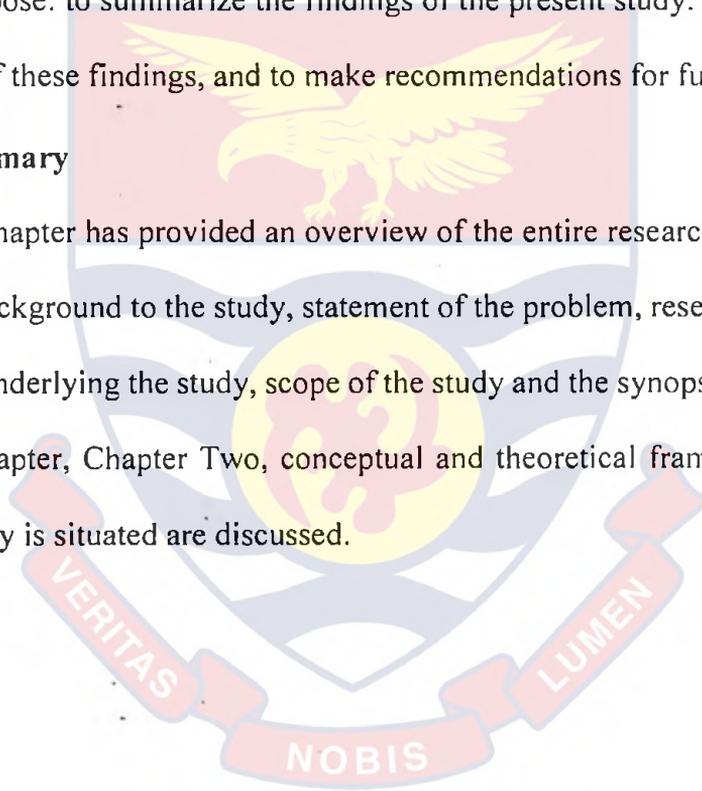
Synopsis of the Study

This study comprises eight chapters. **Chapter One** offers a general context of the present study. It focuses on background to the study, statement of the problem, the research questions, the scope of the study, and assumptions

underpinning the study. **Chapter Two** focuses on the conceptual and theoretical frameworks which undergird the present study. **Chapter Three** reviews relevant empirical studies on PPs in academic lectures. Finally, the chapter reviews studies on general interactive resources in lectures. **Chapter Four** concentrates on the methodological techniques employed in the study. The next three chapters, **Chapters Five, Six, and Seven**, present the results and discussion of the research questions 1 and 2, 3 respectively. **Chapter Eight**, which is the final chapter, has a three-fold purpose: to summarize the findings of the present study: to consider the implications of these findings, and to make recommendations for future research.

Chapter Summary

This Chapter has provided an overview of the entire research. Specifically, it discussed background to the study, statement of the problem, research questions, assumptions underlying the study, scope of the study and the synopsis of the study. In the next chapter, Chapter Two, conceptual and theoretical frameworks within which the study is situated are discussed.



CHAPTER TWO

THEORETICAL AND CONCEPTUAL REVIEW

Introduction

The present study explores variation in discourse referents and functions of the tri-PP (*I, we, and you*) across three disciplinary supercommunities (DSs). Having established the context of the study in Chapter One, I now examine the theoretical and conceptual that underpin this study.

Theoretical Framework

This section examines the theoretical thrust which underpins the present study.

Register theory

Variation in language use has received considerable attention from several scholars (e.g. Biber & Conrad, 2009; Halliday, 1978; Halliday, McIntosh and Stevens, 1964; Hymes, 1962). Biber and Conrad (2009: 4) contend that “variability is inherent in human language: people use different linguistic forms on different occasions, and different speakers of a language will say the same thing in different ways”. Variation in language is determined by the user and use (Biber & Conrad, 2009). Use-oriented and user-oriented variability in language are referred to as register and dialects respectively (Biber & Conrad, 2009). However, given that the present study seeks to examine variation within classroom lectures (intra-register variation (North, 2014) regarding the frequency, discourse referents and function

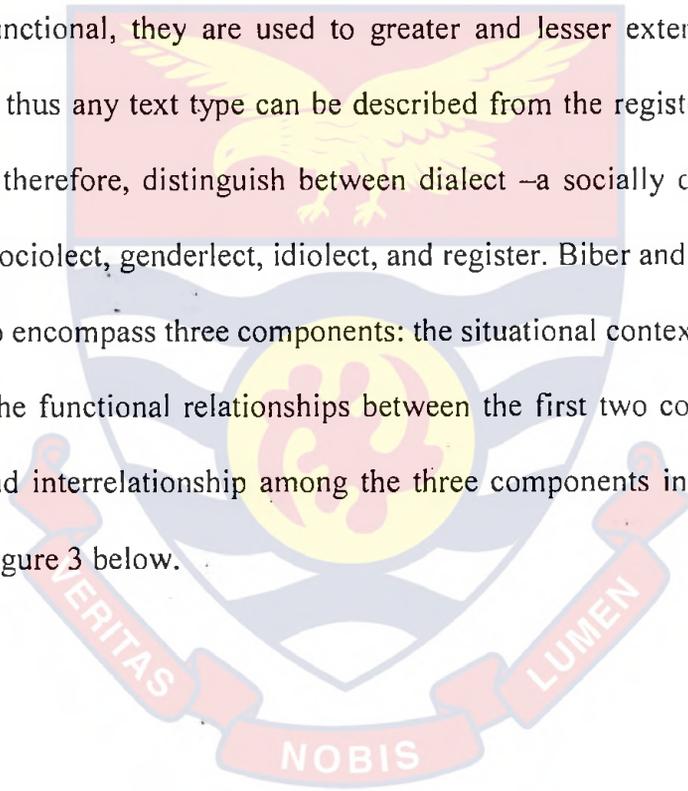
of the tri-PP across DSs, use-oriented (rather than user-oriented) variation is deemed more appropriate.

After six decades of its explicit introduction into linguistics, register still “remains under-theorised and empirically vague” (Hyland, 2005b: iv) as its conceptualization is “still too imprecise and still remains overlapped with the other parameters of analysis such as genres, styles, dimensions and functions of language” (Gimenez-Moreno & Skorczynska, 2013: 408). There is lack of consensus on the import of the word *register*. Biber and Conrad (2009: 12), therefore, observe: “...it is important to be aware that there is no general consensus concerning the use of *register*” (italicized in original). Several attempts have been made to establish the theoretical distinction between register and some allied concepts such as style, genre, and text type. The scholarly argumentations on these phenomena are relevant as they help us to appreciate the distinct approaches in studying a text. However, the debates are less relevant for the purpose of this study.

According to Crystal (1991: 295), register is “a variety of language defined according to its use in social setting”. This understanding of register has resulted in such concepts as *legalese*, *motherese*, and even *lecturerese*. As lecturers use language in the classroom, the disciplinary context of use conditions the choice of referents and discourse functions of personal pronouns (PPs). Halliday et al (1964: 87) maintains that “when we observe language activity in the various contexts in which it takes place, we find differences in the types of language selected as

appropriate to different types of situation”. Halliday et al’s (1964) view of register largely influenced Biber and Conrad’s (2009) theory of register.

Biber and Conrad (2009: 6) think that “register is a variety associated with a particular situation of use (including particular communicative purposes)”. Biber and Conrad’s notion of register is consistent with that of Halliday (1978) in some respects. They, like Halliday, regard register as contextual and situational and hence, use-oriented. Their theory is underpinned by the assumptions that “linguistic features are functional, they are used to greater and lesser extents in different situations, and thus any text type can be described from the register perspective” (p. 24). They, therefore, distinguish between dialect –a socially defined variety, giving rise to sociolect, genderlect, idiolect, and register. Biber and Conrad (2009) used register to encompass three components: the situational context, the linguistic features, and the functional relationships between the first two components. The relationship and interrelationship among the three components in the theory are presented in Figure 3 below.



the **Situational Context** of use
(including communicative purposes)

Linguistic Analysis of the words
structures that commonly occur

←.....Function→

Figure 3: Components in a register analysis (Biber & Conrad, 2009: 6)

The textual space given to the situational context, as compared to the other two, makes it the core of the theory. Unsurprisingly, Halliday and Hasan (1976: 37) contend that "...it is impossible to interpret what is said or written without situational information...". They maintain that situational context indicates "whether register occur in speech or writing, whether they are interactive, and what their primary communicative purposes are" (p. 6). The situational characteristics involve "configuration situational features" (Halliday & Hasan 1976: 22): participants, relations among participants, channel, production circumstances, setting communicative purposes, and topic.

The linguistic features focus on the lexico-grammatical characteristics. In this component, Biber and Conrad note that there are three *necessities*: the need for comparative approach, quantitative analysis and representative sample. They maintain that linguistic features are always functional. The final component is the functional analysis. They argued that "linguistic features tend to occur in a register because they are particularly well suited to the purposes and situational context of the register". (2009: p. 6). Thus, when a comparative register analysis is undertaken, a linguistic feature that may be pervasive in one text may appear rare in another. This assumption underlines Biber and Conrad's theory of register. Biber (1995) then contended that "every linguistic feature has a certain amount of variability

across the texts of a corpus –the feature will be relatively common in some texts and relatively rare in others” (Biber, 1995:79).

The above components in Biber and Conrad’s (2009) register theory constitute the three steps in analysing register. The first step is the description of the situational characteristics that distinguish the register of a particular text type from another. This speaks more to the participants involved in the communicative encounter. Thus, in lectures, for instance, there must be a lecturer and students. This clearly distinguishes classroom lecture, not only from other registers, but also *allied* registers such as inaugural lecture and public lecture. Unlike conversation which is typically dialogic, a lecture may be monologic or dialogic, depending on whether the students are allowed to make an input (O’Connor & Michaels, 2007). The second step, the linguistic analysis, focuses on the description of the pervasive linguistic features. These features distinguish the register in context from other kinds. For instance, Biber and Conrad (2009) reported that studies have mentioned three linguistic features (first person pronouns *I* and *we*), second person pronouns (*you*) and questions to be common in conversation. The final step concerns the interface of the first two: an interpretation of the relationship between the situational characteristics and typical linguistic features.

Biber and Conrad’s (2009) theory of register accounts for participants in discourse. What it fails to do, however, is the participant within a defined educational context. For instance, *lecture* in university and polytechnic has the same participants (students and lecturer) but there will obviously be variation in the

register. This raises a concern about how Biber and Conrad conceptualised *situational context*. They used the term to connote several factors. It, however, does not take into account *disciplinary context* which also influences variability in language use (Akoto, 2013; Arhin, 2011; Hyland, 2009; Musa, 2014a & b). This is seen in the less attention given to intra-register variation, although he outlined a number of studies that adopted this approach (See Biber & Conrad, 2009: 274-292).

Notwithstanding, they justified in the Chapter 9 of their book *Register, genre and style* that register perspective can be adopted to explore disciplinary variation (both inter-and intra). Scholars (e.g. Biber, 2001; North, 2014) recognize intra-and inter-register approaches, which respectively focus on variation in language use within and across registers (North, 2014). Biber and Conrad (2009) account for intra-register variation under ‘multidimensional patterns in register variation’ (p. 215). The present study is, therefore, situated within the intra-register variationist framework where classroom lecture is explored across disciplinary supercommunities (DSs). Thus, the study is underpinned by the following assumptions: (a) lectures share the same situational characteristics (See Biber & Conrad, 2009: 65 for detailed discussion on the situational features of classroom lectures). (b) DSs share some common features (see Hyland, 2009). (c) DSs vary in norms, practices, ideologies, beliefs, etc. (See Hyland, 2009) (d) thus, there are variation among DSs in language use (in this study, frequency, discourse referents, and functions of PPs.).

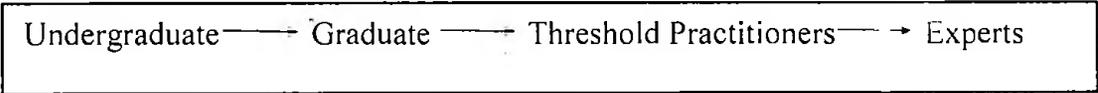
The register theory by Biber and Conrad (2009) has been criticised for being “too complex to be useful for language students, professional practitioners and even also for language researchers” (Gimenez-Moreno & Skorczynska, 2013: 408). On the contrary, the theory appears detailed and elaborate such that it affords easy and systematic analysis of register. Further, Gimenez-Moreno and Skorczynska (2013) attacked the theory for its lack of clarity on what it means by *register*. It is clear in the literature that register can be perceived from either broad or narrow perspective. What Biber and Conrad have done is to broaden the scope of register to cover some domains which hitherto were not considered. The theory may be commended for its *flexibility* and *accommodativeness*. Gimenez-Moreno and Skorczynska (2013), therefore, doubt how casual conversation, service encounters, and research article (RA) introductions are considered registers. But the theory clearly catered for this in its notion of *complete text vs text excerpt*. A complete text has an “extended discourse that has a clear start and finish” (Biber & Conrad, 2009: 5). Thus, RAs introductions can be considered as complete texts since they constitute parts of RAs. On the other hand, they can be considered complete texts having their own beginnings, ends, and defined communicative purposes. A number of studies on lectures (e.g. Lee, 2009; Shamsudin & Ebrahim, 2013; Thompson, 1994; Yaakob, 2013; Yeo & Ting, 2014) have looked at lecture introductions as complete text, having defined rhetorical resources and communicative functions.

Key Concepts

The section aims “to provide the reader with a general orientation on the conceptual terrain of the research” (Afful, 2010: 25). The concepts are lecture, personal pronoun and disciplinary variation.

Lecture

The lecture has been a method of teaching since the Middle Ages or medieval times (Bellés-Fortuño, 2006; Yaakob, 2013). In fact, it remains the central instructional method in higher education (Flowerdew, 1994; Hyland, 2009; Sajjad, 2011). It is considered cheaper, more convenient, most popular, and the oldest teaching methodology. It is regarded as the primary medium of knowledge transmission and acquisition in universities as well as the central method of teaching at the higher level of education (Eslami-Rasekh, Eslami-Rasekh & Simin, 2012; Yaakob, 2013). Hyland (2002a: 1107) notes that the lecture enables students to “gain an important sense of the rhetorical demands of their disciplines,” as it is a medium for lecturer-student communication. Lecture, therefore, is a transfer of information from a scholar (an expert) to a student (see Figure 4 for the key members in a disciplinary community).



Undergraduate —> Graduate —> Threshold Practitioners —> Experts

Figure 4: Continuum of discourse community members (Afful, 2005)

Figure 4 shows the relation between a student and a lecturer (a disciplinary expert) in the disciplinary community. The lecturer, who is an expert in a discipline, therefore, transfers knowledge to students (in this study, undergraduates).

Lectures are classified based on a number of parameters. The absence or presence of lecturer/instructor-student interaction results in participatory-nonparticipatory lecture dichotomy. In a participatory lecture, the instructor deliberately engages the students in the learning processes, through such strategies as questioning, just in time teaching, team-based learning, and in-class discussions (Gomez, 2004; Morell, 2001). To some extent, this contradicts the traditional tenets of lectures (see Friesen, 2011). In this sense, we can say that this kind of lecture is dialogic rather than monologic. Monologic lecture, however, involves no student-lecturer interaction, and, therefore, the lecture is purely unidirectional, allowing information to flow from the *source of knowledge* (lecturer) to students (Gomez, 2006; Morell, 2001). The lecturer, therefore, monopolises the discourse. In its traditional and classical sense, the lecture is nonparticipatory and, therefore, has been regarded as monologic. In the dispensation of metadiscourse-consciousness (Akoto, 2013), all forms of lectures are seen as dialogic given the presence of such linguistic resources as metadiscourse.

Even though the lecture is said to have evolved semantically, structurally and methodologically (Friesen, 2011), its communicative functions remain unchanged (Yaakob, 2013). Its main communicative functions include a means to transmit information to people about a particular subject. This communicative

function and the key players in the communicative encounter distinguish classroom lecture from other forms of lectures and other spoken academic discourses (see Figure 1). Yaakob (2013) notes that the lecture is a “complex genre to define from a genre analysis point of view, as it does not present itself with a clear linear flow of communicative functions that remain the same in all lectures like some well-known written genres;...” (p. 2). Notwithstanding, Deroey and Taverniers (2011) reveal the pragmatic functions of lectures, based on their genre analysis study. Deroey and Taverniers (2011) recount that lectures perform five major functions with their respective subfunctions, as shown in Table 1.

Table 1: Lecture Function Typology (Deroey and Taverniers, 2011)

Functions	Subfunctions
Informing	Describing Recounting Reporting Interpreting
Elaborating	Demonstrating Exemplifying Reformulating
Evaluating	Indicating attitude Indicating degree of commitment
Organising discourse	Orienting Structuring Relating
Interacting	Regulating interaction Involving the audience Establishing a relationship with audience
Managing the class	Managing organizational matters Managing delivery Managing the audience

The functions on the left are the major ones while the corresponding ones on the right are the subfunctions. For instance, the classroom lectures has an informational function, which involves such subfunctions as describing, recounting, reporting, interpreting and demonstrating.

The lecture, like other methods of teaching such as group discussion, individual presentation, assignment, seminar, workshop, conference, brainstorming, role play, case study, demonstration, has advantages and disadvantages. It affords lecturers the opportunity to teach a large number of learners within a limited time. In Sajjad's (2011: 5) study, the lecture was rated as the foremost teaching method given that "it is good for large class". Dafouz, Nunez and Sancho (2007: 649) concluded that "lectures can accommodate large numbers of students, they can convey considerable amounts of information to large audiences with relative efficacy, and they can be adaptable to divergent needs".

The lecture, however, has some weaknesses. For instance, it has been attacked as not promoting and helping students to develop conceptual understanding, independent learning or problem solving skills (Dafouz et al., 2007). It has also been attacked as not being interactive and hence synonymous to sermonic subregisters, such as preaching, and prophesying. Within the contemporary context, it can be said that the lecture is not monologic given that most universities employ technologies such as Powerpoint which *dialogicize* it (Anderson, Hoyer, Wolfman, & Anderson, 2004). Moreover, it has also been attacked as being too lecturer-centered (Kashiha & Heng, 2013) or monopolised as

the lecturer used over 75% of the time (Dafouz Nunez, Foran, & Sancho, 2007). This is undeniable and it may even lead to lack of concentration on the part of students. This largely informed Goffman's (1981: 165) definition of lecture as an "institutionalized extended holdings of the floor in which one speaker imparts his view on a subject ...". However, through interactions, lecturers are increasingly relinquishing some part of the time to students thereby making lectures less monopolistic (Choi, Tatar, & Kim, 2014).

The lecture has been indicated as a specialised form of classroom genre that involves verbal and non-verbal contents (Sajjad, 2011). Sajjad (2011) notes that "the classroom lecture is a special form of communication in which voice, gesture, movement, facial expression, and eye contact can either complement or detract (sic) from the content" (p. 9). The verbal component of lectures involves information communicated to the classroom audience through words. This may range from typed/scripted notes, to improvised notes. The non-verbal encompasses information conveyed through such modes as facial expressions, gestures, laughter, and movement of hands. In his book *Presentation Zen*, Reynolds (2007) argued that there must be a complementary relationship between the verbal and non-verbal components of lectures. They must both jointly contribute to effective lectures, resulting in students' comprehension or satisfaction of both lecturers and students in the classroom.

The lecture has two main planes: discourse and metadiscourse (See Beauvais, 1989; Crismore, 1989; Crismore, Markkanen, & Steffensen, 1993;

Crismore & Farnsworth, 1989; Luukka, 1994; Mao, 1993; Vande Kopple, 1985, 1988). Each plane has a peculiar role to play for speakers to achieve their communicative purpose. At the discorsal level, there is limited audience involvement but the metadiscourse dimension creates the lecturer-student interactive space. Metadiscourse, therefore, gives lectures a socio-pragmatic aura.

Lectures, as the plural form of *lecture*, denotes two things. When a student says “I have lectures today”, he implies he has more than one course for that day. So a student may attend a lecture in *Communication Skills*, and another in *The Use of English*. This is the ordinary grammatical sense of the plural counterpart of *lecture*. On the other hand, *lectures* connotes some allied registers in academia such as public lecture, inaugural lecture, classroom lecture, conference presentation, and memorial lectures. In its broadest sense, lecture encompasses almost all institutionalised spoken registers in the academy, including valedictory speeches during matriculation, and graduation (Davis, 2007). All these forms of lectures are characterised by unique communicative functions and peculiar use of language. Attention, however, is given to the classroom lecture in this study, because of two main reasons.

One is the personal interest of the researcher in teaching and also his role as a lecturer. Hence, considered as the most popular method of teaching at the higher level of education (Davis, 2007; Yaakob, 2013), classroom lecture enjoys some prominence in academia, particularly in teaching universities across the globe. The second reason is that academic lecture involves expert-novice communication

whereby the lecturer is perceived as the *confluence* of knowledge and, therefore, flows to the students. This motivates the researcher to then explore how PPs are used in this asymmetrical relation.

Considering the continuum of higher education studentship (see Figure 4), university classroom lectures can be categorised as undergraduate lectures and postgraduate lectures (which have subcategories as masters lectures and doctoral lectures). This study, however, focuses on undergraduate university lecture because of its primary role in the enculturation of students in the academic discourse community.

Personal Pronoun as a Feature of Interpersonality

There are several perspectives on the concept of interpersonalitv. It is discussed in discourse analysis, philosophy of mind, psychology, sociology, and neuroscience. In some contexts, specifically Philosophy of mind, the concept is equated to intersubjectivity (Radman, 2104) which borders on the understanding of other minds. Generally, interpersonalitv implies that "...we are one among many, and every 'I' is part of the multitude" (Radman, 2014: 213).

In discourse analysis, the concept is construed as a socio-rhetorical interaction between discorsal participants such as writer and reader, speaker and listener, or writer and other writers (Ädel, 2006; Chen & Steffensen, 1996; Mauranen, 1993; Schiffirin, 1980). Hyland (2010: 1) maintains that interpersonalitv:

concerns the ways that writers use language to negotiate social relationships by telling their readers what they see as important, how they believe they should select and present material for them, and how they feel about what they write about. It concerns the explicit system of meanings which link the participants in a text as *interactants*, adopting an acceptable persona and a tenor consistent with the norms of the community.

Interpersonal resources are variously labelled as *metadiscourse* (Ädel, 2006; Aguilar, 2008; Hyland, 2005a & b), *appraisal* (Martin, 2000), *stance* (Conrad & Biber, 2000), *evaluation* (Hunston, 1994), and *pronominal resources* (Rounds, 1987a & b). Key among these interactive resources are personal pronouns (PPs) which are considered the most visible manifestation of author visibility in text (Afful, 2010; Carter-Thomas & Chambers, 2012; Hyland, 2002a & b). They also enhance students' comprehension of lectures (Yeo & Ting, 2014) and enable lecturers to appreciate that "it is the teacher's responsibility to create the conditions in which understanding is possible" (Yaakob, 2013: 6).

Scholars are divided on whether a pronoun is a word class or a subclass of a noun. While some scholars (e.g. Huddleston & Pullum, 2005; Leech, 2006; Thakur, 1998; Wales, 1996) consider the pronoun as an independent word class that contains subcategories, others like Hudson (1992) and Greenbaum (1991) regard it as a subclass of noun. Meanwhile, Greek grammarians, as Wales (1996) recounted, considered pronouns as part of articles. Although pronouns-as-articles, and

pronouns-as-nouns notions functionally and syntactically appear convincing in some sense, both views sound oversimplified. For instance, Huddleston (1986) as a notable proponent of pronouns-as-nouns argued that pronouns are “better analysed as a subclass of nouns than as a separate part of speech” (p. 272).

While the debate on the class status of pronouns lingers, scholars seem to agree on the definition of a pronoun. Generally, it is defined as “a class of words which fills the position of nouns or noun phrases, and which substitutes for, or cross-refers to, other expressions” (Leech, 2006: 95). What pronoun denotes implies its grammatical function, as it performs almost all the grammatical functions of nouns –subject, object, predicative complement, or complement of a preposition. Additionally, some pronouns also perform adjectival or determiner functions (Ajayi & Filani, 2014).

Pronouns are distinguished from nouns on the basis that they do not collocate with determiners (Huddleston & Pullum, 2005), although Wales (1996) argues that in some instances, they take determiners, as seen in Sentence 1.

1. Is your dog a he or a she? (Extract from Wales, 1996: 9)

We observe that *he* and *she* are substituted for *male* and *female* respectively. Wales (1996) describes pronoun use in Sentence 1 as a “denotational one” (p. 9). It is said that pronouns “normally do not have ‘lexical’ (quoted in original) meaning” (Wales, 1996: 9). Wales (1996) herself contests this notion and noted that it holds in comparison to nouns, on a “cline or continuum of lexical meaning” (Wales,

1996:9). Pronouns can also be used as the fronted elements in compound noun phrases such as *he-goat* or *she-goat*. In some instances, pronouns can also be pre-modified and post-modified. In the structures, *poor you* and *He who knows his God...*, the pronoun *you* is premodified by the adjective *poor* while *he* is postmodified by the relative clause *who knows his God*.

Quirk et al. (1985) divided pronouns into two broad subclasses: central and non-central (e.g. relative, demonstrative, reciprocal, indefinite, interrogative) pronouns. Thakur (1998: 21) maintains that a central pronoun “shows variations of form from the point of view of person, gender, and number” but the non-central ones are not affected by these variations.

Pronouns have three subdivisions as personal, possessive and reflexive pronouns. I, however, maintain that possessive and reflexive pronouns can be best considered as subtypes as they are cases of the central PPs: 1PP (*I*), 2PP (*you*) and 3PP (*he/she/it*). Wales (1996) describes PPs as *prototypical* pronouns. Leech (2006), however, thinks that possessive pronouns are additionally used as modifiers of nouns. He consequently prefers the term *pronominals* for some types of pronoun. Ajayi and Filani (2014) divided possessive pronominals into pronominal possessive adjectives (for those that perform modification functions) and pronominal possessive pronouns. The so-called reflexive pronouns can also be categorised as pronominal reflexive adjectives and pronouns as respectively demonstrated in the sentences below.

1. The food *itself* tastes good. (pronominal reflexive adjective)
2. He bought the Bible *himself*. (pronominal reflexive pronoun)

See Table 2 for all PPs in English language, subclassified based on number.

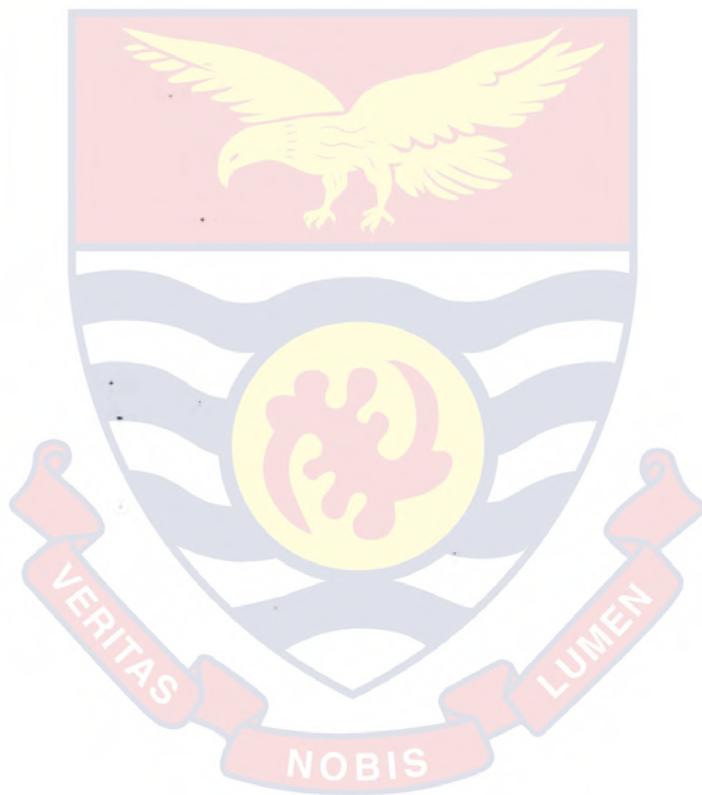


Table 2: Personal Pronouns in English

Personal Pronouns in English	
First Person	
<i>Singular</i>	<i>Plural</i>
I	We
Me	Us
My	Our
Mine	Ours
Myself	Ourselves
Second Person	
<i>Singular</i>	<i>Plural</i>
You	You
Your	Your
Yours	Yours
Yourself	Yourself
Third Person	
<i>Singular</i>	<i>Plural</i>
He	They
Him	Them
Himself	Themselves
His	Their/theirs
She	They
Her	Them
Herself	Themselves
Hers	Theirs
It	They
Its	Them
Itself	Themselves

Personal pronouns (PPs) are different from all other word (sub)classes. Ortega (2006) outlined three distinctive characteristics of PPs. He mentions that “they have a minimum of descriptive value, which makes them be almost simple deictic indicators of their referents” (p. 402). Secondly, he adds that they are closed class. Unlike other open word classes, the membership of pronoun, in general, and PP, in particular, is fixed as the generative morphological processes do not extend to PPs. Finally, Ortega (1996:402) notes that the description of PPs “can be made

according to a few basic distinctions, among which the feature person is always present”. As their names denote, PPs are person-oriented. Ortega (2006) maintains that “the first person is characterised by the feature [+ Speaker], the second person by [+ Addressee], and the third person by both [- Speaker], [- Addressee], the so-called non-participant” (p. 402). He further admitted that PPs are context-dependent. Thus, the classification of 1st, 2nd and 3rd persons are theoretical and may, therefore, vary depending on the context of use.

Several scholars have emphasised the centrality of PPs in academic lectures (e.g. Fortanet, 2004; Fortuño & Gómez, 2005; Kuo, 1999; Yaakob, 2013). Kuo (1999) maintained that PPs are used to enhance “communication pragmatics” (p. 123) in classroom lectures. Fortuño and Gómez (2005) noted that “...pronouns are very frequently used in lectures, and they are mainly used to give cohesion to discourse but also with other functions that are used by speakers to control their commitment with the audience or with their proposition” (p. 168)

Disciplinarity and disciplinary variation

Academic discipline has been defined by scholars from *narrow* and *broad* perspectives. The narrow definitions are limited to the epistemologies of the concept. One of these is provided by Robles (1998), who defines discipline as a “recognized branch or segment of knowledge within rational learning with certain generally agreed upon canons or standard”. A more detailed definition of academic discipline from the narrow perspective is: “a branch of learning or a field of study

characterized by a body of intersubjectively acceptable knowledge, pertaining to a well-defined realm of entities, systematically established on the basis of generally accepted principles with the help of methodical rules or procedures” (Kockelmans, 1979).

The broad perspective cuts across the epistemic, faculty, administration, research and teaching: “the structure of knowledge in which faculty members are trained and socialized; carry out tasks of teaching, research, and administration; and produce research and educational output.” (Del Favero, 2003: 10). This definition presents discipline as an all-encompassing phenomenon. Lindholm-Romantschuk. (1998: 23) also refers to a discipline as:

a delimited cultural domain, a socially and culturally defined organizational arrangement that focuses on knowledge production and growth. An academic discipline can be characterized as an epistemic community whose members have a special frame of reference oriented toward specific objects of investigation....

Like Del Favero (2003), Lindholm-Romantschuk considers an academic discipline as a *community* with its own focus, activities, and members.

There are some concepts that appear synonymous to the word *disciplines*, namely *department*, *subject*, *field*, and *course*. Largely, the contention is between discipline, and how it differs from department, and field. For Robles (1998).

“discipline = department” (p. 5), although Lindholm-Romantschuk (1998) thinks that department is the administrative unit of a discipline. Lindholm-Romantschuk’s (1998) view is reflected in the practices of universities across the globe. In most higher educational institutions, physical structures in addition to the human resources are labelled ‘Department of(the name of a discipline), say ‘Forensic Linguistics’.

Further, there are three views on the relationship between *discipline* and *field*. Braxton and Hargens (1996) think that field is a broad term which encompasses disciplines. In this sense, field is similar to *disciplinary supercommunity* (DS), as used in this study. The second group of scholars maintains that field is a subdivision of discipline (Becher, 1994). Hence, phonology, grammar, and semantics may be described as *fields* of Linguistics. Finally, field is used interchangeably with discipline (Alise, 2008; Del Favero, 2003; Kockelmans, 1979). Most scholars agree that the two concepts are “interrelated to the point of being interchangeable” (Alise, 2008: 23). In this study, however, field may be used as a subdivision of a discipline and to refer to areas of studies such as Women Studies, Disability Studies, and Peace Studies.

Classification systems of disciplines

There are several theorizations on the classification of disciplines: monolithic (generalist view), dipartite (soft and hard, or arts and science); tripartite (HS, SS and NS), and quadripartite (soft, hard, applied, pure) (e.g. Biglan, 1973).

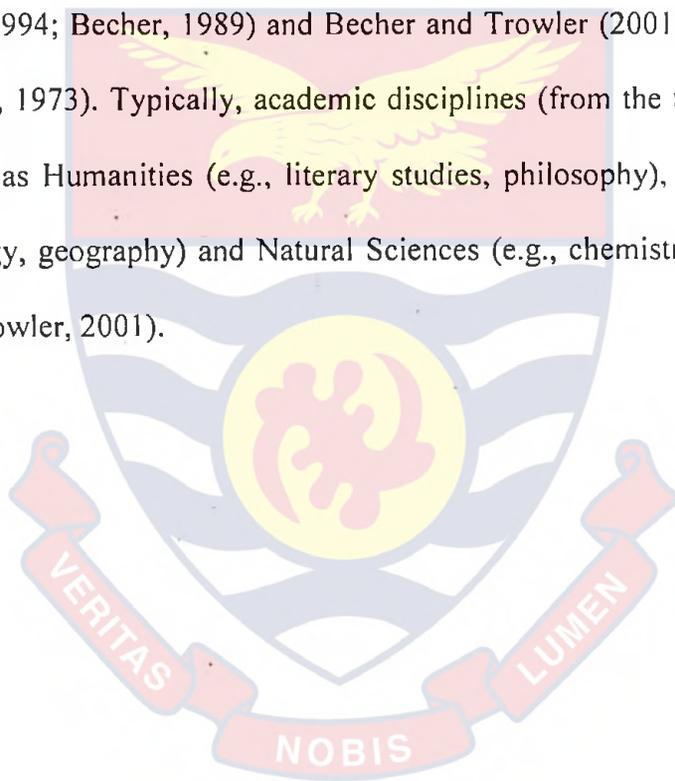
Academic disciplines are viewed from generalist and variationist perspectives. The generalist view assumes that all disciplines are common in terms of their rhetoric and language use, although they admit that they differ in terms of subject matter or disciplinary knowledge (Luo & Hyland, 2017; Merrill, 2000). This view has been debunked by empirical enquiries into the culture, rhetoric, norms, epistemologies and values of the disciplines, pointing towards disciplinary variation. Afful (2010), therefore, affirmed that “the notion of disciplinary variation arises partly as a result of the rejection of the traditional view of academic writing as monolithic, predictable, and invariant” (p. 26).

The variationist view holds that disciplines in as much as they converge, differ in terms of rhetorical and textual conventions (Merrill, 2000). This view emphasises disciplinary uniqueness and specificity. The variationist view has both empirical and conceptual/theoretical affirmations (Hyland, 2005b; Lunsford, 2005). In this study, disciplines selected are representatives of the broad divisions of academic disciplines. So HS, SS and NS are considered as single entities.

There are several disciplinary classification models (e.g. Becher & Trowler, 2001; Biglan, 1973; Hyland, 2000; Kuhn, 1970; MacDonald, 1994). There are dipartite models soft-hard (Becher & Trowler, 2001; Biglan, 1973. Storer, 1972): life-nonlife (Biglan, 1973, pure-applied (Biglan, 1973; Storer, 1972); paradigmatic/non-paradigmatic (Kuhn, 1970); divergent-convergent (Becher, 1989; Becher & Trowler, 2001); urban-rural (Becher, 1989; Becher & Trowler, 2001), and humanities and non-humanities (Zarei & Mansoori, 2011). Tripartite

typologies involve NS, SS and Humanities by MacDonald (1994) and Hyland (2000). A more complex quadripartite model is provided by Becher (1987): hard-pure, hard-soft, soft-pure and soft-applied; and Collins (1975): high task uncertainty-high coordination of needs, high task uncertainty-low coordination of needs, low task uncertainty-high coordination of needs, and low task uncertainty-low coordination of needs.

Generally, the models can be classified into cline-based (e.g. Hyland, 2000; MacDonald, 1994; Becher, 1989) and Becher and Trowler (2001) and non-cline-based (Biglan, 1973). Typically, academic disciplines (from the tripartite stance) are classified as Humanities (e.g., literary studies, philosophy), Social Sciences (e.g., sociology, geography) and Natural Sciences (e.g., chemistry, biomedicine) (Becher & Trowler, 2001).



SCIENCES	SOCIAL SCIENCES	HUMANITIES
HARDER		SOFTER
Empirical and objective		Explicitly interpretive
Linear growth of knowledge		Dispersed knowledge
Experimental methods		Discursive argument
Quantitative		Qualitative
More concentrated readership		More varied audience
Highly structured genres		More fluid discourses

Figure 5: Continuum of academic knowledge (Hyland, 2009: 63)

The cline and the comparative adjectives ‘harder’ and ‘softer’ suggest that disciplines in the same DS have varied degrees of ‘hardness’ or ‘softness’(See Biglan, 1973). For example, it is said that Economics and Sociology, which are SS disciplines appear closer to NS (hardness) and HS (softness) respectively (Crawford Camiciottoli, 2007; Nagano, 2015).

Guided by Hyland’s (2009) disciplinary typology, I selected some disciplines to represent the three disciplinary supercommunities, as shown in Table 3.

Table 3: Disciplinary Supercommunities and Their Selected Disciplines

Disciplinary supercommunities	Disciplines
HS	Philosophy, History, English Language, Religious Studies
SS	Educational Foundations, Law, Communication, Political Science
NS	Biology, Mathematics, Electrical Engineering

Like scholars concerned with disciplinary typology, Hyland (2009) underscores the fact that “differences should be seen on a continuum rather than as polar opposites...” (p. 24). Hyland’s (2009) model is underpinned by the key parameters for disciplinary classification: paradigm (Kuhn, 1970), codification (Braxton & Hargens, 1996; Del Favero, 2003), organizational structure (Braxton & Hargens, 1996) and consensus (Del Favero, 2003). Consensus particularly concerns the degree of agreement on theory, methods, problems and techniques by members in a disciplinary community. Del Favero (2003), therefore, concludes that “researchers commonly attribute high levels of consensus to the physical sciences, low levels to the social sciences, and even lower levels to the humanities”. Del Favero’s view suggests a continuum of consensus as seen in Figure 5. Hyland’s taxonomy is preferred to all others because of two main reasons. Between Hyland’s typology, and others (particularly the non-cline ones like Biglan (1973), Hyland’s typology largely accounts for new disciplines which are offshoots of interdisciplinarity or multidisciplinary. Thus, one can conveniently place Medical Humanities as a Social Science.

Among the cline-based classification models, I adopted Hyland’s (2009) model because of his use of *Sciences* instead of *Natural Sciences*, or any other label. *Sciences* is conveniently used as an umbrella term for the subclassifications of sciences into natural sciences, biological sciences, behavioural sciences, medical sciences, physical sciences, etc. It seems that the expression *Natural Sciences* is emphatic and appears to cut off some other (hard) sciences, which appropriately

cannot be described as *natural*. However, for the sake of convenience and economy (Baker et al, 2008), I use Natural Sciences (NS) as *Sciences* replacement in this study.

The classification of disciplines into the three aforementioned divisions is not without problems and overlaps, divergences among scholars. For example, Eslami-Rasekh et al. (2012) noted that “the scope of Social Sciences is extremely large and it contains a wide range of disciplines such as Anthropology, Communication, Education, History, Psychology, etc.” (p. 5). The differences can be attributed to the atheoretical selection of these disciplines in these domains. To a large extent, it can be blamed on institutional classifications of disciplines into the three broad domains. For instance, in the University of Cape Coast (in Ghana), Communication and History are within the Humanities.

Conceptually, theoretically and empirically, the three broad domains (HS, SS and NS) have some divergences. Afful (2005, 2010) and Swales and Feak (1994) posit that the focus of Humanities (HS) is the cogency of an argument, while that of the Social Sciences (SS) is the appropriateness of the methodology and that of the Natural Sciences (NS) is the truism in the results. Swales’ (1990) characteristics of a discourse are: (a) a discourse community has a broadly agreed set of common public goals; (b) it has mechanisms of intercommunication among its members; (c) it uses its participatory mechanisms primarily to provide information and feedback; (d) it utilises and hence possesses one or more genres in the communicative furtherance of its aims; (e) in addition to owning genres, it has

acquired some specific lexis; and (f) it has a threshold level of members with a suitable degree of relevant content and discursual expertise. All these can be appropriated to the discourse supercommunities. Specifically, the present study is situated within the fifth characteristic which evokes the term *register*.

Studies have shown that disciplines differ in terms of lecturer type and style. For instance, according to Brown and Bakhtar (1988), oral, exemplary, and eclectic lecturers were common in HS, while NS featured visual and amorphous lecturers. Neumann (2001) also realised that differences exist across disciplines in terms of the teaching method employed, although lecture was found to be a transdisciplinary teaching method. Similarly, Lindblom-Ylance et al. (2006) found that teachers of *hard disciplines* adopted teacher-centered approach to teaching while those in *soft disciplines* such as the humanities and Social Sciences employed student-centred approach to teaching. Lindblom-Ylance et al.'s (2006) study then discredited the generalist notion that lecture, as a teaching method, is teacher-centered (Carter-Thomas & Chambers, 2013, Friesen, 2011).

Chapter Summary

In this chapter, the conceptual and theoretical and conceptual thrusts of the study are discussed. Specifically, register theory and key concepts such as *lectures*, *personal pronouns* and *disciplinarity* were discussed. The next chapter, Chapter Three, focuses on empirical review.

CHAPTER THREE

PREVIOUS RESEARCH ON SPOKEN UNIVERSITY LECTURES

Introduction

In this chapter, I review studies on academic lectures, particularly, those of the tri-PP. Yaakob (2013) has proposed four overlapping areas of research on academic lectures. I find the concept useful as it helps provide the scope of research on classroom lectures. I focus largely on the *textual focus* as indicated in Figure 6.

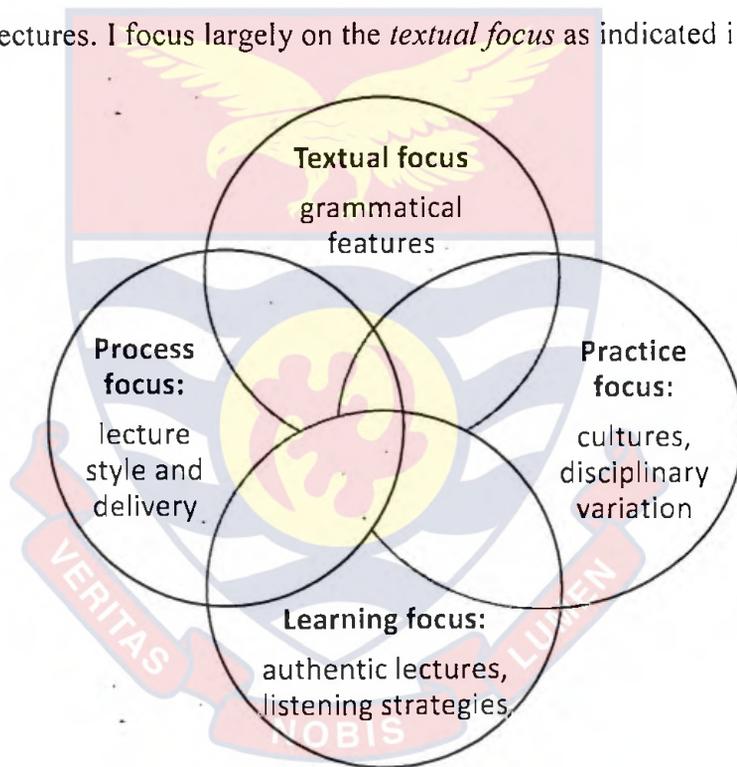


Figure 6: Areas of research on academic lectures (Yaakob, 2013: 15)

Classroom lecture has witnessed an increase in empirical research and theoretical conceptualization. Theories and research on this instructional genre have stemmed from multidisciplinary perspectives. Quite recently, Yaakob (2013)

conceptualised the terrain of research on classroom lectures. He maintains that research on lectures has four overlapping areas: textual, process, practice and learning. Although the model leaves out issues on definition and typology, it provides a convenient way of undertaking a review on lectures. The textual focus outlines, among other things, rhetorical features such as discourse markers, pronouns, lexical phrases, and questions. The review in this study, therefore, focuses on these and other interactive resources employed to enhance interaction in lectures. This section focuses on the textual focus by looking at interactive resources that are employed in classroom lectures. The review focuses on PPs and some interactive devices like questions, imperatives, and metadiscourse, used in lectures to directly or indirectly realise lecturer-audience interaction.

In presenting the empirical review, I consider five themes: PP-based, discipline-based, geography-based, time-based (diachronic/synchronic) and method-based. I contemplated on whether to organise the reviews around the type of PPs investigated, the disciplines involved, the setting of the research, the period for the study, or the method such as corpus-based and ethnography employed. However, with a general aim of unearthing variations in PPs across the three disciplinary supercommunities, I resorted to the discipline-based organising principles in order to show how studies on disciplinary variation have focused on the *micro-disciplinary discourse communities* to the near-neglect of the *macro-disciplinary discourse communities*: Humanities (HS), Social Sciences (SS) and Natural Sciences (NS). But adopting this organising principle, I will also attempt

to highlight the setting of the studies to make obvious the paucity of research in spoken academic discourse in Ghana.

Studies on Tri-PP in Classroom Lectures

This section focuses on studies on PPs in classroom lectures. Generally, studies on PPs in lectures focus on the frequency of use, semantic referents and discourse functions. Thus, the review is organised around these three issues.

Frequency-based studies on tri-PP in classroom lectures

This section focuses on studies that explored the distribution of *I*, *we* and *you* in classroom lectures. The studies are categorised into three: those with intra/inter disciplinary focus, DS focus, and 'lecture genre' focus.

Studies with intra(inter)disciplinary focus

The pioneering works into this kind of research endeavour are Rounds (1987a & b). Rounds (1987a) investigated PP use in Mathematics lecture corpus by native and non-native English-speaking Teaching Assistants (TAs) at the University of Michigan Rounds with a total of 26, 734. He found that *we* was the preferred PP in classroom lecture. Specifically, *we* was three times more frequent than *I* or *you*. He added that the most successful TAs made greater use of *we* than the less successful ones. He also observed that *I* and *you* did not record marked statistical differences in terms of frequency distribution. This finding of Rounds (1987a & b) is in tandem with Kelly and Studer's (2012) finding in a study on the distribution of *I* and *you* in Physics lectures. Kelly and Studer (2012) found from

their Physics lecture corpus almost the same frequencies *I* and *you*, 36.5% and 37% respectively. They added that *we* was also frequent but did not provide any details on its distribution to aid in comparison to *I* and *we*. Though the study generally lacks exhaustive treatment in analysis and discussion, it highlights the use of the tri-PP in a natural science discipline.

Also, Milne (2006) built a lecture corpus of 20, 000 words from Engineering discipline from a Spanish university. She found from the corpus that *we*, *you* and *I* recorded 419, 244 and 146 frequencies. Milne (2006) notes that “Reasons for such differences might be in principle connected with the discipline under analysis, the nature of the course, and the lecturers involved (native vs. non-native and veteran vs. novice)” (p.13). Contrary, to the Rounds (1987a & b) and Kelly and Studer (2012) studies, Milne (2006) observed significant differences among the tri-PP in terms of frequency distribution.

Interestingly, all the three disciplines in the studies are natural science ones. However, while Physics and Mathematics appear to share a common situation for the frequency of *I*, and *you*, Engineering presents a different picture. Clearly, we see that there are both intra-disciplinary and inter-disciplinary variations in the frequency of the tri-PP in classroom lectures.

Studies with disciplinary supercommunity focus

This subsection focuses on studies on PPs in academic lecture from the perspective of disciplinary supercommunities (DSs). The difference between the

studies under this subsection and the interdisciplinary ones is the fact that in the interdisciplinary studies, individual disciplines are compared but in DSs ones, disciplines are considered representatives of the broad knowledge domains such as HS, SS and NS.

In one of the studies in this category, the researchers, Yeo and Ting (2014) mentioned that “the use of personal pronouns for student engagement in lecture introductions varies across broad disciplinary lines” (p. 29). They were interested in the frequency of *I*, *we* and *you* in academic lectures from Arts and Science disciplines. The disciplines mentioned by Yeo and Ting under Arts are “Social Science, Economics and Business, Human Resource Development, Creative Arts”. One really wonders what ‘social science’ among the disciplines refers to. The authors worked with a corpus of undergraduate lecture introduction audio-recorded from lecturers in a Malaysian public university. The corpus general totaled 37,373 words comprising 27,978 and 9395 subcorpora for Arts and Science respectively. The occurrences of only the subjective forms of *I*, *we* and *you* were manually coded for the analysis and discussion.

Unlike other studies such as Caliendo and Campagnone (2014), Cheng (2012) and Yaakob (2013), Yeo and Ting (2014) excluded the objective and possessive forms of the tri-PP with some non-convincing reason that their occurrences were minimal. About the distribution of the tri-PP, Yeo and Ting (2014) found that the occurrences of the tri-PP in Arts and Science were 1432 and 738 respectively. For a balanced comparison, given that the sizes of the corpora

differed, “the raw frequencies were converted to frequencies per 1000 words” (p. 32). Frequency per 1000 words analysis revealed that *you* occurred 27.90 and 35.86; *we* occurred 11.74 and 19.78 and *I* 11.50 and 22.83 in Arts and Sciences respectively. In the tri-PP cases, Scientists employed more PPs than the Arts scholars. Although the authors sought to highlight disciplinary variation, they rather ended up comparing one personal pronoun to the other. They failed to explain why the Natural Scientists preferred more tri-PP than their SS counterparts.

Yeo and Ting’s study and the present study are similar and dissimilar in some respects. In terms of similarities, they both draw on corpora from nonnatives. Again, both studies look at variation from the broad disciplinary domain perspective. The dominant approaches have been intradisciplinary and interdisciplinary. On the other hand, the two studies differ in terms of the nature of the corpus, the kind of PPs used, and the mode of analysis. Like Yaakob (2013), Yeo and Ting (2014) built a lecture part-genre corpus (i.e. lecture introduction corpus) but the present one includes the entire lecture introduction to conclusion, with the aim of obtaining a broader view of this all-important instructional genre in higher institutions. Besides, while Yeo and Ting limited themselves to the subjective forms of the PPs, in the present study all variants of the PPs are considered.

Plaza and Álvarez (2013) further explored the use of *I*, *we* and *you*, among other features, in monologic large lectures in the The Michigan Corpus of American Spoken English (MICASE). Subcorpora were constructed from the following

disciplinary divisions: Biological and Health Science (8 transcripts, 78,448 words); Humanities and Arts (8 transcripts, 80,324 words) and SS and Education (8 transcripts, 86,635 words). The study yielded interesting findings. In terms of frequency, *the scale of preference or ranking* for all the broad disciplinary divisions is: *you, I, we* –albeit there are variations across the disciplines. Regarding *you*, SS, followed by Biological and Health Sciences and HS favoured it more: while for *I* it is Social Sciences followed by HS, and then Biological and Health Sciences –based on the highest score. The trend, however, changed with respect to *we* as Biological and Health Sciences recorded the highest use; next to it was HS and then SS. With particular attention to *we*, the researchers noted that Biological and Health Scientists’ relative preference for it is indicative of “a more collectivist orientation in science academic discourse” (p. 190). They adopted bar chart analysis and so it is difficult to note the specific occurrences of PPs. Besides, it was not established whether the differences across the divisions were significant or not. Plaza and Álvarez built full-lecture corpus and so it shares something common with the present study.

Studies with lecture genre focus

The studies under this category were not comparative in nature, as in cross cultural, disciplinary or generic. The issue was to help emphasise the lexicogrammatical resources that typify academic lectures.

Zhihua (2011) followed previous studies on PPs in academic lectures, especially Rounds (1987a & b), and studied PP use in the MICASE corpus. In all,

there were 62 lectures totalling 625, 131 words in the corpus. However, it appears unclear the size of the corpus used for the frequency analysis as the researcher mentioned that “a smaller corpus of 4 lectures is used for the analysis of the semantic referents of personal pronouns” (p. 13). Somehow, it shows that in focusing on the range of PPs, Zhihua used the larger corpus while the smaller one was used for the semantic referents. If this view is accepted, then we do not know the size for the corpus used for the semantic referents as the author just mentioned four lectures. Also, we are not told the rationale behind the smaller corpus but we are appropriately informed about the specific disciplines (as chemical engineering, chemistry and computer science) from which they were selected. The disciplinary factor may not be argued so much because, unlike the present study, the author did not seek to unearth variation in PP use across disciplines. He focused much on the lecture genre rather than the disciplines, a part where the present study departs from the previous one. From the bigger corpus, the author recorded 7, 749 PPs per 10⁵, that is, approximately one PP per 12-13 words in the 625, 131 word corpus, far above Yeo and Ting (2014) who found 2170 PPs in 37, 373-word corpus (i.e. 58. 1 per 1000 words). In all, the first person recorded the highest percentage (38.7%), followed by the second person (30.5), third person (23.4) and finally, indefinite pronouns (7.4). In Yeo and Ting (2014), *you*, *I* and *we* recorded 29.91%, 14.36% and 13.79% per 1000 words respectively.

A crucial finding from the study is that the second person pronoun *you* (30.5%) recorded the highest frequencies followed by first person singular pronoun

I (23.6%), and then by *we* (15.1%). This result is inconsistent with studies by Lee (2009), Fortanet (2004), and Rounds (1987) as Zhihua (2011) rightly pointed out. He attributed the difference in the result to the size of the corpus use in the studies, the part of lectures examined and the disciplines involved. But as readers are provided with information on the size of corpus in Zhihua's (2011) study, nothing was said about the lecture part and the disciplines involved. Consequently, this makes it difficult for us to appreciate the conclusions drawn.

Yaakob (2013) undertook a corpus-based analysis of frequent words and keywords in a lecture introduction corpus. The aim of this was to identify words that are typical of lecture introduction as a genre. Different from Zhihua (2011) and the present study, Yaakob (2013) compared the findings of his study to a reference corpus (that is, the BASE). The topmost words found in the lecture introduction corpus were PPs, namely *I*, *you* and *we*. He found *you* to be the highest occurring pronoun in his corpus. This finding is corroborated by Yeo and Ting (2014), who also found *you* as the most frequent PP 37,373-word corpus compiled from lecture introductions from a Malaysian University. *You* was followed by *I* as the second highest and *we* as the third.

The 'scale of preference' of PPs in Yaakob's (2013) study contrasts with that of Zhihua (2011). While Zhihua (2011) recorded, *I*, *You*, *We*, Yaakob (2013), and Yeo and Ting (2014) realised *You*, *I* and *We*. In effect, the most frequently used pronoun in Zhihua (2011) was *I* while in Yaakob (2013) is *you*. The difference can be attributable to the difference in corpus size, the different disciplines involved.

and the type of corpus. Zhihua's (2011) corpus from MICASE contained 62 lectures totalling 625, 131 words while Yaakob (2013) from BASE had 89 lectures totalling 43, 305 words. Again, Zhihua's (2011) corpus can be described as full lecture corpus while Yaakob's (2013) is a lecture part corpus as it contained only lecture introduction. So the difference that somehow can be said to have resulted from the difference in corpora size gives credence to the view in text or corpus linguistics size matters. What is common to the two studies is that they are from native speakers. Thus, to some extent, it can be said that the relative dispreference for *we* in the two corpora stems from this common denominator.

The findings of the above studies contrast with Rounds' (1985, 1987a & b) pioneering works on PPs in lectures. In the mathematics-based lecture corpus, *we* was found to be dominant in terms of frequency of occurrence, as compared to *I* and *you*. Rounds' (1985, 1987a & b) studies, to some extent, have been confirmed by Chapman and Wulff (2010), who also explored the frequency of *we* across disciplines in MICASE. Meanwhile the findings of the above studies correspond with that of Fortanet (2004) who also found the use of *we* to be 50% less than that of *I* and *you*.

Furthermore, Nesi's (2001) study focused on the speed of lecture delivery and note taking by international students taught by a British lecturer. Mentioning of PP appears *accidental* and so no detailed attention was given to it. The corpus of the study, as stated by Nesi (2001), was 30 lectures sampled from BASE. They reported that *you*, *I*, and *we* occurred 3, 647, 1878 and 1867 times in the corpus

used. León (2006) also worked on lecture subcorpus from MICASE, totaling 152,810 words, and found that pronouns constitute part of lecture phraseology. It was found that *I*, *we* and *you* respectively recorded 55% 6% and 4.1% usage in the corpus.

Yaakob (2013) designed a lecture introduction corpus from lectures from BASE. Lectures were selected from disciplines with four divisions: Arts/Humanities, SS, Physical Sciences and Life Sciences. Among other things, he undertook a Keyword Analysis of the first 200 words that typify this lecture part genre. *You*, *I* and *we* appeared as the 9th, 10th and 15th highest words respectively.

Although the study was interested in broad disciplinary variation. Plaza, and Álvarez (2013) first looked at the lecture genre in general and noted that *you* is the highest followed by *I* and *we* in the corpus built from the large monologic lectures in MICASE. They remarked: “from a quantitative point of view, the second figure shows that large lectures favour more the use of *I* than *we*, which supports the conclusions of other studies” (p. 190). No significance was calculated.

Cheng (2012) explored variation in the use of PPs across Large Class Lecture (LCL) and Small Class Lecture (SCL), which in the context of MICASE respectively refer to a class with more than and less than 40 students respectively. This corpus-based study was limited to lecture closing, a lecture part genre, of 7409 words, comprising 2401 and 5008 from LCL and SCL respectively. The analysis of the distribution of *I*, *we* and *you* per 1000 yielded that *I* and its variants are more

frequent in SCLs, while *you* and *we* have a slightly higher frequency in LCLs. The finding supports the claim that class size has effect on PP use in lectures.

Studies with contrastive rhetoric focus

The section reviews studies with intercultural focus.

Kelly and Studer (2010) investigated PP use in Physics lecture corpus from a Swiss university. Lectures were audio recorded from Physics in School of Engineering, Zurich University of Applied Sciences. Among other things, the study explored the use of pronouns in English and German-mediated lectures. They found 1PP and 2PP and *we* were more frequent in English lectures than the German lectures, though the specific figures were not provided in the paper. Justifying English-medium lecture use of more of the tri-PP over its German equivalents, Kelly and Studer (2010:154) noted: “it is possible that a cross-cultural element is coming into play here as speakers or writers in relatively formal contexts in German have a tendency to place themselves in a less prominent position in the text”.

Thøgersen and Airey (2011) explored ‘speaking rate’ and rhetorical style in Danish and English medium undergraduate lectures in science. They found that in both languages, *I* and *we* were used in academic lectures but Danish used more of *generalized we* as compared to English that preferred the exclusive *we*. Because the focus of the study was not on personal pronoun, they mentioned these in passing and therefore no detailed discussion was given. The authors were silent on the methodology adopted for this ‘after thought’ dimension of the study.

The studies of Kelly and Studer (2010), and Thøgersen and Airey (2011) suggest the potential influence of language variation on personal pronoun use in lectures.

Studies on discourse reference on *I*, *We*, and *You* in classroom lectures

In this section, I review empirical studies on discourse reference of the tri-PP in classroom lectures. Most of the studies (e.g. Ädel, 2010; Connor, 2008; Dafouz, Nunez and Sancho, 2007; Fortuño & Gómez, 2005; Milne, 2006; Rounds, 1987b, and Zhang, Gao & Zheng, 2014), however, cursorily mention the referents of the tri-PP. I, therefore, give attention to the studies that deal with the discourse reference of any of the tri-PP.

Focus on disciplinarity

Studies that have focused on disciplinarity with respect to discourse reference of the tri-PP are few. Such studies can be divided into those with monodisciplinary focus, and those with DS focus.

Disciplinarity with supercommunity focus

Yaakob (2013) and Yeo and Ting (2014) investigated the semantic referents of the tri-PP in university classroom lectures. While they both explore variations across disciplinary supercommunities they varied on their theoretical stance to disciplinary typology. Yeo and Ting (2014) adopted the dipartite view of arts and science, while Yaakob (2013) adopted the quadripartite approach (arts and

humanities, social sciences, life sciences, and physical sciences). Interestingly, however, both studies used different lecture-introduction corpora for their studies.

In Yeo and Ting's (2014) study, there was no qualitative difference found between Arts and Science in terms of the semantic referents. In both disciplinary supercommunities, they found *you*-audience, *you*-generalised; *we* for *you* + *I*, *we* for *I*, *we* for *you*, and *we* for *I* and *they*; and *I* for *I*, and what they term *I...to...you*. The differences noted were quantitative. For instance, *you*-audience recorded 20.08 and 31.08 (per 1000 words) in Arts and Science respectively. Although the normalised frequencies revealed a marked difference between the two broad knowledge domains, the researchers did not directly reveal whether the differences were statistically significant. Yeo and Ting (2014) merely provided an excuse that "some of the frequencies were too small, inferential statistical tests were not run to determine whether the difference were significant" (p. 29).

Based on a similar lecture-introduction corpus from MICASE, Yaakob (2013) also examined the semantic referent of tri-PP across the broad knowledge domains of Arts and HS, SS, Life Sciences and Physical Sciences. 1. He found that *I as lecturer*, and *I as lecturer and student* were common to all the found broad knowledge domains. On the other hand, *we* recorded five semantic referents: lecturer, students, lecturer + students, people in general and people in the field. Furthermore, *you* was used to refer to students, anyone and anyone in the field. Unlike Yeo and Ting (2014), Yaakob (2013) noted both qualitative and quantitative differences in the semantic referents of the tri-PP (*I*, *we* and *you*). For instance, he

found *I* for people in general and *we* as people in the field were limited only to life and Physical Sciences. Again, *you* for anyone in the field was found to be common to Arts and HS, SS, and Physical Sciences but not life science. Meanwhile, there appeared to be some differences statistically, except that he, unlike Yeo and Ting (2014) did not offer any normalised frequencies which somehow could compensate for the absence of statistical test to ascertain significance.

Yaakob (2013) and Yeo and Ting (2013) are crucial as they adopt the *global* view to disciplinarity like this current one. They, therefore, afford some direct comparison except that both studies contrary to this one which built full-lecture corpus employed lecture-part (introduction) corpora.

From a monodisciplinary perspective, Rounds (1987a), in his study on PP use in mathematics lectures, found semantic referents of *I* and *we* beside their “prototypical uses” (p. 16) or “traditional semantic mappings” (p. 17). He found that semantically *I* designated teacher/lecturer, mathematicians (where he argues can be replaced with *they*) and anyone who studies calculus/Mathematics (where he contends can be replaced with the indefinite pronoun *one*). On *we*, Rounds noted that it has a traditional semantic mapping inclusive *we* (*I + you*) and exclusive *we* (i.e. *I + they*) –which he found in the corpus. He found what he termed *discourse-defined inclusive and exclusive we* which respectively alluded to lecturer + students, and lecturer + mathematicians. Additionally, Rounds found *we* as *I* (lecturer), *we* as *you* (students) and *we* as *one* (anyone who does calculus). Rounds remarked that *we* is in free variation with *I* and *you*, a realization almost common to studies such

as Yaakob (2013), Yeo and Ting (2014) and Zhihua (2011) on semantic referents of the above-mentioned pronouns.

Studies with lecture genre focus

Under this section, I lump up all studies on lecture genre that explored the semantic referent of any of the tri-PP that did not consider disciplinarity. These studies include Fortanet (2004) comprising four lectures selected from different disciplines (education, Japanese Literature, Anthropology, and Medical Anthropology). The size of the corpus is 40, 986. She noted eight referents of *we*. She also used the traditional semantic mapping exclusive/inclusive *we* (Rounds, 1987a) as a basis. Thus, she found *we* for a larger group of people (including speaker and audience, speaker + audience, *we* for *I*, *we* for *you* (audience), speaker + other people, *we* for indefinite *you* or *one*, *we* for they, reported direct speech (larger group of people including the reported speaker) and then *we* for *you*.

Similarly, Gomez (2006) compiled a corpus from the MICASE, totalling 54, 529 words. She found two referents for *I*: *I* for fixed speaker, usually lecturer, and *I* for changing speaker. On the other hand, *you* recorded the following as referents: audience (plural), interlocutor in dialogue (usually singular), interlocutor in reported speech (usually singular), they, people, *we*, and *I*. Clearly, the way Gomez (2006) captured the referents appear confusing. For instance, what does he really mean when he says *I* refers to a changing lecturer, and *you* interlocutor in dialogue (usually singular), interlocutor in reported speech (usually singular), they, and people?

Finally, Zhihua (2011) studied the referents of the tri-PP in classroom lectures. Zhihua's (2011) study is novel in one respect. He built a corpus that captured the students and lecturer inputs in the lecture. He reported on two types of *I* (i.e. lecturer *I* and student *I*) as well as *we* and *you*. He realised that lecturer *I* had five referents as lecturer, anyone in the field, lecturer+ students (=we), students (=you), and other (personified objects), while student-*I* had the referent student. Regarding *you* too, there were lecturer-*you* and student-*you*, with their varied referents. Lecturer-*you* was found to make reference to students, anyone in the field, anyone (general people), lecturer + students (=we), lecturer (=I). and other (personified object). The student-*you* has lecturer, anyone in the field. and lecturer + students (=we). On the referents of *we* (and its variants), again there were lecturer-*we* and student *we*, and lecturer *we*-type made reference to lecturer (=I), students (=you), lecturer+ other people (in the field), lecturer + students, anyone in the field, anyone (general people) and other (personified objects). On the other hand, student-*we* referred to student (speaker) + other students, and student (speaker) + whole class). The findings of Zhihua (2011) are revealing as they challenge the traditional syntactic views of PPs. Most importantly, admitting the subjective nature of such tasks, he employed the services of inter-raters although the outcome is not given in the text. What is also noteworthy about this study is that the author analysed lecturers' strategic interchange of *I*, *you* and *we* to refer to one thing. For instance, he demonstrated how lecturers used *I*, *you* and *we* to make references to themselves, students, themselves plus students, personified objects and anyone in the field. This

kind of analysis or relation is novel and distinguishes it from similar studies (e.g. Yeo & Ting, 2014), though the work would have been enriched if the author had used a relatively larger corpus.

Having looked at studies on the semantic referents of the tri-PP, in the ensuing subsection, I focus on studies on discourse functions of the tri-PP.

Studies on Discourse Function on *I*, *We* and *You* in Classroom Lectures

In this section, I review studies that examined the discourse functions of author pronouns in classroom lectures.

Studies with a focus on disciplinarity

Yeo and Ting (2014) adopted a two-way typological approach to academic disciplines. They divided academic disciplines into two DSs: Arts (encompassing HS and SS) and Science. They explored the discourse functions of the tri-PP (*I*, *we* and *you*) in a specialised lecture introduction corpus totalling 37, 373 words. They found that *I*, *we* and *you* performed ten discourse functions: activate student's prior knowledge; give instructions or make announcements; direct students' attention and arouse interest; share personal experiences and views; state aims and objectives; explain concepts; establish link with previous lecture; check students' understanding; engage in talk; and used as fillers.

They realised similarities and differences between Arts and Science. Similarities between the two broad knowledge domains could be classified into use and non-use. Thus, both disciplines were found to have employed common

discourse functions in relation to some of the PPs. For example, both Arts and Science used *inclusive we* to activate students' prior knowledge, give instructions or make announcements, state aims and objectives, explain concepts, and establish links with a previous lecture. Meanwhile, both DSs did not use *inclusive we* to direct students' attention and arouse interest, and also as fillers. Notwithstanding, some discourse functions of *inclusive we* appeared peculiar to either Arts or Science. For example, while Arts used *inclusive we* to check students' understanding, and engage in small talk, Science did not.

On the other hand, there were statistical differences in the use of the discourse functions of the tri-PP. Yeo and Ting (2014) reported that Science used *you-audience* more frequently to activate students' prior knowledge than Arts. Indeed, the levels of similarities and differences realised by Yeo and Ting (2014) resonate with general views on disciplinary variationist study (e.g. Fortanet, 2004; Hyland, 2009; Rounds, 1987).

Studies with a focus on lecture genre

Fortanet (2004) also investigated the discourse functions of *we* in university lecture corpus of 40,986 words sampled from MICASE. She realised two discourse functions of *we* in the corpus. These functions are representation of group, and metadiscourse. Representation of group was the most dominant discourse function of *we* and it was used as a *proxy* for both discourse internal and external participants (Ädel, 2006; Hyland, 2005b) such as the speaker, audience and other scholars in the disciplinary discourse communities. The metadiscourse function concerns how

we was used to relate to the situational speech event (Fortanet, 2004). In all, there were eight subfunctions under the main metadiscourse discourse function: guide throughout the speech event, guide throughout the discipline, presentation of the situation, joint deduction, clarification, generalization, recount of a research process and presentative *have* or *get*. In summary, *we* was used cataphorically and anaphorically in the ongoing discourse.

It appears that there is an overlapping between the two major functions of *we*: representational and metadiscourse roles. In the representational role, Fortanet (2004) reported that *we* is used to refer to the speaker and the audience and/or other discourse external audience. Using *we* inclusively and exclusively are both metadiscursive (Ädel, 2006). Thus, the distinction between the two, to some extent, is forced as metadiscourse is a “reflexive linguistic expression referring to the evolving discourse itself or its linguistic form, including references to the writer-speaker *qua* writer-speaker and the (imagined or actual) audience *qua* audience of the current discourse” (Ädel, 2010:75). Although the discourse function taxonomy of Fortanet (2004) is novel, it lacks detailed interpretation supported by the corpus. She engages in *cherry picking* (Baker & Levon, 2015) which does not reflect the totality of the individual discourse function of *we*.

While Fortanet (2004) looked at the discourse functions of *we* in university lectures sampled from MICASE, Gomez (2006) explored the discourse functions of *I* and *you* in the same corpus. She reports that *I* performs seven discourse functions: metadiscourse; showing attitude; subject of anecdotes; hypothetical *I* as

an example; identification in dialogue; identification of other, and voice in reported speech. In the same study, she recounted the discourse functions of *you* as addressing the hearer, certain approximation speaker/ hearer, and certain distancing speaker/ hearer as the discourse function of *you* in the same corpus as used by Fortanet (2004). It is interesting to note the convergences and divergences of the tri-PP in the studies by Gomez (2006) and Fortanet (2004). Unsurprisingly, they were all found to function metadiscoursally. This is not surprising because the tri-PP, have been reported to be central metadiscoursal items (Ädel, 2006; 2010; Hyland, 2001a, 2002a, 2005b). We also note that they each performed distinct functions, something I find contradictory, given that the authors themselves admitted that the tri-PP overlap in their discourse reference. Thus, there were cases of *I as you*, *you as I*, and *I as we*.

In a related study, Ädel (2010) investigated the discourse functions of *I*, *we* and *you* in a corpus running into 255, 000 words from MICASE. The corpus was selected from different disciplines and lumped together. She found that the tri-PP performed two broad discourse functions: metadiscoursal and non-metadiscoursal. The metadiscursive functions of the tri-PP concerned their explicit use to refer to the speaker and the audience of the ongoing text (Ädel, 2006, 2010). She outlined the subfunction of the metadiscoursal roles as: the speaker/writer may be visible as organiser of and commentator on the discourse, participant in the discourse scenario, teacher of the course, researcher in the field, or experiencer in the real “world –that is, as participant in popular culture, US citizen, or fellow human

being” (p. 80). Ädel, unlike Fortanet (2004), did not set out to explore the discourse function of all or any of the tri-PP, but given that the tri-PP are central in her personal metadiscourse model (Ädel, 2006) she highlighted some discourse function of the tri-PP, as reported above. Her findings were sketchy and it is justified given that was not part of her central goal. She reveals a comprehensive model of discourse function of personal pronouns but it is totally limited to tri-PP. It is important to note that while Ädel (2010) disregards the non-metadiscoursal pronouns, my study takes interest in that in addition to the metadiscoursal ones.

Plaza and Álvarez (2013) cursorily touched on the discourse functions of the tri-PP they found in their corpus on lectures. They described their corpus as “monologic large lectures as a subgenre within lectures, reporting on the analysis of 30 transcripts in MICASE” (p. 185). Subdivisions of the corpus are provided on disciplinary lines as: Biological and Health Science; Humanities and Arts (8 transcripts, 80,324 words); SS and Education (8 transcripts, 86,635 words). The analysis adopted the lumping approach (Ädel, 2010) where disciplinarity was not considered a factor in the analysis. Based on the lumped corpus, the authors mentioned that PPs were found to discursively function as a guide through the lecture, architect of the lecture, re-counter of the research process, opinion holder, expressing a process of cognition, originator of ideas. A relatively little focus was given to these features from the corpus. It is, however, of some interest to me as studies that have used Tang and John’s (1999) discourse model of PPs in lecture-based corpus (like the present one) are virtually non-existent. It appears that this is

the only study on classroom lecture that employs this model of discourse function of pronouns.

Overall, we notice from the review of studies on the discourse function of the tri-PP that it is not a subject matter that appears crucial to researchers in this area. This is quite surprising given that the written domain largely has witnessed several studies in this direction. It also appears that every researcher aimed to glean his/her own model of discourse function of the tri-PP. These studies appear to follow the corpus-driven corpus linguistics approach but this is not explicitly stated. It was, therefore, difficult to find studies that had adopted a corpus-based approach to test the applicability/suitability or otherwise of existing models. The implication of this is that it affects the continuity of research on this phenomenon. and more so it makes it difficult, if not impossible, to undertake a meta-review of studies on the discourse functions of the tri-PP on lecture research.

One of the prominent models of discourse functions of PPs is the one from Tang and John (1999). Despite its usefulness in the written domain. studies that have extended its frontiers into the spoken domain are few (e.g. Plaza & Álvarez, 2013; Zhang, Gao & Zheng, 2014). Plaza and Álvarez (2013) noted that some instances found in their corpus functioned as *I as an originator* and *I an opinion holder*. No detailed interpretation supported by evidence from their corpus was given.

From Ädel (2010), Gomez (2006), Plaza and Álvarez (2013) and Zhang, Gao and Zheng (2014), we noticed that they (except Yeo and Ting (2014) are

merely interested in the lecture genre. Largely, such studies aim at unearthing with respect to discourse functions of pronouns, what typify the lecture genre. Ädel (2010) suggested two approaches to studying speech and writing: lumping and splitting approaches. In relation to corpus studies on lectures, I notice that although such aforementioned studies gathered lectures from different disciplines, they adopted the lumping approach thereby obtaining what can be termed an ‘all-in-one multidisciplinary’ corpus of academic lectures. The present study departs from this perceived de facto approach, and adopts the splitting approach, following Yeo and Ting (2014), in order to reveal variation in the discourse functions of the tri-PP across disciplines. Even with the splitting approach, there are two sub-approaches: micro and macro. The micro-approach builds corpora representative of individual disciplines, but the macro takes a more global approach where disciplines constitute a DS. Interestingly, my study and Yeo and Ting (2014) adopt the same approach. What differentiates the present study from Yeo and Ting’s study is the fact that they adopted the two-way view of disciplinary typology (Arts and Science) while I subscribe to the three-way view: Humanities, Social Sciences and Natural Sciences.

Studies on Interactive Resources in Classroom Lectures

In this subsection, I survey studies on rhetorical resources in classroom lectures. These resources are generally employed as persuasive and/or interactive strategies (Hyland, 2005a & b, Ädel, 2006, Aguilar, 2008).

Lexical bundles remain the most frequently explored rhetorical resource in academic lectures. The work of Biber et al. (2002) is worth mentioning given that

it largely influenced subsequent studies on lexical bundles in academic lectures such as Biber et al. (2004), Biber et al. (2007), Hernández (2013), Kashiha and Heng (2013), Nesi and Basturkmen (2006) and Yaakob (2013). Another rhetorical device that has received attention in lecture genre is discourse markers. Studies on this phenomenon include Christodoulidou (2011), Fortuño (2004a, 2006, 2007b), Othman (2010), Rabab'ah (2015) and Rido (2010). Furthermore, questions as rhetorical resources in lectures have also been investigated by Chang (2012), Liu and Chang (2009), Querol-Julián (2008), and Milne and García (2013). Evaluative language has also been explored in classroom lectures. These studies revealed the various means through which lecturers expressed their attitudes. Studies in this bracket include Bamford (2004), Ibrahim and Ahmad (2014), Perez-Llantada (2006), Samson (2002) and Thompson (2003).

Aside from these major themes, there are minor ones such as the discourse functions of *wh*-clefts (Deroey, 2011); modifiers (Lin, 2010), relevance markers Crawford Camiciottoli (2004b, 2007b), Deroey and Taverniers (2012a & b) and markers of lesser importance (Deroey, 2017b). Finally, some non-verbal rhetorical interactive resources have also been investigated in lecture studies, viz laughter (Nesi, 2010), aside (Strodt-Lopez, 1991), and body language (Khuwaileh, 1999).

Largely, the above studies have one thing in common –interpersonality and interaction in academic lectures between the discourse participants (lecturers and students). All the researchers emphasised how such rhetorical resources are used to enhance lecturer-student interaction.

Chapter Summary

This chapter reviewed empirical studies on academic lectures, particularly those that relate to the tri-PP. Specifically, the chapter reviewed studies on the tri-PP with respect to frequency, discourse referents and functions. In the next chapter, I examine issues related to methodological choices made in this study.



CHAPTER FOUR

CORPUS DESIGN AND METHODOLOGY

Introduction

This chapter examines the methodological techniques adopted in the study. Specifically, it recounts how the subcorpora were obtained, processed, and analysed. It also presents the analytical frameworks and procedure of analysis, ethical considerations, challenges encountered, starting from data collection to the analysis of the corpus. Additionally, the institutional contexts of the study are discussed.

Institutional Context

The study was limited to two Ghanaian public universities, Kwame Nkrumah University of Science and Technology (KNUST) and University of Cape Coast (UCC), which are respectively described in the ensuing subsections.

Kwame Nkrumah University of Science and Technology was the second public university to be established in Ghana. It was officially opened on 22nd January, 1952 as Kumasi College of Technology, as an affiliate to University of London. In 1961, the Kumasi College of Technology was transformed into a University and renamed Kwame Nkrumah University of Science and Technology. KNUST, therefore, started awarding its degrees in June 1964. Currently the university plays an advisory and awards degrees to several affiliate colleges.

The university was originally established to offer programmes in Science and Technology. It now offers programmes across broad knowledge domains (Humanities, Social Sciences, and Natural Sciences) for both undergraduates and postgraduates. The increase in its programmes caused the university to transform its Faculty-based system of administration into a collegiate system in 2005. Thus, the university currently has six colleges: Agriculture and Natural Resources, Health Sciences, Humanities and Social Sciences, Arts and Built Environment, Engineering, Science; and one Institute, Institute of Distance Learning, to respectively offer both traditional residential and distance education to both local and international communities.

KNUST occupies a 16 square-kilometre land and conducive surroundings. It is located about seven kilometres away from the central business district of Kumasi, the capital of Ashanti Region, one of Ghana's ten administrative regions (See Appendix F for the Map of Ghana). The campus is beautified by state of the art buildings such as Administration block, library, halls of residence, lecture halls and offices for academics. The environment is filled with verdant lawns and tropical flora, which provide a cool and refreshing atmosphere congenial to academic work. See Figure 7 for the map of KNUST.

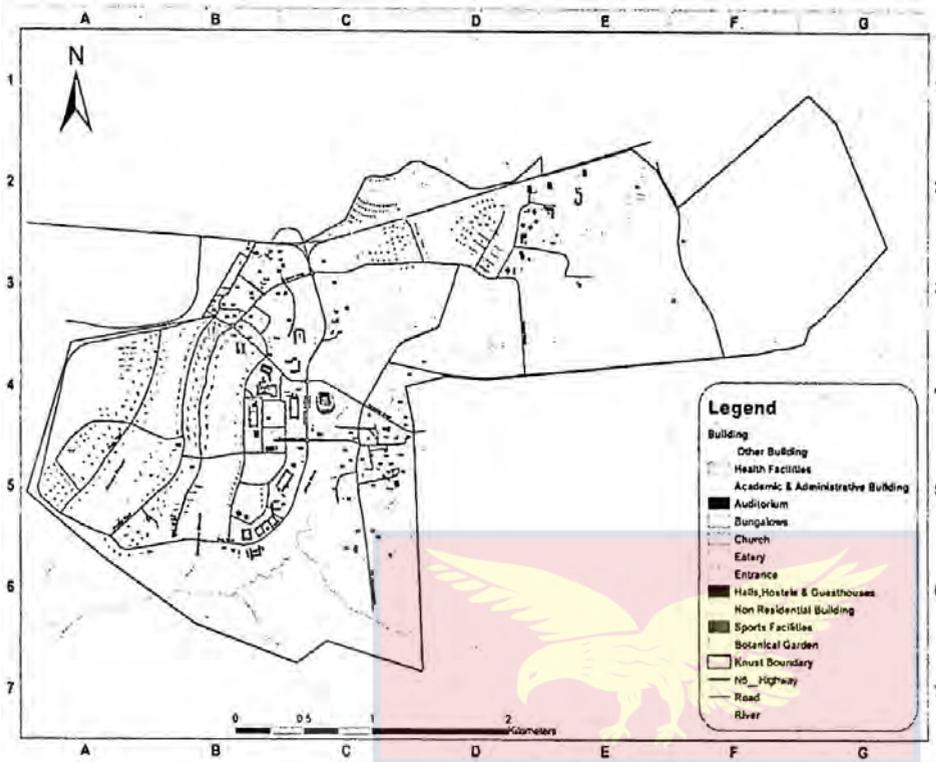


Figure 7: Map of KNUST

The second educational institution selected for the present study was University of Cape Coast (UCC). It was the third public university to be established in Ghana. It began as a University College of Cape Coast in October, 1962, with the mandate of training graduate teachers for Ghana's second cycle institutions (senior high schools) and teacher training colleges (renamed Colleges of Education). It was affiliated to University of Ghana (Legon), which played an advisory role and awarded its degrees. In October, 1971, the College obtained full autonomy as a University to confer its own certificates, diplomas and degrees to its students. It now serves as a mentoring institution to all the Colleges of Education (both public and private) and several University Colleges in Ghana.

The University of Cape Coast currently provides quality education through the provision of comprehensive, liberal and professional programmes from certificate to PhD. UCC offers traditional residential education, distance education, and sandwich programmes. All these resonate with UCC's mission of raising qualified and equipped manpower for both the Ghanaian and international corporate institutions (Edu-Buandoh, 2012).

Given the introduction of varied programmes, in 2014, the University restructured faculty-based administrative system into a collegiate system, culminating into five colleges: Education Studies, Humanities and Legal Studies, Agriculture and Natural Sciences, Distance Education, and Health and Allied Sciences. The aim of this was to achieve effective and efficient administration, and to minimize the challenges associated with the bureaucracies that existed in the Faculty-based system.

UCC is located five kilometres west of Cape Coast the first capital of Ghana, and the current capital of Central Region (See Appendix F for the map of Ghana). It occupies a vast undulating area and is situated on low hills, which overlook a picturesque palm-lined beach onto the Atlantic Ocean. See Figure 8 for the map of UCC.

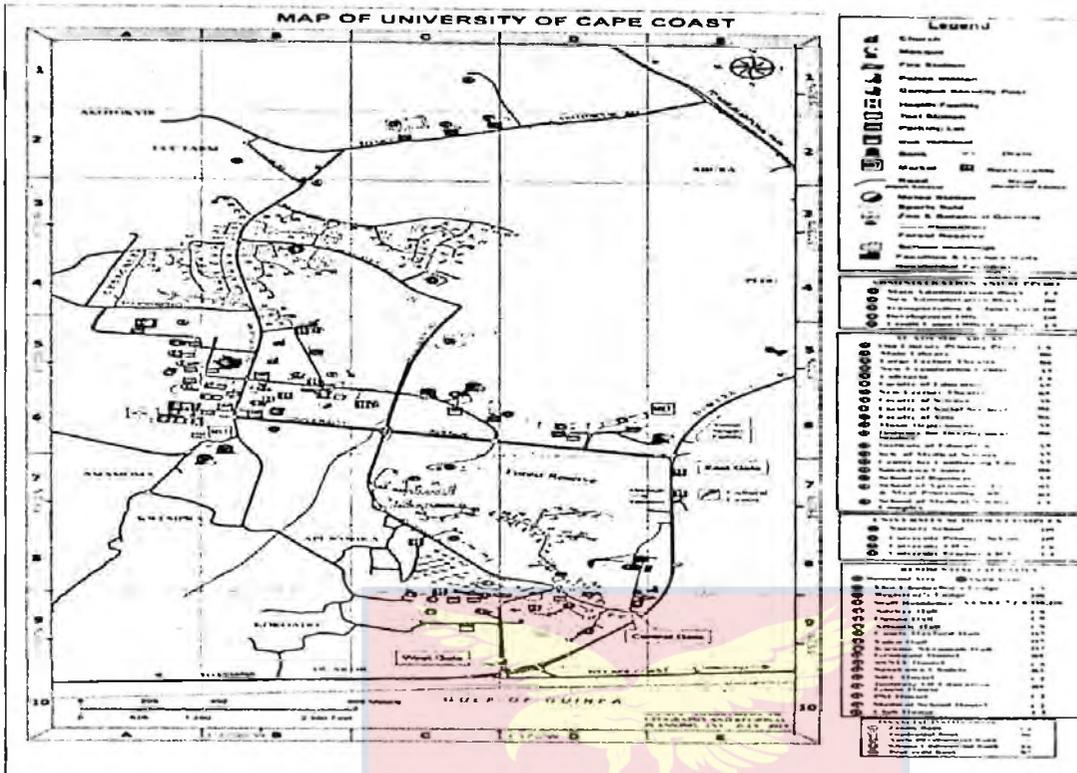


Figure 8: Map of UCC

Three reasons accounted for the choice of both KNUST and UCC: The fact that the researcher is a member of the research community, convenience (See Afful, 2005, 2010; Afful & Akoto, 2010), and less cost (as there was no transportation, or accommodation involved). My membership in both KNUST and UCC relatively facilitated access to the lecturers, who for the sake of collegiality, allowed me to record their lectures to be included in the corpus for this research.

Both UCC and KNUST located in the southern part of Ghana (See Appendix F) appear to have similar 'lecture structures', to wit practices implemented towards effective teacher-student classroom interactions. It was noticed that Information and Computer Technologies (ICTs) such as public address

systems and overhead projectors plus electric screens were available in the lecture halls of both participating institutions in the bid to provide quality teaching and learning environment (Annku, 2014). The projectors show how PowerPoint-assisted lecture (Anderson, Hoyer, Wolfman, & Anderson, 2004; Szabo & Hastings, 2000) is increasingly being adopted in both institutions to complement 'marker and duster' lecture that hitherto had been the institutionalised practice.

Both institutions have their respective policy on class size. They both have a two-way classification policy: small class lecture (SCL) and large class lecture (LCL), like most universities across the globe (Cheng, 2012). Indeed, what constitutes large or small lecture varies across universities, corporist groups (Fox, 1992), and disciplines (Aguilar, 2008). In the MICASE, for instance, LCL and SCL imply 40 and beyond respectively, and less than 40 respectively. In Ghana, at least, to the participating institutions, the figures are different from what pertains in UK and USA settings. There is a vast difference in class size definition in UCC and KNUST. While UCC pegs SCL below 120, KNUST has it as below 45. It is, however, important to note that all the lectures considered from both institutions for the study are far above the sanctioned small classes. In KNUST, the smallest of the classes visited (per attendance not registered students for the course) was 142, while UCC was 133.

Ngula (2015) observes that English language and other 'minor' languages are allowed for official communication (including lectures) in Ghanaian higher educational institutions. These languages are sanctioned for both written (e.g.

thesis, student essay, etc) and spoken (e.g. lecture, viva voce, etc.) registers, a practice in line with multilingualism in higher education in Ghana. In KNUST and UCC, there are a number of languages used as instructional lingua franca: English (major language –trans-disciplinary lingua franca) and the minor ones, which were either local languages – Akan, Ewe and Ga (although Ewe and Ga were peculiar to UCC) or international languages such as French and Chinese. In the present study, only English-medium lectures were considered.

Finally, the two participating institutions shared a common pronoun-related language-in-classroom policy. My interaction with some Heads of Departments, and lecturers in both KNUST and UCC revealed that there were no institutionally-sanctioned “discourse principles involved in the use of the pronouns” (Kitagawa & Lehrer, 1990: 740). This is mentioned because the presence or absence of such a policy may have an effect on rhetorical choices (Hyland, 2002b) of the use or otherwise of the tri-PP. Admittedly, “‘policy’ does not always dictate ‘conduct’” (Murray, 2009: 22) but it is better to have one than none because it helps homogenize practices, especially in a setting like academia where there are varied idiosyncrasies informed by religious, political, ethnic, professional, etc. orientations. As such in some universities in Europe (e.g. University of Sussex and Oxford University), there are policies on pronoun use, specifically gendered pronouns, in both institutional and academic discourses.

Sampling of disciplines, lecturers and lectures

Sampling in corpus building aims to achieve representativeness (Kennedy, 2014). Purposive sampling method was adopted to ensure that the disciplines and lecturers are within the appropriate DS. Since the study focuses on the lectures of Ghanaian lecturers, all lecturers without Ghanaian nationality were excluded from the study.

The next sampling procedure was simple random sampling for the consideration of *representative* disciplines for each DS, given that each DS contains a number of disciplines. This method made it possible for every discipline in the DS at the participating universities to stand the chance of being selected. The success of this, however, depended on the availability and willingness of the lecturers. Hence, I adopted the advice, “corpus building is of necessity a marriage of perfection and pragmatism” (McEnery et al., 2006: 73). This implies that if a discipline in a DS is randomly selected and yet the lecturers were not willing to participate in the study, I considered another discipline in which lecturers allowed their lectures to be recorded. Thus, ‘necessity’, resorted to ‘pragmatism’ at the expense of quantitative principle of fairness, which aims to attain ‘perfection’. But mention must be made that in the Humanities, all disciplines that undertake lectures in other languages other than English were discounted. They include courses in French, Ghanaian Languages (such as Asante Twi, Ewe, Fante and Ga), Dutch, Greek, Hebrew, Arabic, and, quite recently, Chinese.

Some factors were considered in selecting lecturers for this study. The factors that were considered were the professional status of the lecturers. In Ghana, the hierarchy of faculty in the universities ranges from Assistant lecturer to Full Professor. The minimum rank considered in this study was Senior Lecturer, following Lee (2009) who also considered lecturers who were 'Senior Faculty' or 'Associate Professors or above'. This implies that the individual was familiar with the norms of the disciplines through research and therefore, was required to possibly apply them in lectures. In effect, rhetoric as well as conventions/norms in the discipline through research filtrates through the lectures (Hart, 1998). Thus, Senior Lecturers (and beyond) were used instead of those below the Senior Lecturer rank, who are described as novice in the disciplinary discourse communities (Hyland, 2002a). Hyland (2002a: 1096) testified "novice and professional writers are likely to differ considerably in their knowledge and understandings of appropriate academic conventions and practices, making direct comparisons unhelpful".

The number of years one has lectured in the university was the next to be considered. Ideally, the minimum duration for one to move from Lecturer to Senior Lecturer (plus other requirements such as publication of research articles, community service, and quality of teaching) in most Ghanaian universities is four. This was considered as the cut-off point for lecturers in this research. The lecturers considered in this research had (at the time of data collection) served in their respective universities for, at least, six years.

Another factor was nationality. All the lecturers selected were Ghanaians and had lectured in their respective universities (UCC or KNUST) for at least six years. This implied that lecturers with non-Ghanaian origin were not considered in this research. More so, lecturers with Ghanaian origin but had lectured in a native speaker country continuously for five years were not included in the study. All these considerations were made to ensure that ‘parallel corpora’ were not built, given that “the study of parallel corpora...can provide information about what different groups of language users actually *do (italicized in original)*” (Hyland, 2002:1096).

On the other hand, certain considerations were made in selecting lectures to be included in the corpora. Lectures at laboratories, what is termed *practicals* (in Ghanaian universities), were excluded. Lectures that were considered were classroom lectures in relatively continuous prose form. Again, all the lectures recorded were for regular students. In Ghana, there are three kinds of programmes run by universities: regular, distance, and sandwich. But while the first two is common to the two participating institutions (KNUST and UCC), the last one is peculiar to UCC. Arguably, the lecture styles as well as choice of discursive and rhetorical resources will vary, based on the programme type. Therefore, this study included lectures from regular programmes.

Aside from this, other instructional modes such as seminar, tutorial, group discussion, individual presentation, assignment, workshop, conference, role play, and case study (See Sajjad, 2011) were excluded. The study focused on the rhetoric of academic lecture, which is regarded as the chief mode of pedagogic impartation

in higher institutions worldwide, even in the face of technologies (Fortanet, 2004; Friesen, 2011; Hyland, 2009; Sajjad, 2011; Yaakob, 2013). It included only extemporaneous lectures as against scripted (written to be spoken) ones.

Moreover, academic lectures were grouped according to two main factors. First, they were classified based on the level, resulting in undergraduate and postgraduate lectures. The present study comprises undergraduate lectures, given that is common to all disciplines in Ghanaian universities. Again, lectures are classified based on the native/non-native dichotomy (See Deroey & Taverniers, 2012; Othman, 2010; Rounds, 1985). The literature suggests native speaker lecturer-native speaker audience; native speaker lecturer/non-native speaker audience; non-native speaker lecturer/non-native speaker audience, and non-native speaker lecturer-native speaker audience lectures. The foregoing classification is done for convenience, given that there are classes with a mixture of native and non-native speaker audiences. However, I observed from the students (based on an announcement made), none of the students was a native speaker of English. The corpus for the present study can, therefore, be appropriately described as a non-native speaker lecturer/non-native audience lecture corpus.

Lecture hall setting and Class Interaction

I visited the lecture halls and ‘lived’ among the students during the lectures. The classes were found to be all “traditional, teacher-fronted lessons” (McCarthy,

Matthiessen, & Slade, 2002), characterised with occasional movements by lecturers (See Figure 9).



Figure 9: A lecturer teaching

This approach is commonly known as “chalk and talk” (Rounds, 1987b: 647). It was realised that the lectures were characterised by occasional lecturer-initiated, and student-initiated questions (Aguilar, 2008). Generally, similar to Rounds’ (1987b) observation, “the students rarely asked questions and generally provided only briefest of answers” (p. 650).

The purposes of my visit to the lecture halls were first, to obtain information on the class size, and second, to observe some factors such as the presence (or otherwise) of co-lecturer, teaching assistant (TA), etc. that may have an effect on the use (or non-use) of PPs. It is a common practice in Ghanaian public universities for students to be grouped and taught by different lecturers for university-wide or

core courses. I, therefore, sought to find out from the lecturers whether their courses were in this category since that could have an effect on pronoun use, particularly *we*. For instance, in the *relhumanucc0001* file, I found *Now we give you objectives*. From the background information I sought, I appropriately assigned this *we* as *we* for *I* (lecturer).

Finally, the class size may be understood in two senses: the total number of students who registered for a course (i.e. on-paper class size) and the number of students at the lecture hall at the time of data collection (at-lecture class size). This visit, therefore, enabled me to determine the type of lecture with respect to the class size, focusing on class attendance. In lecture discourse, there are small size and large size lecture corpora (Cheng, 2012). In principle, all lectures recorded, per the participating institutions' definition of class size, were large.

Corpus Linguistics as a Methodological Approach

Corpus linguistics arguably is neither a branch of linguistics nor a theory of language but a methodology to language study. Scholars such as Leech (1992) and Meyer (2002: xiii) respectively affirm that CL is “a methodological basis for pursuing linguistic research” (p. 105), and also “not a separate paradigm of linguistics *but rather a methodology*” (emphasis added). Contrarily, Teubert (2005) opines that CL has evolved into a “theoretical approach to the study of language” (p. 2). In this study, CL is neither considered as a branch of language, nor a theory (e.g. Chaffe, 1994) but a methodology (e.g. Fillmore, 1992; Meyer, 2002; Teubert, 2005) to language analysis or studies, though corpus linguistics research has

implication for theory. CL “does not contain any new theories about language...” (Hyland, 2009:8), it rather “...provides an alternative to intuition by offering both a resource against which intuitions can be tested...” (Hyland, 2009: 28). Hyland (2009) rightly described the relationship between corpus research and the qualitative-quantitative –*quanlitative* (Akoto, 2015) paradigms. He asserts that “corpus studies are therefore based on both qualitative and quantitative methods, using evidence of *frequency* and *association* as starting points for interpretation’ (p. 28). Thus, CL is considered relatively self-sufficient such that it accounts for issues ranging from data collection through processing, to analysis (where it is complemented by manual analysis).

As a methodology, CL has its own strengths and, of course, weaknesses (Teubert, 2005). Ngula (2015) notes CL’s strengths: “corpus linguistics allows the analyst to observe patterns and uses of linguistic features that can easily elude an analysis that relies on human introspection”. This CL approach has been very useful in language research, as Hyland (2005) attests, “...research is greatly assisted by the growing availability of computerized discourse corpora...” (p. 201). It also facilitates the analysis of multi-million corpora, as it is mainly technology-driven/based.

CL is not without some shortfalls, as Teubert (2005) even decribes it as an “imperfect methodology” (p. 13). First, corpus data fail to account for “non-verbal meanings and the surrounding circumstances of the creation and use of text tends to mean that we are left with rather abstract and disembodied data” (Hyland, 2009:

30). This criticism is legitimate. For instance, in collecting lectures for the corpus for the present research, I realised that certain *we* types were used not as *lecturer as we* but as ‘lecturer and teaching assistants’ who were present during the lecture time. The absence of this direct observation may lead one to wrongly label the said *we* as lecturer-oriented. To resolve this criticism levelled against corpus linguistics, corpus designers are, therefore, advised to provide some *ethnographic details* which can help analysts to situate corpora within appropriate contexts (refer to Hyland, 2009: 36-37). The way forward then is ethnographically-oriented corpus linguistics (Hyland, 2009).

The debate lingers on whether CL is monolithic or not. Some scholars like Biber, Conrad, and Reppen (1998), McEnery et al. (2006) and McEnery and Hardie (2012) think that every corpus linguistic study is corpus-based, but others such as Biber (2009) and Tognini-Bonelli (2001) think otherwise. Generally, there exist corpus-based and corpus-driven approaches in CL, culminating into corpus-based and corpus-driven linguistics. Although there appears to be a clear-cut conceptual distinction between these two approaches, there is a lack of parameters to defining the extent to which a study is termed corpus-based linguistics (CBL), corpus-driven linguistics (CDL) or hybrid.

There appears to be two key differences between the two approaches. The first difference lies in the goals of the two approaches (Biber, 2009). Essentially, CBL seeks “to analyze the systematic patterns of variation and use for those predefined linguistic features” in order to validate a pre-existing theory, model or

hypothesis. But in CDL, linguistic constructs themselves emerge from the analysis of a corpus so as to draw a new conclusion, which may result in a new theory (Biber, 2009; Ngula, 2015). Frankel and Devers (2000), therefore, maintain that “distinct goals require distinct research design” (p. 252). Consequently, in both CBL and CDL there is a difference in the ‘design’ to the research that adopts any of the approaches (Biber, 2009). For instance, if the study is corpus-based, the size and composition of the corpus for the new study may be modelled after previous studies (Biber, 2009), or if the sizes differ, a common normalization base may be used. The second difference is based on the logic underpinning the two approaches to research. It appears that both corpus-based and corpus-driven approaches are informed by deductive and inductive logic (Biber, 2009) respectively. Studies that adopt corpus-based approach are based on pre-existing theories, implying that relatively much is known about the problems in such studies. On the other, in CDL, less or nothing is known about the problem being investigated, given that it attempts “to uncover new linguistic constructs through inductive analysis of corpora” (Biber, 2009).

The difference between the two approaches (i.e. corpus-based and corpus-driven) is a matter of degree, suggestive of a continuum. A study may be said to be consistent with any of the approaches based on how much of it is already known (based on pre-existing theories, or a priori assumptions), and how much emerges from the analysis of the corpora. There is, therefore, the need for scholars in corpus linguistics to provide parameters (in, probably, quantitative terms) to labelling a

study as corpus-based (CB), corpus-driven (CD), or a hybrid, as almost every study, debatably, may be both corpus-based and driven. The absence of such a benchmark has resulted in some researchers refusing to commit themselves to any of the two stances, resulting in the use of the generic expression *corpus linguistic study*.

The CB-ness or CD-ness of a study may be determined at theoretical and/or analytical levels. A study may be premised on pre-existing theories but may or may not be analysed, based on a pre-determined/defined linguistic or rhetorical features such as Tang and John's (1999) model of author pronoun discourse function, adapted in the present study. Consequently, such a study can be appropriately described as deploying hybrid approach (CB and CD). However, largely, if a study, at both levels (theoretical and analytical), draws on preconceived or existing frameworks but, in the end, yields some new realizations such as Ngula's (2015) study, it may still be termed corpus-based since substantial part of the study is based on pre-existing assumptions, theories and hypotheses. Besides, either of the two approaches is determined at the 'onset', not 'outset' of the study. Thus, if an originally CB-designed study eventually yields novel outcomes, it does not make the study hybrid, given that the so-called 'corpus-driven' aspect is accidental or unexpected. Biber (2009: 20) contends that "the greater contribution of the corpus-based approach is that it often produces surprising findings that run directly counter to our prior intuitions", and "when such empirical investigations are conducted, they often reveal patterns that are directly counter to our prior expectations".

The present study can, therefore, largely be termed corpus-based as it originally sought to test Tang and John's (1999) discourse function of author pronouns. But it is important to note that unlike previous studies like Yaakob (2013) and Zhihua (2011), the present study adopted a hybrid approach to identifying the discourse references of the tri-PP. This is evident, given the excessive referents realized for *I*, *we* and *you* in the present study (See Chapter 6).

The need for the present corpus

The laborious, time consuming, and expensive nature of developing a spoken corpus (Adolphs & Knight, 2010; Fox, 1992; Meyer, 2002; Nelson, 1996; Yaakob, 2013) has caused many researchers to utilize already existing, and readily available corpora. Some researchers resort to existing corpora because it may be needless to create a new corpus when there is an available one that can answer their research questions (McEnery & Hardie, 2012; McEnery et al., 2006). Besides, some may also attribute it to convenience. But considering the convenience and the purpose of a study, the purpose, I believe, should determine the nature, form, mode, and type of corpus. With the present study aiming to explore the discourse functions and references of *I*, *we* and *you* in Ghanaian university classroom lectures, there is the need to create a corpus that is absolutely 'Ghanaian', with possibly Ghanaian English flavour.

There are several existing spoken corpora in English, which include the 10,000,000-word spoken component of the British National Corpus (BNC); the 5,000,000-word corpus of the Cambridge and Nottingham Corpus of Discourse in English

(CANCODE); the 1, 000, 000-word Limerick Corpus of Irish English (LCIE); the 1, 800, 000 words of The Michigan Corpus of Academic Spoken English (MICASE); the 907,657 word Hong Kong Corpus of Spoken English, the Cambridge Corpus of Spoken North-American English (CAMSNAE); the British Academic Spoken English Corpus (BASE) which comprises 160 lectures and 40 seminars; and the Engineering Lecture Corpus (ELC), containing English-medium lectures from Italy, Malaysia, New Zealand, and UK.

Studies in contrastive rhetoric have shown that the socio-cultural context influences language use. Hence, the present study, as part of its aim, sought not to find out the tri-PP use in academic lectures per se but how Ghanaians employ these all-important resources in their lectures. The lectures for the present study were, therefore, chosen from disciplines within the three disciplinary supercommunities (HS, SS, and NS).

Corpus size

Lee (2009) has opined that the size of a corpus *matters* in research. This, has engendered debate among corpus linguists. Some scholars (e.g. O'Keeffe et al., 2007; Fox, 1992; Sinclair, 2004, 1991) advocate a large corpus study, arguing that this provides a realistic representation of the occurrence of the use of a particular linguistic variable and that small corpora “impose certain limitations on the generalizability of the findings” (Blackwell, 2010: 6). Fox (1992: 53), therefore, asserts that “...the bigger the corpus, the more chance there is of finding examples which are both natural and meaningful...” Fox’s (1992) position re-echoes that

“small is not beautiful; it is simply a limitation” (Sinclair, 2004: 189) and that “the lengthier the corpus the better” (Meyer, 2002: 33), has received considerable support. While this is true to some extent, mega-corpus usually suffers superficial analysis (Anthony, 2001; Koester, 2010).

In spite of the immense contribution of large corpora mainly concerning the fuzzy and the debated term *representativeness*, smaller specialised corpora have been found to be useful in language studies, to reflect the pattern of some linguistic variables. The variables under investigation (*I*, *we* and *you*) largely have implication on the corpus size. Arguably, it is more useful to use a small corpus in exploring a functional item than a lexical or content one (Gomez, 2006; Koester, 2010; Reppen, 2010). Thus, in exploring PPs *I*, *we* and *you* in this study, one does not require a relatively large corpus to obtain occurrences that are “representative of typical use” (Fox, 1992: 47) since pronouns are considered high-frequency items (Koester, 2010). Surely, on functional items in corpus-based studies, contrary to Sinclair’s (2004) contention, small becomes beautiful, and simply not a limitation. With large corpus, the compilers are usually not the analysts and so they (analysts) appear to be unfamiliar with some useful contextual clues to the corpus. However, Koester (2010: 68) rightly contends that “with small corpus, the corpus compiler is often also the analyst, and therefore usually has a high degree of familiarity with the context”. This is true with the current study, as I adopted an ethnographic approach in collecting the data. Consequently, I personally observed contextual information

on the number of teachers (as some lecturers went with their Teaching Assistants), lecturing style, and class size which cannot be inferred from the corpus.

The relatively small sizes of the present subcorpora are attributed to limited resources since “creating a corpus”, particularly a spoken one, “requires a large commitment of resources” (Meyer, 2002: 33). Meyer reveals that BNC corpus involved the contributions of a number of universities and funding agencies. But I personally and solely bore all the cost regarding the compilation of the current corpus. In effect, time and ‘resource’ (human and financial) factors contributed to the relatively small size of the specialized corpus on academic lectures for the present study. Reppen (2010) concluded that two factors determine the size of corpus: representativeness and practicality (time, resource constraints, and variable under investigation). Of these, I opted for practicality. See Table 4 for details on the size of the subcorpora from individual DS.

Table 4: Subcorpora Sizes

Disciplinary supercommunities	Corpus size (tokens)
Humanities	36 586
Social Sciences	43 916
Natural Sciences	N 34 622

Given that the tri-PP are functional words, the corpora sizes were considered adequate for the study. It can clearly be seen from Table 13 in Chapter 5 that the occurrences of the tri-PP are sufficient for the quantitative-qualitative corpus-based study.

Lecture recording

Lecture recording is an institutionalized practice in a number of universities across the globe (Eley & Murray, 2009; Hyland, 2009). This has culminated into what are now called web lectures (Day, 2008), lecture webcasting (Kishi & Traphangan, 2007) which are offshoots of web-based lecture technologies (Woo, Gosper, McNeil, Preston, Green & Philips, 2008) and e-communication. Lectures are either audio or video recorded and posted online as student learning support to “provide students with anytime-anyplace access to lectures” (Gorissen, van Bruggen & Jochems, 2012). However, lecture recording is not yet institutionalised and, therefore, sanctioned by ‘laws’ and policies in Ghanaian universities. This can be attributed to the non-existence of data protection law in Ghanaian higher education, although there is Data Protection Act, 2012 (ACT 843), pursuant to Article 18(2) of Ghana’s 1992 Constitution which seeks to protect individual’s right to privacy.

The absence of a repository of recorded lectures meant that I had to seek the consent of individual lecturers before I could record their lectures. Lecture recording, as Nelson (1996) maintains, could be either surreptitious or non-surreptitious. However, non-surreptitious style was preferred as it is more ethically and legally appropriate (Meyer, 2002; Nelson, 1996), and accords respect to the speakers’ right of privacy. This is even more important as a lecture, in Ghanaian educational institutions, is not considered a “public domain text” (Reppen, 2010: 32). Any attempt to engage in surreptitious recording is perceived as a criminal act

(Bellés-Fortuño, 2009; Eley & Murray, 2009). Consequently, permissions and consents were obtained from the *willing* lecturers before the lectures were recorded (See Appendix A for the Letter of Request). Permissions were granted for the data to be used for research purposes only (See Appendix B for Consent Form). In all, 18 lectures were recorded: seven from Humanities, eight from Social Sciences, and three from Natural Sciences. The lectures recorded varied in duration, between 50-120 minutes. The lectures were recorded in the first and second semesters of 2015/2016 academic year.

The lectures were recorded, using an Mp3 digital recorder. Digital recorder, unlike an analog one, allowed the recordings to be easily stored. In addition, during transcription the transcriber could easily move back and forth, and also “edit out unwanted background noise or to prepare the recording for inclusion on a CD [compact disc] for distribution as part of the corpus” (Meyer, 2002: 60).

The recordings were done with permission from lecturers of the selected disciplines. Thereafter, I attended lectures to observe the lectures and to take notes of what Eslami-Rasekh et al. (2012) consider as events that may affect lecture delivery. Some of these factors are male female distribution, number of students, number of students’ interruptions, lecturers’ use of resources such as PowerPoint slides, handouts, visuals, etc. I transferred the data unto a computer and saved them as sound files. Subsequently, the recorded lectures were transcribed for onward processing into machine-readable corpus for the analysis. As noted on the consent

form, some lecturers requested copies of the transcripts and these were, per the terms of the *socio-academic contract*, sent to them.

Lecture transcription

The next stage to the recording of the lectures is transcription. The term *transcription* has a number of nuances, although some scholars think otherwise. Transcription is broadly defined as a process of representing language in another writing system. In this sense, it can be from speech to writing, sign language to writing, Braille to writing, and vice versa. However, in the narrow sense, it means a systematic representation of speech into a written form or converting a human speech into a text transcript.

Linguistically, there are two broad forms of transcription which are phonetic/prosodic and orthographic transcriptions (Meyer, 2002). The choice of a transcription type largely depends on either the purpose for the corpus or the purpose for which the transcription is sought. Generally, if the purpose is research then the research focus determines the transcription type. If one is doing a textual analysis of a grammatical category, then one will obviously require an orthographic transcription. If, however, one is interested in doing phonetic or phonological analysis of any segmental or suprasegmental feature of language, then phonetic transcription will be required.

Given the focus of this research, orthographic (rather than phonemic transcription) was preferred. There are a number of transcription systems or approaches with the commonest as narrow and broad transcription. The study

adopted the narrow transcription. The data were orthographically transcribed, using human transcribers rather than softwares such as Dragon Naturally Speaking, CMU Sphinx, Happy Scribe, Yap Speech Cloud, and MAXQDA, given that their inbuilt accents differ from the Ghanaian one.

A number of inter-transcriber reliability measures (See Figure 12) were adopted to ensure reliability and validity. For instance, when the three transcribers finished transcribing the lectures, I listened and transcribed the first five minutes of three lectures (one each from the DSs) to ascertain whether the transcripts were true reflections of the recorded lectures.

Several decisions were made in the transcription process, and these were largely inspired by the conventions used in International Corpus of English (ICE) markup manual for spoken texts (see Nelson, 1996). All utterances by extra-corpus speakers— what Nelson (1996) referred to as extended extra-corpus – were excluded from the used corpora. Extra corpus speakers refer to any speaker apart from the lecturer. These included students and other ‘non-discourse participants. In one instance, one lecturer announced that students reading his course should report at his office for their marked assessment scripts. Again, all forms of anthropophonics (e.g. sneezes, laughter, and coughs) were not included in the corpora as these are not lexical. More so, acknowledgements of certain personalities who accompanied the lecturer were elided. In one instance, I was acknowledged by a lecturer as follows:

We have one of our own here. He is a very dear friend and a brother. He is a lecturer, Department of Communication Studies and this afternoon he is here to listen to our lecture and so that, you know, take a line or two to help in a research work he is carrying out. So, Mr. ANON, you are welcome my brother (Philosophy Lecture).

Abbreviations, initialisms and acronyms were transcribed based on the way they speakers pronounced them. For instance, 'MTN', 'NPP' and 'NDC' were transcribed as they were pronounced, with spaces between them as 'M T N', 'N P P' and 'N D C' respectively. However, those that were pronounced as words (acronyms) were written as words as in 'POSA'.

In the lectures, there was code mixing/switching, where Ghanaian local languages were occasionally used by the lecturers. In such cases, the *foreign* languages aside from the default academic lingua franca, the English Language, were maintained. The local languages were retained albeit anglicised as some of the letters in some of the Ghanaian languages are not usable characters in English. In such a situation, the translated versions were put in \diamond as in <no yakyere mo?><have we taught you?> (in *relhumanucc0001*). The lectures also contained some Ghanaianisms, to wit, "vocabulary item peculiar to Ghana" (Dako, 2002: 48). These were transcribed as they were pronounced. All these add to the naturalness of the corpus. Some of these Ghanaianisms in the corpus include 'Chrife' (a Christian fanatic); informal abbreviations (e.g. 'cos' for *because*), and university slang such as 'sem' for *semester*.

Aguilar (2008: 12) recounted: ‘when a chunk of speech exclusively contained numerical content and formulaic language, that bit was not transcribed’. But contrary to this –following Rounds (1987b) – numerals and mathematical or scientific formulae were transcribed as they were spoken in lectures. All these are part of the features that typify a disciplinary discourse community and distinguish it from others. Thus, refusing to include them in a corpus claimed to be representative of a discipline or DS amounts to ‘de-naturalizing’ the corpus. Hence, ‘x squared minus seven x plus twelve is less than zero’ was used instead of $X^2 - 7x + 12 < 0$ while ‘point one’ was captured instead of $.1$. These and several other things that must be considered give credence to Bellés-Fortuño’s (2009: 915) observation that “academic spoken discourse is very complex”. This is probably part of the factors that deter people from compiling spoken corpus themselves, thereby resorting to already existing ones.

As a strategy to anonymize the corpora, all personal names of speakers were replaced with ‘ANON’. However, honorific titles such as *Mister*, *Prof.* and *Doctor* were maintained and transcribed as spoken and so there are instances of ‘Doctor/Prof ANON’ in the corpora. It should, however, be noted that names used as part of in-text citations in the lectures were retained as in “According to Wiredu and Mbiti...”. These were retained as they were employed as evidentials, in metadiscoursal sense (Hyland, 2005a & b). Again, institutional names serving as toponyms, such as University of Cape Coast, Kwame Nkrumah University of Science and Technology, etc. were retained.

Next, the corpus was ‘cleaned up’ to edit out ‘transcriber-made’ typographical mistakes such as *settelemet* for *settlement*. However, *original* speaker-engineered ungrammaticalities as well as repetitions were retained in order to maintain the naturalness of the corpus.

Furthermore, a file naming convention was adopted. The structure is: discipline + supercommunity + institution + number, to wit, the lecture for Biology (bio) from NS (natsci) from Kwame Nkrumah University of Science and Technology (knust) being the first lecture was labelled ‘*bionatsciknust0001*’. Institutional labels are introduced because the corpus may be used for studies with institutional variation in mind. This is in line with Meyer’s (2002) advice that corpus compilers must have the future in mind. Extracts from the subcorpora were coded as HSC, SSC and NSC for Humanities, Social Sciences, and Natural Sciences respectively. Thus, an extract from NS subcorpus was, therefore, numbered as ‘NSC 0001, 0002, 0003...’. More so, in the analysis, speakers from HS, SS and NS were labelled as HSL (Humanities Lecturer), SSL (Social Sciences Lecturer) and NSL (Natural Sciences Lecturer). Table 5 shows the codes used in compiling this corpus.

Table 5: Interpretation of Codes Used in Corpus Design

Code	Interpretation
KNUST	Kwame Nkrumah University of Science and Technology
UCC	University of Cape Coast
HSL	Humanities Lecturer
SSL	Social Sciences Lecturer
NSL	Natural Sciences Lecturer
Natsci	Natural Sciences
Ele	Electrical Engineering
Mat	Mathematics
Socsci	Social Sciences
Psc	Political Science
Com	Communication
Law	Law
Efn	Educational Foundations
Human	Humanities
Eng	English Language
Phi	Philosophy
His	History
Rel	Religious Studies

Speech, unlike writing, is segmented by intonation (Meyer, 2002). So in the transcription, punctuations were introduced to make the text readable and comprehensible. The following punctuation marks were, therefore, employed: full stop for end of sentence, comma for pause, apostrophe for contractions and genitives/possessives, capitalization for proper nouns and sentence beginnings, hyphens for hyphenated words, question marks for interrogatives and exclamatory mark for exclamatives.

Another important decision I took concerned disregarded data (Ädel, 2010). Given that the study focused on the original words of the lecturers, the speech of students, direct quotations, and instances of 'mention' rather than 'use'(e.g. PPs

include *I*, *you*, and *we*) were disregarded. Besides, silences (be it administrative, strategic, or empty/haphazard, see Rounds, 1987b) and pauses were ignored. See an instance of student submission:

SSS: Sir please, erh I get the part that we have to discuss but I was thinking that the beginning of the semester, we started something like after we have read and people have asked questions, you used to give a little bit of summary so that as because some of us try we want to write but they can't write it. [comsocsciucc0001]

Following Adel (2010), this was done to obtain lecturer-only lecture corpus. Thus, all the tri-PP examined in the analysis and discussion chapters (Chapters 5, 6 and 7) are products of lecturers from the respective disciplinary supercommunities.

Finally, texts for each lecture were put in separate files as 'it is easiest to save individual texts in separate files stored in directories that reflect the hierarchical structure of the corpus' (Meyer, 2002: 67). Thus, texts for a lecture were saved as a file, and files for the same discipline were put in a subdirectory while disciplines in a DS were put in a directory.

Searching the subcorpora

First, a prelist of personal pronouns (PPs) was prepared (See Table 1). In this study, PPs encompass *I*, *we*, *you* and their respective variants or subjective, objective, possessive and reflexive cases (See Cheng, 2012; Yaakob, 2013). But while the present study and some previous ones such as Cheng (2012) and Yaakob (2013) consider variants of the tri-PP, the present one considered the possessive forms as well. In fact, the possessive forms are used rhetorically like their variant

counterparts and so it is quite baffling why most of the previous studies (e.g. Yaakob, 2013; Zhihua, 2011) did not account for them. Instances of the possessive pronouns are provided in the screenshot in Figure 10:

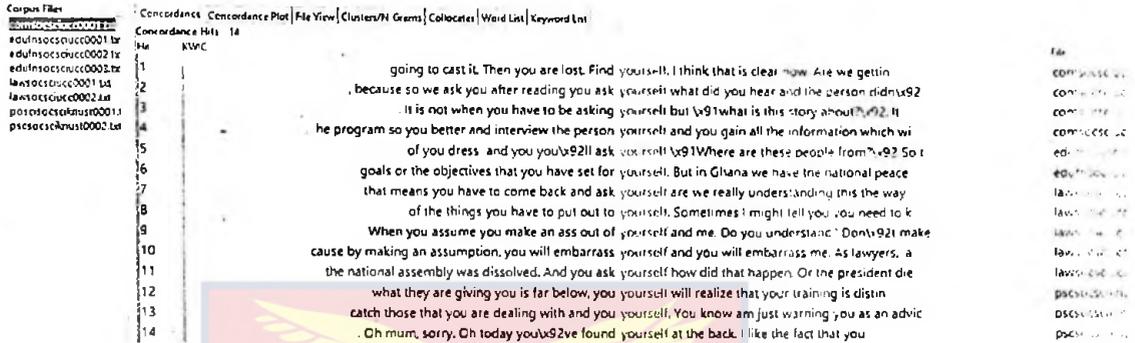


Figure 10: Sample of concordance output of yourself SSC

Figure 10 shows that possessive pronouns (e.g. *yourself*) constitute part of the rhetorical repertoire of classroom lectures. The inclusion of all the variations of the tri-PP, therefore, presents a global and true picture of their use in the subcorpora. Yeo and Ting (2014: 29) mentioned only “variations in the form of objective and possessive cases of the first person singular (e.g. me, my), first person plural (e.g. us, our) and second person pronoun (e.g. your) were not counted as the occurrences of these items were infrequent in comparison”. These factors affect the comparability of studies such as mine and previous studies that disregarded what I have considered.

Based on the prelist, the concordance tool was used to run a search for individual PPs in the three subcorpora (For a detailed discussion on how a concordance is applied, refer to Wynne, 2008). The concordance provided all the

- a. Alphabetically by node (which is only relevant if there is some variation in the node word, such as when wildcards have been used, or when there have been multiple search terms, or search by word class or lemma, etc.);
- b. Alphabetically by co-text; words in certain positions around the node word, e.g. one word to the right or left of the node;
- c. Annotations (e.g. grouped together by word class tag, or user-defined annotations);
- d. Metadata categories (e.g. text type, sex of speaker)

Wynne (2008) notes that more than one criteria can be used if it inures to a researcher's benefit. In this study, however, the second criterion was deemed appropriate as it provides useful co-text and context for the tri-PP in order to ascertain their appropriate referents, and discourse functions.

Both quantitative and qualitative approaches were adopted to explain the use of the PPs across the disciplinary supercommunities. The qualitative analysis involved close examination of concordance lines to ascertain the discourse function and reference of the tri-PP found in the subcorpora under analysis. This is in accordance with the "principle of local interpretation" (Baker et al., 2008: 279) which enjoins an analyst to import a linguistic item within its immediate context.

For Research Questions 2 and 3, manual analysis was undertaken to examine the discourse reference and function, as these are context-sensitive, and that an item in a different context may perform a different function. All cases of *I*,

you and *we*, and their corresponding variants were searched and examined to ascertain their semantic referents and discourse functions. The discourse functions and referents were, however, determined based on the contextual and co-textual information surrounding the PPs. I manually undertook this and closely examined the concordance lines of each of the tri-PP. The manual analysis was necessitated by the fact that the software could not directly reveal the semantics and pragmatics of the PPs (e.g. Adel, 2006).

The discourse referents focused on lecturer-student positioning (Dafouz & Nunez, 2007) in disciplinary discourse communities. Further, in identifying the referents of the PPs the discourse contexts were observed (Yeo & Ting, 2014; Zhihua, 2011) and “the collocating verbs associated with the pronouns were analysed to obtain contextual and linguistic cues” (Yeo & Ting, 2014: 29). Adel (2010: 79) observes: “there are oftentimes contextual clues present in the data which reveal something about the scope of a pronoun” –which is corroborated by Gomez (2006).

Scholars, such as Adel (2006) and Hyland (1998), argue that rhetorical devices have polypragmatic purposes. Therefore, one linguistic variable can perform a number of discourse/pragmatic functions concurrently. It is noted that multifunctionality characterises pronominal registers, and rhetorical phenomena such as stance, evaluation and metadiscourse (Adel, 2006; 2010; Hyland, 2005a & b; Yates & Hiles, 2010). In the present study, regarding the referents of PPs, I upheld the principle of monofunctionality such that where a PP appeared to have

multiple referents, I resolved that with the intercoders until we reached a consensus (see Figure 12 for strategies of triangulation adopted in this study).



Normalizing raw frequencies

The raw frequencies of the tri-PP were normalised for comparable analysis across the three DSs. The essence of this was to create “frequency thresholds” (Baker et al., 2008: 277). This enabled me to create a balance in the frequency analysis of the tri-PP. Normalizing the subcorpora did not negatively affect my adherence to the “principle of total accountability” (Leech, 1992: 112), an attempt to account “for all the corpus instances of the linguistic phenomena under investigation” (Baker et al., 2008: 275). In effect, the normed frequency (NF), rather than raw frequency (RF), provided fairness and statistical balance in the analysis given that the subcorpora had different sizes (See Table 8, Chapter 4).

Normed frequency (NF), according to McEnery and Hardie (2012), is obtained by dividing raw frequency (RF) by the total corpus size (CS), and then multiply by the normalization base (NB). The formula can be stated as:

$$NF = \frac{RF * NB}{CS}$$

The base is determined by the size of the corpus. The NB for this study is 10, 000 as the sizes of the subcorpora were between 30, 000 and 45, 000. The NFs were computed, using Saberi’s (2017) normalized frequency calculator, which is freely available at <http://www.writeabstract.com/calculator.php>. This calculator was designed by Saberi purposely for this research, in response to a request I posted on researchgate.net on 16/02/2017 (<https://www.researchgate.net/post/Is-there-any-software-for-normalizing-different->

sized corpora in corpus linguistics. The software calculates the normalised frequencies of two subcorpora. Besides, it also computes the corpus to corpus ratio which "...indicates how many times more often our token or type occurs in the corpus in which it is more frequent than in the one in which it occurs with lower frequency" (Bender & Wassink, 2012, Slide 7).

Test for statistical significance

Mcenery and Wilson (2001) and, quite recently, Lijffijt, Nevalainen, Saily, Papapetrou, Puolamaki, and Mannila (2016) note that significance tests abound in corpus linguistics. These tests include the chi-squared test (X^2), bootstrap test, the t-test, the log-likelihood ratio test, inter-arrival time tests, Mann-Whitney test, and the Wilcoxon's rank sum test. A test for significance affords us a degree of certainty. This indicates that difference realised between, for example, the distribution of *I* across the disciplinary discourse communities was not due to mere chance (Mcenery & Wilson, 2001).

In computing the figures, I used the Unit for Computer Research on English Language (UCREL) log-likelihood wizard/calculator designed by Paul Rayson at Lancaster University (freely available at <http://ucrel.lancs.ac.uk/llwizard.html>). It enables the corpus analyst to undertake a test of significance between two corpora, or subcorpora, using raw (not normed) frequencies. There are several levels of significance such as

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

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

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

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

<http://ucrel.lancs.ac.uk/llwizard.html>)

I, however, used 95th percentile; 5%; $p < 0.05$, with log-likelihood value = 3.84 as the “cut-off point of statistical significance” (Baker et al., 2008: 277). So the LL value, 3.84, was used as a benchmark for statistical significance in observed frequencies in the distribution, referents and discourse functions of the tri-PP. This implies that the LL of two compared DS must be above 3.84 (at $P < 0.05$) before the difference can be adjudged to be statistically significant. So, the difference in *I as a representative* role (see Table 39) is statistically significant for HS vs NS (7.72) and SS vs NS (5.14) since their LLs are all above 3.84. On the other hand, the difference between HS and SS (LL 0.42) is statistically not significant because the LL is below the cut-off point, LL 3.84.

Measures for reliability

Personal pronouns are considered subjective phenomena (Ädel, 2006; Hyland, 2002a & b, 2005b). Thus, it may be ineffective to study the ‘subjective’ subjectively. To reduce and, if possible, eliminate this inherent subjectivity in investigating such fuzzy phenomena like the tri-PP, I adopted some strategies to control it (the subjectivity): intra-rater reliability test, inter-rater reliability test and peer debriefing (Creswell, 2003).

Both intra and inter-reliability strategies were adopted as approaches to counter-check assigned discourse referents and/or functions of the tri-PP. As an intra-rater, I checked the concordance lines twice to be sure that the assigned referent and functions of the tri-PP were accurate. See the extract below:

SSL: I have a student from years back erh? You see his name you think he is white man. [SSC 0001]

Based on the contextual clue (the presence of the tense of the verb *think*), I assigned 'one' as the referent of the underlined *you*. But I later revisited it and re-assigned 'lecturer' as the referent. It seems the speaker, generally, prefers the historic past, and there recounted personal narratives not from historical perspective (Querol-Julian, 2011). So, he said 'I have a student from years back' and 'see' most likely makes the referent of *you* 'lecturer'. So I made it *lecturer*. The sentence could be recast as:

I had a student from years back erh? I saw his name I thought he was white man.

The rhetorical function of this structure could be that the lecturer sought to provide a personal anecdote or narrative (Querol-Julian, 2011). Of course, given that it is still the same person, a 'compromise' regarding the use of intra-rater seemed inevitable.

Additionally, inter-raters were used. Arguably, the degree of objectivity associated with the use of inter-raters is higher than intra-rater. Two Teaching Assistants (TAs) with degrees in English Language (one of whom was among the transcribers) were engaged. After they had been briefed on the focus of the research

and the criteria for identifying the discourse referents and functions of the tri-PP, the first 20 concordance lines on each tri-PP (*I*, *we* and *you*) from the subcorpora were given to them. They were each tasked to work independently, as I also worked on same. There were some disagreements about the referents and functions of some of the tri-PP. The issue of polypragmatic reference and functions also came up as some tri-PP were deemed to have multiple references and functions. Particularly, on *we*, the inter-coders felt that a number of them referred to ‘lecturers’ and, therefore, collective *we* –a type of exclusive *we* which indicates plurality of speakers (Quirk et al., 1985). I, however, explained the situational characteristics (see Biber & Conrad, 2009) of the lectures included in the subcorpora that none was co-taught. This explanation helped resolve the disagreement. The inter-coder reliability scores for discourse references of the tri-PP are presented in Table 6 below.

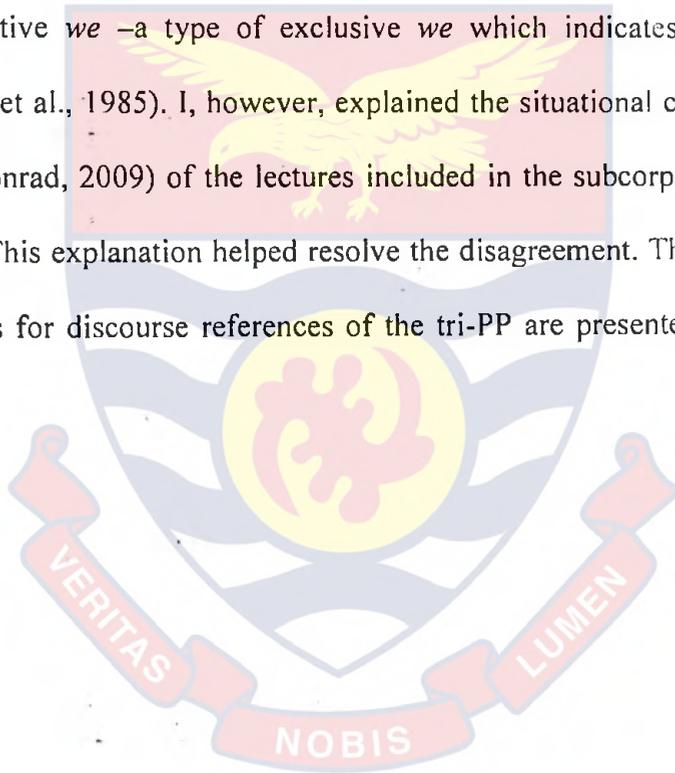


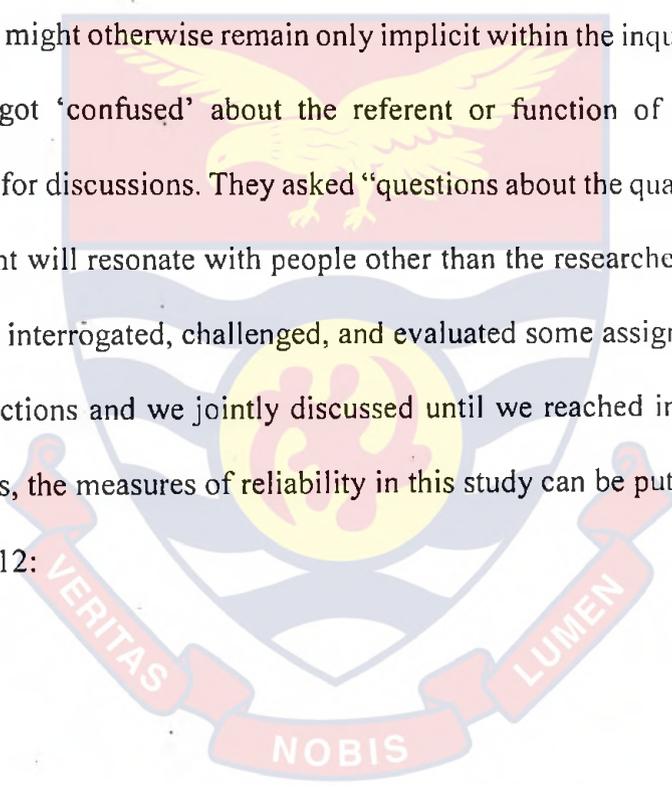
Table 6: Inter-rater Reliability Scores for Reference of the Tri-PP

DS	Tri-PP	Inter-rater scores	Reliability
HS	I	85.1%	
	We	92.3%	
	You	89.0%	
SS	I	87.2%	
	We	94.4%	
	You	88.1%	
NS	I	84.7%	
	We	94.8%	
	You	90.7%	

Table 6 shows that the inter-rater percentages for identifying the referents of the tri-PP ranged between, approximately, 85 and 95. The high inter-rater scores can be attributed to the transcribers' involvement in the data recording (especially, lectures from KNUST), transcription, and the fact that they all held in B. A. (Hons) degrees in English Language.

Besides the conventional role of inter-raters, I used them as 'statistical raters' to ascertain the accuracy of the figures in the numerous tables in the work. This became necessary when I noticed that I had interchanged the scores for some of the variables (the tri-PP) in some of the tables. This could have had a negative effect on the reliability and validity of the findings. Thus, the statistical raters also calculated and collated their figures and I used that as a form of triangulation.

In the course of the analysis, some difficulties consistently arose about the discourse reference and function of some of the pronouns as the inter-coders worked on just a portion of the subcorpora. I, therefore, engaged two co-PhD candidates at UCC, and co-lecturers in the Department of English (KNUST). They served as peer debriefers. Guba (1985: 308 cited in Barber & Walczak, 2009) defined peer debriefing as “the process of exposing oneself to a disinterested peer in a manner paralleling an analytic session and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer’s mind”. So, whenever I got ‘confused’ about the referent or function of the tri-PP, I approached them for discussions. They asked “questions about the qualitative study so that the account will resonate with people other than the researcher” (Creswell, 2003: 196). They interrogated, challenged, and evaluated some assigned discourse referents and functions and we jointly discussed until we reached intersubjective conclusions. Thus, the measures of reliability in this study can be put in a cline, as shown in Figure 12:



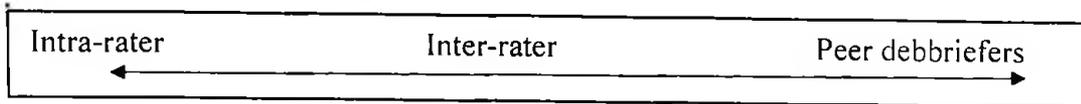


Figure 12: Continuum of measures for reliability

Figure 12 shows the degree of reliability measures employed to reduce subjectivity characteristic of the variables under investigation. Generally, these strategies of triangulation have significantly improved the credibility of this study.

Analytical Framework

This section of the study discusses the analytical frameworks that guided the analysis in the study. It provides a trajectory of models on the discourse referents and functions on *I*, *we* and *you* in order to provide justification for the choice of Zhihua (2011) and Tang and John (1999) models.

Models on semantic referent of *I*, *You*, and *We*

Huddleston and Pullum (2005) noted that a pronoun, generally, and particularly, a personal pronoun “substitutes for, cross-refers to other expressions”. (p. 100). Anderson (2007) further stresses that “pronouns have no meaning in themselves, but merely refer to nouns, just like a *use* in a book” (p. 10). Brown and Yule (1983) proposed five indicators or signals to determine the referent of a pronominal: (a) an antecedent nominal expression, (b) and/or an antecedent predicate expression, (c) and/or an implicit antecedent predicate, (d) and/or the ‘roles’ of antecedent nominal expressions, and (e) and/or the ‘new’ predicates attached to the pronoun. The signals (a) – (d) can be labelled as explicit discourse

internal pronominal referent indicators, as the pronoun's nominal entity must have been cataphorically or anaphorically stated in the text (Ajayi & Filani, 2014, Huddleston & Pullum, 2005; Leech, 2006). This category supports the "textual substitution" (Wales, 1996:2) notion which "implies that who or what the pronoun 'refers' to is thus 'known' from the co-text" (Wales, 1996:2). Halliday and Hasan (1976), in this case, noted that the pronoun under consideration has an endophoric (or textual) reference.

The last condition (lettered 'd' above) can also be described as a tacit discourse internal pronominal referent indicator. Ajayi and Filani (2014) expressed that this "caters for instances where a pronoun occurs in text without previous mention of the antecedent of the pronoun" (p. 124). Ajayi and Filani (2014) failed to add that the *referent* can also come after the pronoun. In this case, contextual clues are resorted to as Ogunsiji (2007: 118) expressed: "the choice of a pronominal form is not made arbitrarily but it depends on sociolinguistic and discourse rules which are context sensitive and depict the level of sociolinguistic and discourse competence of the speaker(s)". In this regard, therefore, Carter-Thomas and Chambers (2014) also maintain that when speakers *encode*, "it is then left for the hearer to determine the precise reference, by searching for a right referent which would support a meaning yielding the right contextual effects" (p. 126). Discourse analysts, therefore, draw on several competences such as pragmatics, discourse, sociolinguistics and linguistics (Thomas & Chambers, 2014; Ädel, 2006; Hyland.

2005a) in determining the referents of PPs. Wales (1996) opined that PPs have syntactically predetermined referent.

Semantically, it is easier to say that *I* is the alternative to the NP *the speaker*, and *you* to the NPs such as the *addressees/listeners/reader(s)*; or deictically, to say that *I* refers or points to “the one who is speaking” and *you* to “the one who is listening/reading” (Wales, 1996: 3).

While Wales (1996) stresses the semantics of PPs, she fails to recognise the polypragmatic functions that they play in different contexts. Her view is purely theoretic, and is not empirically supported. Like Ädel (2006), Ajayi (2014), Dontcheva-Navratilova (2013), Leech (2006), Martin-Martin (2003), Munoz (2013a & b), Nunez & Sancho (2007), Yeo and Ting (2014) and Zhihua (2011), this study recognises the contextual (multi-functional) or polypragmatic functions of PPs.

In sum, in addition to what the pronoun refers to intratextually, “what the producer of the text uses the pronoun to refer; that is, the intention of the speaker/writer...on the particular occasion of use” (Carter-Thomas & Chambers, 2014:125) is also considered.

Zhihua’s semantic model of *I*, *we* and *you*

Based on a lecture-student input lecture corpus, Zhihua (2011) provides a model of referents for the first person singular pronoun *I*. From the speaker

perspective, Zhihua (2011) identified five referents of *I*. I present these with corresponding examples in Table 7. Examples are picked from Zhihua (2011).

Table 7: Semantic Referent Model of *I* (Zhihua, 2011)

S/N	Semantic referent	Extracts from Zhihua (2014)
Lecturer as speaker referents of <i>I</i>		
1.	Lecturer	just before exams occur, there will be a review session that I will do and...
2.	Anyone in the field	okay so when i'm doing a piece of research, involving precipitation, i take out a species and i replace it with a species whose behaviour i know
3.	Lecturer + students (=we)	we'll look at each one, at each point we'd say okay is, A-sub-current, the one i'm currently looking at, is that less than A-sub-small?
4.	Students (=you)	now some of you i can see are smiling and saying well probably i know this stuff already but fine be patient,...
5.	Other (personified objects)	okay if i'm an element in a family seven-A, like F, which is fluorine has seven outer electrons, i'm going to gain one that's going upset my electrical neutrality by giving me a negative one, charge, and...
Student as speaker referent of <i>I</i>		
6.	Student (speaker)	No extract

Although Zhihua (2011) did not thoroughly examine student-as-speaker *I*, his attempt is novel. The reason is that models on the discourse referent of *I* (e.g. Ädel, 2010; Yaakob, 2013; Yeo & Ting, 2014) did not provide such a two-pronged view

as Zhihua (2011) did. In this study, the reference of *I* will be looked at from the perspective of lecturer-as-speaker.

There are a number of models on the semantic referent of *we* (e.g. Fortanet, 2004; Kuo, 1999; Rounds, 1987a & b). In syntax, traditional grammarians label *we* as the plural counterpart of the first person singular *I*. But this syntactic view does not suffice semantic analysis of *we*, as the grammar and semantics of *we* are entirely different. There is an inclusive-exclusive *we* model (Quirk et al., 1985, Wales, 1996). Generally, inclusive *we* and exclusive *we* respectively indicate inclusion or exclusion of the addressee. Inclusive *we*, what Quirk et al. (1985: 350) termed *inclusive authorial we*, includes the speaker and the audience, thereby making a discourse collaborative (Morell, 2007) and participatory (Davis, 2007). So, when a lecturer said “It is not a subject that *we* will do in this semester” (NSC 1), he/she was referring to himself/herself plus the students. Brown and Levinson (1994) in their politeness theory associated this kind of *we* with positive politeness. *Exclusive we*, on the other hand, refers to the speaker only. In this sense, it has a +speaker – audience feature.

Quirk et al. (1985) provide a subtype of inclusive *we* as *rhetorical we* which generally refers to a group of people (like political party) plus the speaker. Wales (1996) further provides subcategories of *exclusive we*. She has collective *we*, which refers to several speakers/writers; and editorial *we*, which refers solely to the speaker. Hence, it is used in place of *I*. As Quirk et al. (1985: 350) explained, the “desire to avoid *I*, which may be felt to be somewhat egoistical” is the motivation

for using the editorial *we*. Although the model differs from the traditional syntactic sense of *we*, it appears overly simplistic as there are several nuances of *we* in a discourse context that the model overlooks. Its explanatory power is, therefore, limited as it does not account for so many semantic imports.

In his pioneering study on PPs in lectures, Rounds (1987b) built upon the exclusive-inclusive *we* referent model and introduced three more types of *we*. These are: (1) *we* for lecturer, (2) *We* for students and (3) *We* which can be substituted by indefinite *one*.

There is also another model by Ädel. She has the dipartite model like the exclusive-inclusive model. Her model talks about metadiscursive *we*, what she claimed Quirk et al. (1985) call *inclusive authorial we*, and *non-metadiscursive we*. Quirk et al.'s (1985) *inclusive authorial we* is not the same as what Ädel (2006) calls *metadiscursive we*. By metadiscursive *we*, she means *we* with a +speaker and + audience feature that is within the discourse internal world (Ädel, 2005; Hyland, 2005a & b). This concerns the persona of the speaker and the audience as discourse participants. But Quirk et al. (1985) do not refer to the externality or internality of the world of an ongoing discourse. So their terminology encompasses Ädel's (2006) two *we* types. She identifies a subtype of metadiscursive *we* called *we the audience type* (Ädel, 2006: 32) which has –speaker and +audience feature and alludes to the audience in the world of the ongoing discourse. Non-metadiscursive *we*, on the other hand, also has + speaker and + audience feature but it makes reference to the identity outside the ongoing discourse. In effect, Ädel's (2006)

model concerns only the inclusive *we*, so her model can best be termed as types of inclusive *we*. She identified a subgroup of non-metadiscursive *we*, termed *we the audience type*. Ädel (2006: 32) noted that this “*we* is equivalent to ‘*we the audience*’”. This subtype of *we* has a –speaker feature but has + audience feature and is outside the world of the ongoing discourse.

Quirk et al. (1985) also provide a model for the use of the first person plural pronoun, *we*. They talk about five main referents of the person pronoun *we*: inclusive authorial *we*, editorial *we*, rhetorical *we*, *we for you* (e.g. *How are we feeling today?*), and *we for he*. A sixth referent is also mentioned as royal *we*; that is, *we for I*. The inclusive authorial *we* is used to include the speaker/writer as well as the audience. Quirk et al. (1995: 350) noted that, in this sense, *we* seeks to involve the reader in a joint enterprise. They argue that the use of this *we* makes a speaker appear unauthoritative and formal. The next referent is the editorial *we*. In a research paper, this is used by writers in place of the first person singular pronoun *I*. They explained that the use of this type of *we* is “prompted by a desire to avoid *I*, which may be felt to be somehow egoistical” (p. 350). More so, rhetorical *we* is “used in the collective sense of ‘the nation’ and ‘the party’” (p. 350). Quirk et al. mention that the rhetorical *we* “may be viewed as a special case of the generic use of *we*” (p. 350).

It should, however, be noted that rhetorical *we* is different from collective *we* (Quirk et al., 1985). Collective *we* is a subtype of exclusive *we* and indicates plurality of the speakers/writers. So, in a lecture when there are two teachers

involved [which is said to be common in UK universities (Yaakob, 2013)] and one says that *Both of us will walk you through concord in English language*, *we* here is collective. There is also *we* for *you* (hearer or reader). This is used by a speaker to *share hearers' concerns* with them. They cited an example *How are we feeling today?* in doctor-patient interaction. In this sense, the doctor seeks to share the patient's worry with him/her. The penultimate one is *we* for *he/she*. This type is peculiar to Quirk et al.'s (1985) model of *we* referents. They cite an example as one secretary saying to another, *We're in bad mood today*, when *we* refers to the boss. They mentioned *royal we*, which according to them, is used by a monarch. Brown and Gilman (1960) thus justified the *we*-type used by monarch or emperor that they embody implicit plurality. I really see no difference between the royal *we* and the inclusive authorial *we*. We know that it is situational context (Quirk et al., 1985) and/or discourse functions (Zhihua, 2014) that provide clues about the reference of a pronoun. It is, therefore, not based on the status of the speaker or writer. If so, then there will be *apostolic we*, *professorial we*, and *presidential we*, depending on the status of the speaker. Obviously, this consideration will not provide a useful and elegant model for analysing PPs' referents.

In his study on PPs in university lectures, Zhihua (2011) proposed a *bidirectional* semantic referent model of *we*. I describe it as bidirectional because Zhihua looks at referents of *we* when the lecturer is the speaker, and when a student is the speaker. See Table 8 for referents of *we*.

Table 8: Semantic Referent Model of *we* (Zhihua, 2011)

S/N	Semantic referent	Extracts from Zhihua (2011)
Lecturer as speaker semantic referents of <i>We</i>		
1.	Lecturer (=I)	the problem is that we cant cover that in this course. okay we don't cover recursion...
2.	Students (=you)	now in some cases you're going to have a discussion and you don't have one yet that's graded that's officially on material that we did on the exam...
3.	Lecturer + other people (in the field)	with the struct actually we , open up a whole new, uh group of possibilities in programming. most dynamic data structures are set up with structs...
4.	Lecturer + students	ok here's some interesting C codes. ... let's compile them. ...okay here we go. and we get this funky error message which says...
5.	Anyone in the field	we're doing absorption, or stripping columns packed columns. we have fluid flowing no equilibrium stages we want transfer between the two phases...
6.	Anyone (general people)	but it's not going to liquefy. not with the source of heat that we have in our, typical kitchens, why?
7.	Other (e.g. All labs or precipitation)	therefore , uh we're gonna give you some time this week for all the labs to catch up so we'll be together
Student(s) as Speaker(s) Referents of <i>We</i>		
8.	Student (speaker) + other speakers	No example given
9.	Student (speaker) + whole class	No example given

There are some merits of Zhihua's (2011) model. It is based on academic lectures from Michigan Corpus of Academic Spoken English (MICASE). Again, it is grounded in a multidisciplinary lecture corpus. Unlike the previous models such as Rounds (1987a & b), and Yeo and Ting (2012), Zhihua (2011) provided a two-

edged sword model from the perspectives of both lecturers and students. His model is based on full-lecture corpus, unlike the previous one which is based on lecture-part corpus, like introduction. In the present study, I build a corpus considering inputs of lecturers only; hence, Zhihua's (2011) typology becomes the appropriate option.

The *other* subcategory under the lecturer-as-speaker referents (See Table 8) is indeterminate. Zhihua (2011) did not specify the *we*-types that may fall into that category. He should have employed inter-raters to resolve this issue of indeterminacy.

Grammatically, *you* is considered a second person pronoun which is a dual pronoun, in that it can be singular or plural. Crawford Camiciottoli (2005) provided a dipartite referent model of *you*: *you-audience* which, refers to the audience; and *you-generalised*, for referring to an indefinite referent. Webber (2005) refers to *you generalised* as *impersonal you*. Yeo and Ting (2014) opine that this *you* type can be substituted by *they* or an indefinite subject like *people*. Zhihua (2011) grounded a model of *you*-referents from the lecturer and student perspectives. See Table 9 for details:

Table 9: Semantic Referent Model of you (Zhihua, 2011)

S/N	Semantic referent	Extracts from Zhihua (2011)
Lecturer as speaker referents of you		
1.	Student(s)	while you're studying for the final, uh to work through this by hand and just =, go through the algorithm yourself with a piece of paper.
2.	Anyone in the field	when you compile code you get all these crazy error messages and you look at them and you say what the hell does that mean.
3.	Anyone (general people)	you do hear things like, a patient record or a student record, uh if you go into the register you might wanna find out something
4.	Lecturer + students(-we)	uh as we saw with that...now one thing to notice is that, if you trace through this code with ...basically you go through the whole thing anyway.
5.	Lecturer(=I)	i will hit enter once, it'll tell you a hundred and seven is prime and quit.
6.	Other (personified objects)	...but the scan-F easily looks at A-W-F semicolon oids and says, you are not a number.
Student(s) as Speaker Referent of you		
7.	Lecturer	No extract
8.	Anyone in the field	No extract
9.	Lecturer + students(=we)	No extract

In this study, I deem Zhihua's (2011) model appropriate as its reports more referents than the others.

Models on the discourse functions of PPs

This section reviews models on author-pronoun discourse functions in order to justify the choice of Tang and John's (1999) which guided the analysis.

Research on PPs in discourse has established two universal pragmatics-oriented principles. One of the principles recognises that PPs, far beyond the syntax-oriented and semantics-oriented roles, enable speakers to instantiate the functions that speakers want their utterances to reflect (Munoz, 2012; Hyland, 2001a; Ortega, 2006). Carter-Thomas and Chambers (2012: 4) confirmed that “first person pronouns are used to fulfil a wide range of rhetorical functions”. The next principle is that “personal pronouns are multi-functional in their roles in different contexts, which is similar to a kind of polysemy” (Wales, 1996: 7). This has been further highlighted by Ädel (2006) and Hyland (2005b) that metadiscursive structures perform polypragmatic functions. These principles underpin the extant models on “pronominal discourse function” (Munoz, 2013a: 218; 2013b: 49). Some of these models are Alayi and Filani (2014), Dahl (2009), Fløttum (2006). Hyland (2001a, 2002a & b), Ivanic (1998), Kuo (1999), Lafuente-Millan (2010) whose model is a build-up of Hyland’s (2001a) typology; Martin-Martin (2003), Tang and John (1999), and Yeo and Ting (2014).

Quite recently, Yeo and Ting (2014) provided a discourse function typology of *I*, *you* and *we* based on a corpus of Arts and Science academic lecture introduction. The study yielded ten functions of PPs in academic lectures. Yeo and Ting (2014) assert that PPs are used to activate students’ prior knowledge; give instruction or make announcements; direct students’ attention and arouse the interest; share personal experiences and views; state aims and objectives; explain concepts; establish link with previous lecture; check students’ understanding; and

engage in small talk. Unlike the other older models on pronominal discourse function, Yeo and Ting's (2014) model is based on spoken corpus, particularly academic lectures. Although this model differs from the previous one in terms of the genre, mode of corpus and approach, it would have been far enriched if the researcher had demonstrated knowledge of the previous models. For instance, their 'shared previous experiences and views' is equivalent to Li's (2011) *I as a recounter of previous experience* and possibly Tang and John's (1999) *I as a recounter of research process*.

Based on abstracts of research articles (RAs), Martin-Martin (2003) also proposed a model of the discourse function of the authorial *I*. The model comprises five roles of author pronouns: describer of the research, experiment conductor, opinion holder, cautious claim maker, and fully-committed claim maker. This model is similar to Tang and John's (1999) in several respects. First, it is based on written corpus in academic discourse, second, it provides a hierarchy for the "degree of authorial presence" (Martin-Martin, 2003) or a "cline of authority in the expression of authorial presence" (Hyland, 2002a: 1099). Further, some of the categories converge with those in Tang and John (1999). For instance, *opinion holder* exists in both models. Again, Martin-Martin's (2003) *experiment conductor* is akin to Tang and John's (1999) *recounter of research process*, as they both "recount the various steps of the research process" (Martin-Martin, 2003). The similarities in the two models suggest that Martin-Martin's (2003) model is probably a modification of Tang and John. Unfortunately, Martin-Martin (2003)

did not demonstrate explicit awareness of Tang and John's (1999) model, although he mentioned it as one of the studies on interaction in academic discourse. This reveals his unfamiliarity with the literature on the typologies of pronominal discourse function. However, his introduction of cautious claim maker, and fully-committed claim maker which respectively correspond to hedges and boosters in metadiscourse frameworks (Ädel, 2006; Hyland, 1998, 2005b) is novel.

Hyland (2002b) provided a four-model typology of discourse function of what he termed author pronoun or self-referential pronouns. The model explains what was done, structuring the discourse, showing a result, and making a claim as the roles of PPs. In a separate paper, Hyland (2002a) proposed a five-model discourse function taxonomy of self-referential pronouns. This model also contains: explaining a procedure, stating results or claim, elaborating an argument, stating a goal/purpose, and expressing self-benefits. Both models (Hyland, 2002a & b) were based on varied corpora. While Hyland's (2002b) model is based on only students' project work, Hyland's (2002a) model is based on both subcorpora from written (project work) and oral (interview) of students and supervisors. It is not clear which of the papers was published first, given that there is absence of self-citation of one of the papers in the other. What is quite baffling here is Hyland's silence on the difference between the two models and what accounts for the difference. That notwithstanding, both models appear useful, especially, for studies on written academic registers.

Based on Hyland's (2002a) model, Lafuente-Millan (2010) developed a typology comprising seven roles of exclusive *we*. His involves structuring the information, stating a goal, explaining a procedure, stating expectations, expressing strengths or limitations, stating results, and making claims. Unlike Dahl (2009), Fløttum (2006), Tang and John (1999), and others who provided a verb-oriented principle for identifying the discourse function of PPs, Hyland (2002a & b) and Lafuente-Millan (2010) do not provide a clear-cut relatively objective principle for determining the discourse function of a pronoun. Although, Hyland (2002a & b) admitted that PPs are context-dependent and sensitive and, therefore, require the consideration of certain contextual clues, he does not explicitly outline the clues he uses in arriving at the roles of the PPs.

Fløttum (2006), based on the semantics of verbs, proposed a typology of discourse functions of author pronouns. His model consists of three roles that are author as writer, similar to Friesen's (2011) lecturer as lecturer, or text constructor by Fa-gen (2012), researcher and arguer. An interesting point about this model is that it adopts a context-sensitive approach and explicitly applies a verb-based principle useful in ascertaining the role of PPs in a text. Besides, he draws on metatextual expressions in some cases to arrive at the discourse role of the pronoun. Fløttum (2006) added that the referent of a PP "can also influence the rhetorical role assumed by the pronouns" (p. 10). But the model appears simplistic as there are a number of roles like in Tang and John's (1999) model that are not accounted for in this model. If, for instance, Tang and John's six roles model of discourse

function has been critiqued for not accounting for some roles, how much more just a three-role-model?

Further, Kuo (1999) proposed a discourse function model of *we/us/our*, comprising 12 roles. These are explaining what was done, proposing a theory, approach, etc., stating a goal or purpose; showing results or findings; justifying a proposing; hedging a proposition or claim; assuming shared knowledge, goals, beliefs, etc.; seeking agreement or cooperation; showing commitment or contribution to research; comparing approaches, viewpoints, etc.; giving a reason or indicating a necessity; and expressing wish or expectation.

In their typology of authorial *I* discourse function, Tang and John (1999) provided six categories, arranged in a continuum. As they acknowledged, their model was inspired and premised on Ivanic's (1998) opinion that "there is a continuum from not using *I* at all, through using *I* with verbs associated with the process of structuring the writing, to using *I* in association with the research process, and finally using *I* with verbs associated with cognitive verbs" (p. 307). In short, there are two basic tenets of the typology of Tang and John (1999). One, pronominal discourse functions are gradable, based on the "degree of authorial power" (Tang & John, 1999: 26). As such, the roles are arranged horizontally, with arrows pointing rightwards from the least powerful role to the most powerful role. Munoz (2013b:5), therefore, notes that "there are degrees of authorial presence in this continuum, where the most authorial presence stands at the right end of the scale". The second is that authorial *I* is not a "homogeneous entity" (Tang and John,

1999:26). This tenet departs from the traditional syntax of *I* to the semantic-pragmatic level whereby the discourse context reveals the nuances of *I*.

Tang and John (1999) proposed a cline of the exclusive PP *I*, otherwise referred to as authorial *I*, based on “the degree of power embedded in the use of the first person pronouns” (Munoz, 2013b: 49). Novel to this model is the use of “metaphorical labels” (Hyland, 2002a:1099) which facilitates the appreciation of the roles. Their *onomastic strategy* has received dual comments. While Li (2011) commended them for the straightforward style that aids understanding, Hyland (2002a & b) have also departed from this style and accused Tang and John (1999) of committing what Hyland (2002a) refers to as “discoursal overlaps” (p. 1099), given that the name may encompass more functions than what it actually denotes. The roles are arranged in a vertical hierarchy from the least powerful authorial presence to the most powerful authorial presence.

I as the Representative → I as the Guide → I as the Architect → I as the Recounter of the Research Process → I as the Opinion Holder → I as the

Figure 13: Continuum of authorial presence in academic writing (Tang & John, 1999)

I as the representative discourse function is obtained from the generic first person pronoun, and its contextual variants, that is the exclusive cases of *I as me, my, mine, we, us, our* and *ours*. But they intimate that this role is mostly realised in the plural subjective *we* and objective *us*. Thus, it is employed as a “proxy for a large group of people” (Tang & John, 1999:27) for possibly the co-members in a

discourse community. Alayi and Filani (2014), therefore, corroborate *I* as the representative role that pronouns are used to indicate collectiveness or express collectivity. In the present study, it may represent the members within the disciplinary supercommunities. In this sense, the author's (*author* is used in this work in Friesen's sense (2011) to refer to the producer of written and/or spoken text) personality is shielded, authority neutralized, and voice subsumed in the 'choir of the discourse community'. Consequently, the speakers do not appear to wield much power of their own. Tang and John (1999) even concluded that *I as the representative* "reduces the writer [speaker] to a non-entity" (p. 27).

The next role, *I as the guide*, is always realised through the speaker/audience-centered *we* or *us*. The use of guide here as Tang and John (1999) noted is metaphorical. It reveals the author as a human compass or directional signpost. To draw on Tang and John's analogy, the speaker appears as a native in their homeland (world of the text) and so act as a 'tour director' and moves and directs the audience through the *territory* (discourse internal world) of the text. *I as the guide* is akin to endophoric markers as metadiscoursal elements. which among other things, guide readers through a text (Hyland, 1998, 1999a, 2001b, 2004, 2005a & b; Hyland & Tse, 2004) and discourse-organizer in Dontcheva-Navratilova's (2013) pronominal discourse function model. Dontcheva-Navratilova's (2013) model is based on selected categories from Harwood (2005), Hyland (2002a), and Tang and John (1999). The writer and audience jointly and concurrently are seen together in the time and place of the discourse, or engaged

“collaboratively in the development of the text” (Fa-gen, 2012: 849). Thus, the discourse-internal world *native* reveals and clarifies matters to the discourse-internal world foreigner (audience). It is observed that this role is usually signalled through *we* or *us* collocating with mental process verbs such as *see*, *note*, *observe*. Although comparatively powerful, the speaker appears as a co-participant with the audience, as they both jointly undertake tasks together. Speakers, therefore, tend to have limited power because the speaker is “always implicitly or explicitly accompanied by the readers [listeners]” (Tang & John, 1999:28).

The next role on the *scale of power* of the discourse function is *I as architect*. This highlights the role of the speaker in the ongoing discourse. Thus, it foregrounds responsibilities such as writing, organizing, structuring, and outlining of the speaker, as it concerns the discourse. Usually, it is realised as the first person singular and even when it appears in the subjective plural form it suggests co-authors or possibly *we as I* (Dontcheva-Navratilova, 2013; Zhihua, 2011).

The fourth role rightwards is *I as the recounter of the research process*, which is related to the roles of the author prior to the actual research or text production. As Hyland (2002a) maintains, speakers use “first person textual rhetoric in recounting their procedures” (p. 1102) as a way of establishing text or discourse internal ethos (Crismore & Farnsworth, 1989). It encompasses such tasks as reading of materials, consulting experts, interviewing subjects, collecting data, and procuring gadgets which concern and are part of the discourse/research process. Tang and John (1999) note that this role is often signalled by pronouns co-occurring

with material process verbs (or *doing* verbs) such as *work, read, interview, collect,* and *obtain*. It is quite difficult appreciating why this role is considered more powerful than *I as an architect*, and the authors themselves are silent on this. However, it can be said that this is so because this is more related directly to the conceptualization and the ‘take off’ of the research or discourse.

The penultimate role to the *powerhouse* is *I as an opinion holder*. It concerns the author’s evaluation of knowledge or established disciplinary knowledge (Luo & Hyland, 2017). The author demonstrates his/her agreement and/or disagreement to possibly both the common and uncommon disciplinary knowledge. Tang and John (1999) mention that this role is not always instantiated through PPs but also through self-citation (Hyland, 2001a). However, in this present study only those that are realised through PPs are considered. They add that such pronouns always correspond with verbs depicting mental process of cognition, in Hallidayan terms (Halliday, 1994). This role involves arguments and counterarguments, and therefore, involves a high sense of criticality, to enable one to refute or accept a claim. To a large extent, the placement of this is justified.

Finally, *I as the originator*, captured by Friesen (2011: 101) as “self-as-source”, is placed at the extreme end of the power line. This role presents the author as an *architect* (not in Tang and John’s (1999) sense but, in an engineering sense). He is considered as the *originator* because principal ideas championed in the discourse are his *conceptions*. Tang and John thus maintain that the “knowledge claims which are advanced” (p. 29) in the text emanate from him/her. This is

considered the most powerful because *knowledge origination* is said to be placed at the highest level of intellectual development (Afful, 2010).

Tang and John's (1999) model was inspired by the previous taxonomies on writer identity by Goffman (1959): textual self, second self [labelled as *physical self* by Friesen (2011)] and self-as-animator; Cherry (1988): societal roles, genre roles, and discursal roles; and Ivanic (1998): autobiographical self, discursal self, self as author and possibilities for selfhood in the sociocultural and institutional context. The models of selfhood of Cherry (1988) and Ivanic (1998) are similar such that Cherry's (1988) model appears as a subset of Ivanic's (1998). For instance, Cherry's (1988) societal and discursal roles are equivalent to Ivanic's (1999) possibilities for selfhood in the sociocultural and institutional context and discursal self respectively. These two models form the basis of the taxonomy by Tang and John (1999).

Tang and John's (1999) influential model has been adopted in several studies, and has been modified by several of such researchers (e.g. Li, 2011; Munoz, 2013; Sheldon, 2009; Starfield & Ravelli, 2006). Theory modification can be viewed as an extension or reduction of the theory. Extension implies that the powers of the theory are extended such that it is able to account for what it originally excluded. For example, Kashiha and Heng (2013) noted in their study regarding the theoretical framework used that "the modification included a revision and addition of two sub-categories under the 'referential expressions' as well as identifying a new category" (p. 145). Reduction, on the other hand, suggests that the theory may

be *abridged*, implying that it contains possibly overwhelming details. Aful (2010), for instance, discounted some theories in his study for being “too broad in handling the issues to be investigated” (p. 17). Theory reduction, therefore, may occur in two forms. It could be that some categories in a theory may be completely *deleted* and/or some number of categories contracted.

The modifications to Tang and John (1999) are from the two dimensions: expansion, and reduction, specifically contraction. For instance, Starfield and Ravelli (2006) engaged in ‘adding, merging and dropping’ in relation to Tang and John’s (1999) typology. They merged the Guide and the Architect functions, and dropped the Representative role but added the Reflexive role. In their modified version, the merged Guide/Architect role appears as the least authorial function. Similarly, Sheldon (2009) also built on the Starfield and Ravelli (2006), except that his modification can be said to be minimal as compared to the Starfield and Ravelli (2006), and some modifiers of Tang and John’s (1999) theory, as mentioned above. Sheldon (2009) provided some degrees of narrativity and reflexivity in the reflexive role of *I* introduced by Starfield and Ravelli (2006).

Based on a corpus of ELT master students essays, Li (2011) also introduced *I as the recounter of previous personal experience*, what Gomez (2006: 43) labelled as “subject of an anecdote”. He was, however, quick to admit that it superficially appears synonymous to Tang and John’s (1999) *I as a recounter of research experience*. As he explained, *I as a recounter of research experience* is research-oriented and, therefore, limited to the research internal world experience but *I as*

the recounter of previous personal experience is concerned with the research external world experience. Li (2011) is justified such that his sound argument is akin to Ädel's (2006) distinction between *metadiscourse* and *stance* as she argues that the metadiscourse is limited to the discourse internal world as stance is limited to the discourse external world. However, it should be noted that the genre types in both studies by Tang and John (1999) and Li (2011) accounted for the difference in the typology, i.e. why John and Tang (1999) did not explain the new addition by Li (2011). But Li (2011) failed to indicate the place of his addition on the continuum. It is not clear whether *I as a recounter of previous experience* occurs before or after *I as a recounter of the research process*. Furthermore, Li (2011) divided Tang and John's (1999) *I as the representative* into two, referring to writer-reader and writer-co/researchers representation. The writer-co/researchers representation concerns the writer and anybody who is a member of the discourse community within which the scholarly work is situated. These distinctions are made based on inclusive and exclusive *we*.

Similarly, Munoz (2013b) provided a relatively detailed modification to Tang and John's (1999) typology of the pronominal discourse functions. Munoz's (2013b) modifications have some commonalities with Li (2011). For instance, as Li (2011) introduced *I as a recounter of previous experience*, Munoz also added a *I as an Interpreter* (with subfunctions as shown in Table 7) to Tang and John's (1999) model. The difference, however, between his reaction and that of Li (2011) is that he did not introduce any major category of the functions, rather he provided

subfunctions of all the six categories in Tang and John's (1999) model. These are presented in Table 10.



Table 10: Tang and John's Authorial Role Model Modified

Major roles by Tang and John (1999)	Subfunction by Munoz (2013b)
Representative	1. General
Guide	2. Researchers
	1. Prospective
	2. Current
Architect	3. Retrospective
	1. Prospective
	2. Current
Recounter of the research process	1. Retrospective
	1. Methods
	2. Hypothesis
Opinion holder	3. Findings
Interpreter	1. Comparing
	2. Assessing
	3. Interpreting
Originator	

One key issue in the models of discourse functions of PPs is the lack of clear cut pragmatic conditions (Ortega, 2006) that will enable one to objectively account for the function of a PP in context. The absence of the pragmatic conditions increases the degree of subjectivity in dealing with such an already highly subjective, and fuzzy phenomenon as PP. The only way out to reduce the level of subjectivity is the adoption of inter-rater and intra-rater tests as a triangulatory strategy. However, Dontcheva-Navratilova (2013) attempted to provide some conditions for identifying the roles of PPs: “obviously author roles are not in accordance with the author-reference pronouns used; rather, they are defined by the structures in which the pronouns occur, i.e. the semantics of the verb phrase and the larger co-text” (p. 15). This parameter concurs with Kuo’s (1999) definition of

pronominal discourse function as “the function that a sentence containing a personal performs in the immediate discourse context” (p. 130). Martin-Martin (2003) also adds that the roles of the PP in context “reflect the specific communicative purpose of the writer”, in this context the speaker.

The adapted author pronoun model for the present study

Among other things, the present study seeks to explore pronominal discourse function, using the modified version of Tang and John’s (1999) typology. The framework is adopted and adapted concurrently. It is adopted because they, Tang and John’s (1999) study and the present one share some common features. First, they both concern undergraduate registers (undergraduate student essay and lectures). More so, the two registers, student essay in Tang and John’s (1999) study, and academic lectures, in the present study, are both pedagogic (English, 2011; Friesen, 2011). On the other hand, the adaptation of the model stems from the fact that the present study focuses on a spoken academic genre (academic lectures), while Tang and John (1999) and their successive *modifiers* based their studies on registers within written academic discourse –student essays, master’s theses, and research articles. Thus, this study adapts this model to additionally test its applicability within the spoken corpus domain. Given that the corpus for the present study is spoken, the term *speaker* (as in ‘speaker-pronoun’) instead of *author* (as in ‘author pronoun’) is used in the analysis and discussion chapters. The modified version, therefore, comprises eight pronominal discourse functions in a continuum,

moving from the least powerful to the most powerful right-wards. The continuum is shown in Figure 14.

Representative → Guide → Architect → Recounter of Previous Experience →
Recounter of Research Process → Opinion Holder → Interpreter → Originator

Figure 14: Adapted continuum of discourse functions of author pronouns

Details of the categories within the original Tang and John's (1999) have been provided above. In the proceeding paragraphs, however, the two additions (*I as a recounter of previous experience*, and *I as an interpreter*) are examined.

Drawing on the research-oriented and non-research/oriented notions, Li (2011) introduced *I as a recounter of previous experience* as a counterpart of Tang and John's (1999) *I as a recounter of the research process*. He asserts that through this role, authors reflect on their previous personal experiences which are non-research related. The two roles share some commonalities, but also differ in some respects. They both concern a reflection of the past in the discourse or the current text. It is, therefore, likely to realise that the verbs they co-occur with are frequently used in the past. Besides, they are pragmatically dissimilar. While the recounter of the previous experience concerns issues which are non-research related, the *I as recounter of research experience*, as its name denotes, "describes or recounts the various steps of the research process" (Tang & John, 1999: 28). In effect, *I as recounter of research experience* recounts methodological choices made by the researcher prior to the research.

Munoz (2013b) also introduced the interpreter role in the continuum, and placed it between *I as an opinion holder* and *I as an originator*, making it the second highest authorial identity, per the degree of power. He himself observes that “the interpreter positions the researcher as a powerful and experienced member of the scientific research community, whose ability to provide meaning and build knowledge by interpreting the results is put in forward in the text” (Munoz, 2013:50). In effect, the author positions himself as an expert in the discourse community familiar with the disciplinary epistemic practices and armed with hermeneutic prowess to pontificate. The speaker is, therefore, able to compare his/her views, assess the views of others, and interpret both views as a way of creating a synthesis. Although it is obvious that Tang and John’s typology does not account for this role, it is quite difficult to accept why it occurs as the second highest. Munoz (2013b) himself did not justify the placement of this role on the continuum. But Munoz (2013b) notes that the interpreter role involves “philosophizing” (p. 50). Therefore, we can somehow understand and accept its placement, although with less conviction.

In effect, the modified version is based on the contributions of three different sets of studies (Tang & John, 1999; Munoz, 2013b; Li, 2011). I have pointed out earlier that notwithstanding the sound corpus-based justification for the modifications made by Li (2011), he, however, failed to situate his addition in the continuum proposed by Tang and John (1999). But I have placed *I as a recounter of previous experience* prior to its near counterpart, *I as a recounter of research*

process, based on the positivist view that research is empirical and that experience may not be empirically confirmed. The research-oriented role is, therefore, considered more powerful than the experience-oriented one, as a lecture must be driven by and based on research (Hart, 1998).

One major factor accounted for the choice of the modified version of Tang and John's (1999) typology of discourse function of author representation or visibility in discourse. It is more comprehensive than the others (e.g. Hyland, 2002a & b) which have not been modified by other researchers. Thus, the model appears to be a "definitive classification" (Carter-Thomas & Chambers, 2012: 12) of the discourse functions of self-referential pronouns. The modifications of the model have strengthened its explanatory power as a theoretical framework. For instance, as Li (2011) modified, there is difference between recounting of research-oriented experience and non-research oriented.

Challenges Encountered and Strategies Deployed

A number of challenges were encountered in this study, from the collection of data through the corpus-building process (corpus compilation) to the analysis of the data. This section outlines those challenges and the strategies mapped up to resolve them.

Although I was an 'insider' in both UCC and KNUST, obtaining access to lectures was difficult as people were cautious and unwilling. Bellés-Fortuño (2009: 916) recounts:

It is not easy to get access to seminar, conference presentations, *lectures* (emphasis added), etc. when you are not part of them. The corpus linguist recorder is usually seen as an intruder. Permissions have to be asked but the answer is not always positive.

One of the lecturers requested a copy of the transcript of his lecture although the purpose for that was not made known to me. I thought, however, that he wanted to be sure that the content is worthy of being sent 'outside' before he could 'certify' its inclusion in the corpus, as during lectures speakers sometimes express their opinion about sensitive public issues.

Some lecturers were unwilling to allow their lectures be recorded and included in the corpus. When this happened, I contacted others who allowed their lectures to be recorded and be part of the corpus for the study. This, however, prolonged the corpus design process, thereby delaying the study. Attempts were made to ensure that 'perfection' is obtained but in situations when the unavoidable occurred, I resorted to the principle of pragmatism since "corpus building is of necessity a marriage of perfection and pragmatism" (McEnery et al., 2006: 73).

Ädel (2006) remarked that PPs will continue to remain a fuzzy phenomenon involving subjective interpretation. Truly, despite the researcher's awareness of all the criteria for PPs referent identification, there were some instances where it appeared difficult to determine the discourse referent or function. In such cases, I employed raters upon whose judgements these were resolved.

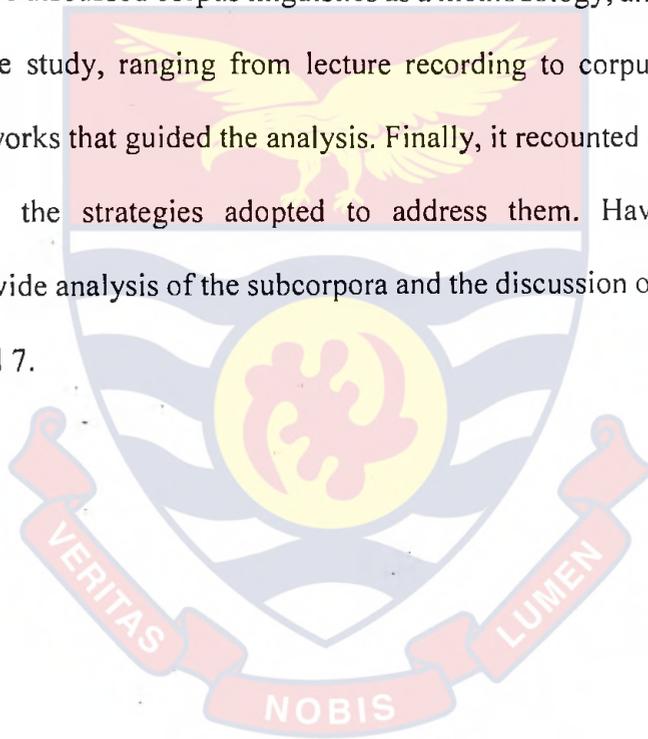
One of the challenges encountered in this study concerned the lecture transcription. Although we are in the techno-computer age, “technology has not progressed to the point where it can greatly expedite the collection and transcription of speech: there is much work in going out and recording speech and the transcription of spoken texts still has to be done manually” (Meyer, 2002: 32). Eight years after Meyer (2002), Reppen (2010) predicted that creating spoken corpora in future will be facilitated by technology. The *future* has still not come. The transcription-oriented challenges can be categorised into two. The first was getting transcribers. It became very difficult in getting people to transcribe the data. Unlike certain places where there are professional transcribers, they appeared to be rare in Ghana, and even if they are, information about their existence is uncommon. The second was the delay from the *late* transcribers. Of course, I concede just like Fox (1992), Gomez (2006), Koester (2010), Meyer (2002), and Nelson (1996) that the task in speech transcription is arduous. However, the transcribers (three in all) unduly delayed since it took them close to eight months to transcribe lectures summing up to approximately 18 hours. The delay, I suppose, was as a result of the relatively small remunerations which did not commensurate with the energy required to transcribe the lectures.

Sometimes in lectures, some academics cited verbatim the views of some scholars to buttress their argument; such quotes were deleted and replaced with placeholders. As noted by McEnery et al. (2006: 23): “when graphics/tables are removed from the original texts, placeholders must be inserted to indicate the

locations and types of omissions”. The difficulty was that no signals were sometimes provided by the lecturers to communicate the end of the quote. In such cases, after the transcription I used my discretion to determine the end of the quote.

Chapter Summary

This chapter has reported on the methodological choices made in the study. I first described the institutional contexts (KNUST and UCC) of the present study. The chapter further discussed corpus linguistics as a methodology, all issues related to the data of the study, ranging from lecture recording to corpus design, and analytical frameworks that guided the analysis. Finally, it recounted the challenges encountered and the strategies adopted to address them. Having laid this foundation, I provide analysis of the subcorpora and the discussion of the results in chapters 5, 6, and 7.



CHAPTER FIVE

DISTRIBUTION OF *I*, *WE* AND *YOU* IN LECTURES

Introduction

In this chapter, I discuss the occurrence of the tri-PP across the three disciplinary supercommunities. Short (1996) notes that registers can be examined by looking at the frequencies: The knowledge of the frequencies of the tri-PP can help us understand the broad knowledge domains better with respect to the issues of (in)visibility, (im)personality and interpersonalit. Afful (2010: 5) notes “the absence or presence, frequency, and distribution of linguistic or multimodal representations reflect the character of writing [speech] in a particular discipline [disciplinary supercommunity]”. Thus, I provide both raw and normalized frequencies of the tri-PP since “it is usually considered good practice to report *both* raw and normalized frequencies when writing up quantitative results from a corpus” (McEnery & Hardie, 2012: 51). I also present the statistical significance of the observed differences in tri-PP use across the three disciplinary supercommunities. Frequency analysis is undertaken at two levels: ‘macro’ (where the totality of occurrence of the tri-PP are discussed); and ‘micro’ –where the frequency of individual PPs are examined).

Overall Distribution of Tri-PP Across the DS

This subsection takes a *global* look at the use of tri-PP across DSs. Thus, all tri-PP (*I*, *we* and *you*) and their variants are summed up for this analysis. The aim is to explore the difference in the use of overall pronominals in classroom

lectures across the three broad knowledge domains. The analysis of tri-PP use in classroom lectures shows that *I*, *we* and *you* and their respective variants constitute substantial part of the language of lectures. This realization confirms the findings of previous studies (e.g. Biber, 2006; Csomay, 2002; Kelly & Studer, 2012; Milne, 2006; Plaza & Alvarez, 2013; Rounds, 1987a & b; Yeo & Ting, 2014).

Table 11: Overall Raw and Normed Frequencies of Tri-PP across DSs

Disciplinary supercommunities	Corpus size	Raw freq.	Normed freq. per 10, 000 tokens
HS	36586	2266	619.36
SS	43916	2570	585.21
NS	34622	2953	852.93

As shown in Table 11, the occurrence of the tri-PP in the subcorpora ranges from 585 to 852 per 10, 00 tokens. It, thus, indicates a somewhat low (SS), medium (HS) and high (NS) pronominalised lectures (See Csomay, 2002). The concordance search of the tri-PP in the subcorpora revealed that *I*, *we* and *you* constitute significant part of the lecture language in HS, SS and NS. But while all the variants of the tri-PP were found across the three DS, the possessive form of *you* (yours) and *we* (ours) as well as the plural reflexive form of *you* (yourselves) were found to be absent in the NS subcorpus (See Appendices C, D, and E). This issue is, however, not discussed further, as it is not part of the focus of the study.

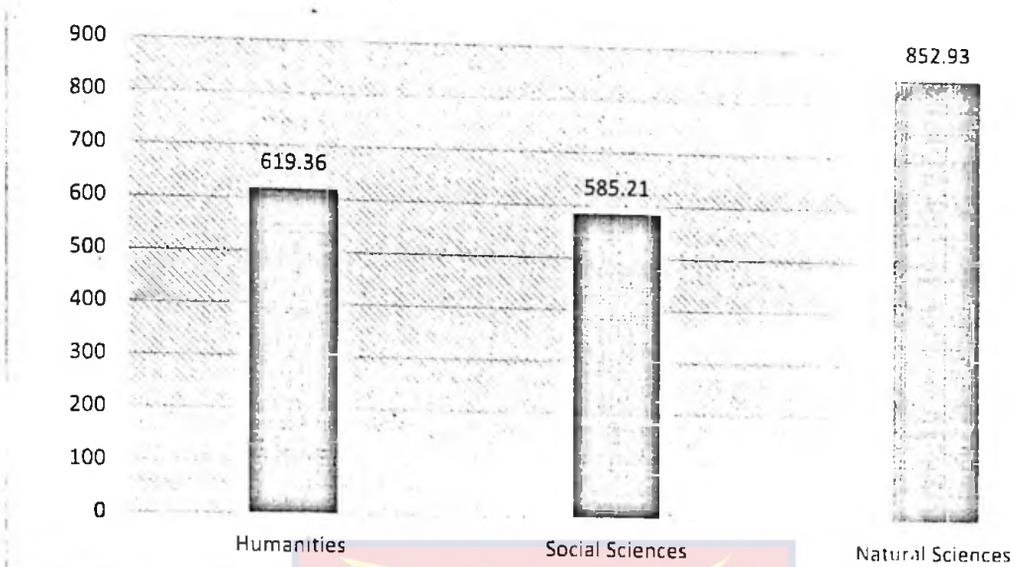


Figure 15: Overall normed frequency the tri-PP across the DSs

Table 11 and Figure 15 display the overall distribution (raw and normed) of the tri-PP across the three DSs. They show the uneven distribution of the totality of *I*, *we* and *you* across DSs. The normalized frequencies indicate that NS followed by HS and then SS employed the tri-PP in their lectures. Hyland (2005a) maintains that disciplinary goals influence the use (or non-use) of linguistic/rhetorical variables. This is further affirmed by the test for significance represented in Table 12.

Table 12: Inter-DS Log-likelihood Values for Overall Tri-PP

DS	Log-likelihood value	Significance level: LL
HS versus SS	3.87	Significant
HS versus NS	132.57	Significant
SS versus NS	195.54	Significant

The log-likelihood test of significance, as depicted in Table 12, reveals that the differences at the three independent levels of comparison are statistically significant at LL 3.84 ($P < 0.05/95\%$ level): HS vs SS (LL 3.87), HS vs NS (LL 132.57) and SS vs NS (LL 195.54). These findings show that the observed frequency differences are indeed influenced by the distinct disciplinary conventions and norms of the respective DSs.

Natural Sciences, known to be preoccupied with producing public knowledge and thus seeking to “foreground events rather than actors” (Hyland, 2009: 7), is expected to use limited functional words such as the tri-PP. However, the present finding is incongruent with this position, and the theoretically-defined conventions of impersonality and anonymity (Hyland, 2002b). The finding here, therefore, has implications against the broad stereotypical “disciplinary compartmentilization” (Hart, 1998: 10) with respect to interpersonality and impersonality. We are told that the NS “... emphasizes demonstrable generalizations rather than interpreting individuals, so greater burden is placed on research practices and the methods, procedures and equipment used” (Hyland, 2005b: 188) rather than the discourse participants. Because NS has been cut off as a less interpretive knowledge domain, *I*, *we*, and *you* usages are expected comparatively to be minimal. But the current finding suggests otherwise. It challenges Hyland’s (2009) conceptualization of the DS (See Figure 5 in Chapter 2). It suggests that Natural Scientists are becoming the most explicitly interpretive, while HS is becoming less interpretive and the SS the least interpretive. This shifts

the Natural Scientists' attention to the interactional (not only the transactional) use of language largely for interpersonal purposes.

The Natural Scientists' overwhelming use of tri-PP as part of its lecture language calls for a critical consideration. It indicates that Natural Scientists heavily rely on tri-PP to transfer knowledge to its student audience in the classroom. This finding is surprising, considering that Natural Science has been tagged to be impersonal and detached in its discourses (Hyland, 2005b). The current finding has a number of implications. First, it strongly supports Mason and Pennington's (2009) admonition against people's reliance on advice offered in writing/style guides and textbooks on the nature of discourses in the broad disciplines with respect to author (in)visibility enacted through the use or otherwise of PPs. The current finding is, therefore, a potential indicator of register shift of the NS towards a more personalized discourse. The suggested 'evolution' of NS towards a more 'pronominalised register' is an attempt to demystify the NS as a more human-friendly knowledge domain. Thus, as Oliveira (2010: 106) noted, Natural Scientists "...employ personal pronouns to position themselves interactionally or socially in relation to their students" more than their other counterparts in the HS and the SS. It, thus, further indicates that Natural Scientists are no longer "neutral observers of the world" (Hart, 1998: 83) –a view in line with the tenets of positivism (Hart, 1998).

The current finding disconfirms Yeo and Ting (2014) who found Science rather than Arts to contain more use of the tri-PP. Three main reasons may account

for the differences in the two studies. One, the theoretical positions on disciplinary typology in the two studies differ. While Yeo and Ting (2014) adopt a dipartite view (Arts and Sciences), the present study adopts the tripartite approach. Thus, Arts in Yeo and Ting (2014) comprises both HS and SS, which are regarded distinct broad knowledge domains in the present study. Hence, the total number of occurrences of the tri-PP in Yeo and Ting's study is equivalent to the totality of frequencies of tri-PP in HS and SS in the present study. Of course, the totality of the frequencies of tri-PP in HS and SS in this study is overwhelmingly greater than that of NS. Another reason that can be adduced for the differences in the two studies is the compositions of *I*, *we* and *you* forms. Whereas in the present study all the variants of the tri-PP were considered, Yeo and Ting (2014) regarded only the subjective forms of the tri-PP. Meanwhile, it is possible that the Sciences preferred more of the unconsidered forms of the tri-PP instead of the subjective forms far more than the Arts. Finally, the difference can be attributed to the different geographical contexts of the two studies. While Yeo and Ting's corpora were collected from a Malaysian public university, those for the present study were gathered from two Ghanaian public universities.

Furthermore, HS generally employed more tri-PP than SS. There is a significant difference (statistically) between the two disciplinary supercommunities, as shown in Table 12. Compared to the Social Scientists, the Humanity Scientists utilized more tri-PP. Although both knowledge domains are described as interpretive (Hyland, 2009) and support social constructivism (as

against positivism) (Hyland, 2009), the SS is considered less interpretive as it is perceived to be close to the NS in rhetoric than the HS (Hyland, 2009; MacDonald, 1994). Thus, the Humanity Scientists' higher use of the tri-PP more than the SS is not surprising as the HS has traditionally been said to favour personal style of communication as against the impersonal, self-detached style.

From the overall frequency analysis of the tri-PP, I shift attention in the subsequent subsection to the individual PPs (i.e. *I*, *we* and *you*) as used across the subcorpora.

Distribution of *I*, *We*, and *You* Across Disciplinary Supercommunities

The preceding subsection looked at the individuality of the tri-PP across DSs. Here, the individual PPs are discussed in order to highlight the possible effect of disciplinarity on the distribution of *I*, *we* and *you* in the classroom lectures across DSs. Concordance search of the tri-PP in the subcorpora revealed that their distribution in classroom register is uneven. This, thus, points to the influence of disciplinary norms, values and conventions on the use of the tri-PP in classroom lectures. Table 13 shows the frequencies of the tri-PP within and across disciplinary supercommunities.

Table 13: Raw and Normed Frequencies of Tri-PP Across DSs

DS	Tri-PP	Raw frequency	Normed freq. per 10, 000 tokens
HS	I	573	156.62
	We	630	172.20
	You	1063	290.55
SS	I	577	131.39
	We	750	170.78
	You	1243	283.04
NS	I	922	266.30
	We	722	208.54
	You	1309	378.08

It is worthy to note that the tri-PP are common to the three DSs. This, however, is not surprising as Biber and Barbieri (2007), and Biber (2006) have reported that pronominal features are characteristic of spoken university registers. But aside from this expected common reality, we find some surprises based on the distribution of the tri-PP across the three DSs. The distributions of the individual tri-PP are examined in the preceding subsections.

Distribution of *I* across the subcorpora

Regarding *I*, Table 13 shows marked differences among the DSs. Based on the frequency analysis, it is clear that NS used *I* more frequently than HS and SS. We find that the distribution of *I* calls for a possible rearrangement of the three disciplinary domains, contrary to Hyland's (2009) and McDonald's (1994) models. The scale of preference (Akoto, 2013) for the use of *I* can be presented as NS, HS and SS. This shows that with respect to the use of *I* in classroom lectures, Natural

Scientists demonstrate more preference than the Humanity and Social Scientists. The current finding shows the NS's shift from what has been perceived to be an evolution Hyland (2009) traces from 1960s. It has been reported that NS avoids the use of the first personal pronoun (1PP), which makes discourse personalized and thus projects the image of the speaker rather than the ideational content (Hyland, 2002) of the classroom lecture genre. It, thus, suggests that the NS now comparatively represent themselves in classroom lectures more than their HS and SS counterparts. HS and SS less use of *I* is surprising. In HS, it has been said that discourses are more personalized (Hyland, 2005b). Thus, self-representation of speakers is central and crucial. However, in this case we see a limited use of *I* (as compared to NS). On the other hand, SS, which is said to be a society-oriented knowledge domain and anthropocentric (Afful, 2010; Akoto, 2013) use fewer *I*-forms. This realization is quite difficult to justify. It suggests that given the global call for knowledge generation to solve the socio-economic problems, Social Scientists are shifting attention to the propositional content rather than the self of the individuals who produce the discourses. This quantitative fact on *I* shows inter-DS variations as it vividly shows that the differences between them are statistically significant.

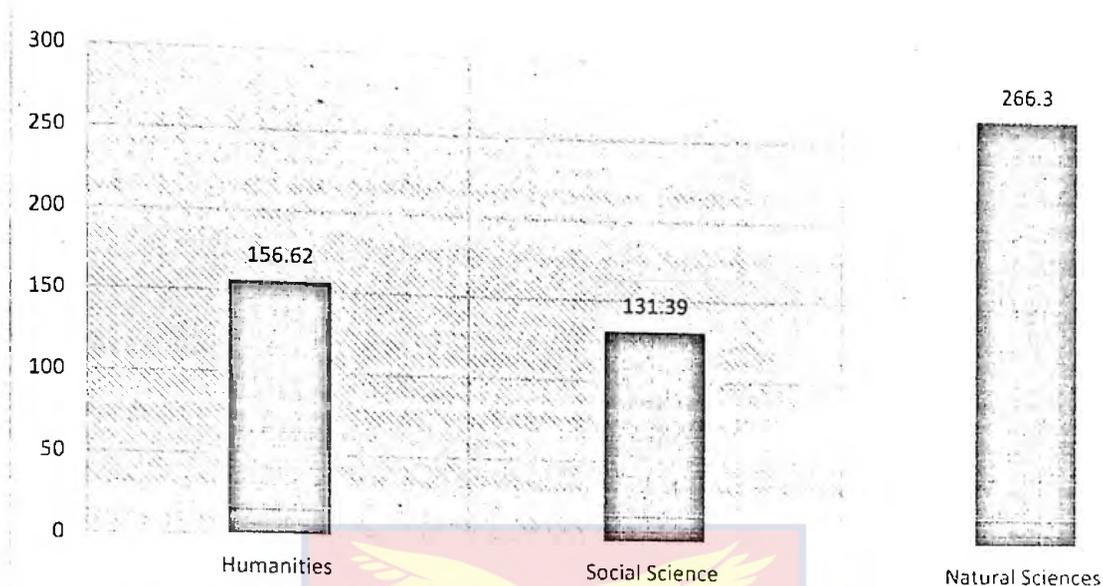


Figure 16: Normed frequency of I across DSs

More so, we notice from Table 13 and Figure 16 that quantitative variation between NS on one hand, and HS and SS, on the other hand, is vast. NS, HS and SS used 266.3, 156.62 and 131.39 I per 10, 000 tokens. Interestingly, these observed differences are tested and supported by the evidences from the significance test as being statistically significant (See Table 14).

Table 14: Inter-DS Log-likelihood Values for I

DS	Log-likelihood value	Significance level: LL
HS vs SS	8.86	3.84 Significant
HS vs NS	102.62	Significant
SS vs NS	183.30	Significant

Statistically, the observed differences have proven to be significant at the $p < 0.05$ level between HS and SS (LL 8.86), HS and NS and SS (LL 102.62) and NS (LL 183.30). These indicate that disciplinary variation appears to influence the use of *I* in classroom lectures at all the three independent levels of comparison. The present finding contrasts the conceptual norms and possibly established rhetoric of NS. We are told that NS prefers passive voice to the active one, and therefore, impersonal use of language than the two broad knowledge domains (Hyland, 2002a & b). In contrast, the present finding points to a different direction and emerging trend with respect to classroom lectures NS. This implies that NS lecturers exhibit the strongest presence in lectures as compared to their HS and SS counterparts. Hyland (2002b: 6) argues “the higher the number of *I*, the stronger the writer’s presence”.

The present finding is in tandem with Yeo and Ting (2014), who also found the normed frequencies of *I* in Science and Arts as 22.83 and 11.50 respectively. However, the finding is inconsistent with Plaza and Alvarez (2013), who found SS to have recorded the highest use of *I*-forms. Given that the corpora for Plaza and Alvarez’s study are from a native context, and both Yeo and Ting, and the current study from nonnative context, the differences between the two sets of studies can be ascribed to the native-nonnative factor.

Distribution of *we* across disciplinary supercommunities

The distribution of *we* in the subcorpora are presented in Figure 17 below.

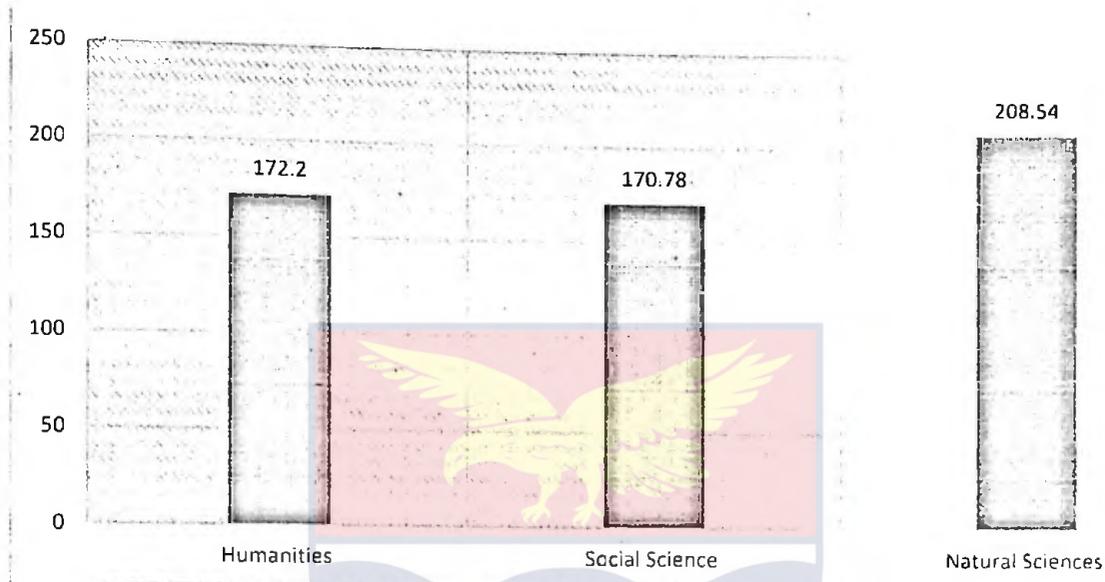


Figure 17: Normed frequency of *we* across DSs

Drawing on *we* distribution across the three knowledge domain (as shown in Table 13 and Figure 17), we find this ‘scale’: NS, HS and SS. We observe quantitative differences in the DSs’ employment of *we* in their lectures. In 10, 000 word token, we notice the effect of disciplinary distribution of *we* across the three disciplinary supercommunities. The Natural Scientists utilized 208.54, while HS and SS respectively employed 172.2 and 170.78 of *we*. The use of *we* largely reveals an individual DS’s construction of disciplinary solidarity (Hyland, 2005b) or sense of communality/collegiality (Hyland, 2011). Rounds (1987b: 649) argues that “*we* is an egalitarian pronominal choice”. He further notes that “by using *we*, teachers can signal solidarity with their students while covertly maintaining a certain semblance

of power” (p. 649). It is true, therefore, that *we* “sends a clear signal of membership by textually constructing both the writer and the reader as participants with similar understanding and goals” (Rounds, 1987a: 183). In relation to the current realization, NS lectures, on one hand, appear student-friendlier than HS and SS, on the other hand. NS preference for *we* is quite justified by its reliance on quantitative research and thus described as a more positivist knowledge domain (Creswell, 2002, 2013). So through *we*-forms, the Natural Scientists establish disciplinary ethos to achieve the *institutionalized* objectivity.

Besides, Table 13 shows that the difference in the use of *we* is inter-disciplinarily significant (statistically) at two levels HS vs NS (LL 12.37) and SS vs. NS (LL 14.63), and not significant (statistically) at one level –HS vs SS (LL 0.02). The statistically significant relations indicate that disciplinary variation really influences the use of *we*-forms classroom lectures. Meanwhile, the difference between HS and SS is not significant (statistically) as the LL score (0.02) is substantially below the significance threshold (3.84). This implies that the observed difference may be due to chance. Arguably, this may stem from the fact that both areas share a common subject matter –largely related to humans (Hyland, 2002). Again, this slightly supports the view that they both share similar characteristics of *softness*, as opined by Biglan (1973).

Table 15: Inter-DS log-likelihood Values for *we*

DS	Log-likelihood value	Significance level: LL 3.84
HS vs SS	0.02	Not significant
HS vs NS	12.37	Significant
SS vs NS	14.63	Significant

NS lectures' frequent use of *we*-forms more than HS and SS concurs with previous studies. It affirms Yeo and Ting's (2014), and Plaza and Alvarez's (2013) studies where NS (Science) employed more *we* than Arts, HS, and SS. The finding from the meta-analysis appears to reinforce the collectivist, objectivist, and positivist tag accorded NS (Hart, 1998; Hyland, 2009; Plaza & Alvarez, 2013).

Distribution of *you* across the subcorpora

Yaakob (2013: 183) has remarked that "the use of '*you*' suggests that the power-distance between lecturer and student is softened". We find that there is a marked difference of *you* distribution across the DSs, as shown in Figure 18.

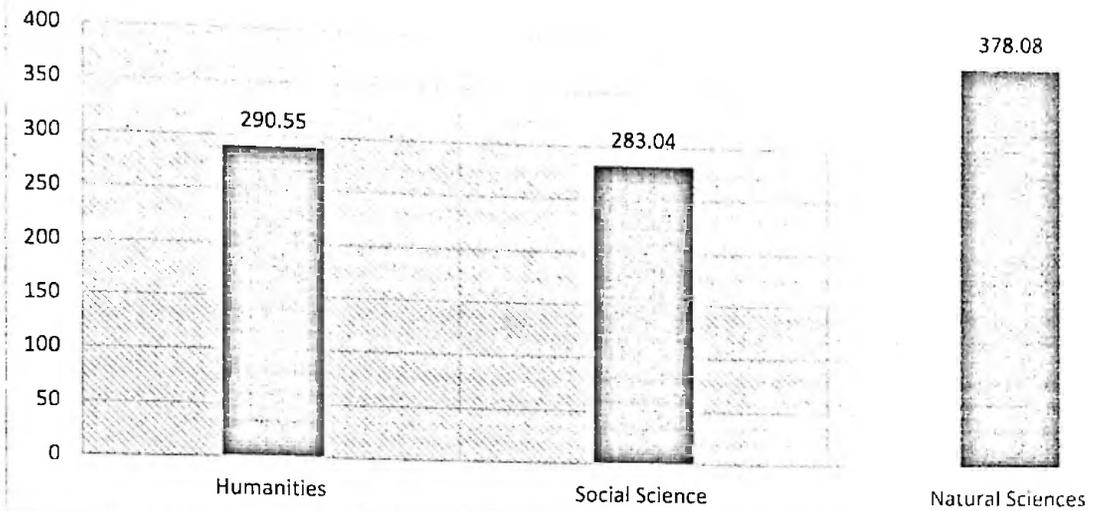


Figure 18: Normed frequency of you across DSs

Figure 18 shows NS's explicit awareness of the students. Comparatively, therefore, the prevalence of *you* in NS corpus shows that NS lectures (rather than HS and SS ones) are more student-centred. Drawing on Ädel (2010), we found in contrast to the two broad domains NS employs more audience-oriented pronoun than HS and SS. It also means that if *you* is considered as an engagement marker (Hyland, 2005a & b), then NS lectures have a higher degree of interactivity than the two others. It also suggests that lecturers in NS are more intertextually dialogic (interactive) than HS and NS. Hyland (2005b: 182) argued: "*You* and *your* are actually the clearest way a writer can acknowledge the reader's presence, but these forms are rare outside of philosophy, probably because they imply a lack of involvement between participants" (Hyland, 2005b: 182). Drawing on this, we can conclude that NS lecturers, more than their HS and SS counterparts, recognize the presence of the students in their lectures. The discussions can further be facilitated by drawing on

the language typology model by Hinds (1987) who divides languages broadly into writer-responsible and reader-responsible languages. The basis of the distinction is the degree of audience's involvement in discourse comprehension in such languages. We can, therefore, adapt this in this context and talk about lecturer-responsible and student-responsible lectures. This is done based on how students' involvement in lectures is realized through the use (or non-use) of student-oriented *you*-forms. From Table 13 and Figure 18, we notice that the NS lectures appear more student-responsible than their other two counterparts. Further, HS lectures also look more student-engaging than the SS.

Natural Science, for years, has been perceived as content-focused knowledge domain, unlike SS and more particularly the HS (Hyland, 2002a & b, 2009). Added to this, NS is said to be interested in "objectivist accounts of communication" (Listchnsky, 2008: 128) which delights in what is said and not how it is said (Hyland, 2000). The present finding, contrary to this position, has revealed that compared to HS and SS, NS is more interested in their co-discourse participants, the students. It, therefore, suggests that the NS is becoming more 'humanised', thereby recognizing their audience as a possible way of demystifying the NS which is perceived to uphold the values, norms and ideologies of impersonality and facelessness (Hyland, 1999a, 2005a & b). The predominant use of *you*, therefore, in the NS can be described as a kind of register-shift (Biber & Conrad, 2009).

The NS's preference for *you* more than their HS and SS counterparts is similar to Yeo and Ting (2014) but different from Plaza and Alvarez (2013). While SS was found by Plaza and Alvarez to favour the use of *you*, Yeo and Ting (2014) discovered that Science used more *you*. The underlining factor here is largely beyond disciplinary. It is clear that the present study supports Yeo and Ting (2014). The commonality in the two studies can, therefore, be attributed to nonnative environment; Yeo and Ting built lecture corpus from Malaysia while I designed mine from Ghana.

On the other hand, HS follows NS in terms of the distribution of *you*. This implies that HS used more *you*-forms than SS did. The current finding contrasts with Plaza and Alvarez (2013) who realized that SS used more *you* than HS employed. The difference in the findings in the two studies can be attributed to the fact that corpora for the two studies are from native and nonnative lecturers, a factor which Rounds (1987a & b) found to be responsible for differences in PP use in lectures.

It is interesting to note from Table 16 that while the significance test reinforces the observed differences between HS and NS, and SS and SS, it (Table 16) presents an opposite picture on HS vs SS.

Table 16: Inter-DS Log-likelihood Values for you

DS	Log-likelihood value	Significance level: LL 3.84
HS vs SS	0.39	Not significant
HS vs NS	40.94	Significant
SS vs NS	53.39	Significant

The LL values for HS and NS (40.94), and SS and NS (53.39) overwhelmingly exceed the LL 3.84, the statistical significance threshold. These reveal that disciplinary variation affects the utilization of *you* forms in classroom lectures at two independent levels as aforementioned. On the other hand, the LL value for HS vs SS (LL 0.39) is negligible, suggesting that disciplinarity does not influence the employment of *you* (and its variants) in HS and SS lectures.

Chapter Summary

This chapter has discussed the variation in tri-PP use in the three broad knowledge domains, based on their distribution. It has shown that in all three cases of *I*, *we*, and *you*, NS recorded the highest frequencies, a realization consistent with Yeo and Ting (2014). The chapter, in examining the findings from the present study, noted that three main factors accounted for the similarities and dissimilarities between the present study, on one hand, and the previous studies, on the other hand: disciplinarity, native/nonnative context, and geopolitics.

CHAPTER SIX

I, WE and YOU REFERENTS IN LECTURES

Introduction

This chapter discusses ‘disciplinary-aligned’ referents of the tri-PP. The chapter is divided into three main sections. The first, second and third sections respectively discuss the discourse-defined referents of *I*, *we* and *you* in and across DSs. Before this, I briefly discuss the patterns of tri-PP referentiality on which the discussion is based.

Patterns of tri-PP referentiality

The discussion is organized around “patterns of referentiality” of the tri-PP (Scheibman, 2004: 385) that emerged from the analyses of the subcorpora. While a number of the referents of an individual tri-PP seem peculiar to the present study, it must be noted that they are largely sanctioned by the norms and practices of the DSs (Afful, 2010; Edu-Buandoh, 2012). The ‘patterns’, as represented in Figure 19, affirm both the common core and peculiarity hypotheses in disciplinary variation studies (Hyland, 2009; Trowler & Becher, 2001).

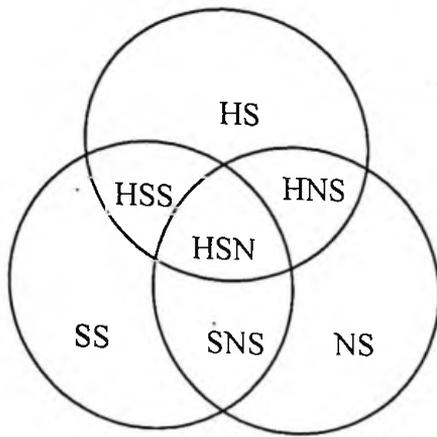


Figure 19: DS interrelationships

The sections labelled HS, SS and NS show the DS-specific referents of the tri-PP. Discourse referents that appear in these sections reveal the distinctiveness of an individual DS. Further, the sections marked HSS, HNS and SNS indicate the inter-DS commonalities in the tri-PP referentialities. Such referents are shared by two DSs, affirming the intersectionality view on disciplinarity. Finally, the section marked HSN represents the point of convergence of the three DSs. The referents in this section fit into what Edu-Buandoh (2012) described as core institutionalized identities which cut across disciplinary boundaries.

Generally, the findings, as conceptualized in Figure 19, show the “degree of cross-disciplinary diversity and a degree of mono-disciplinary homogeneity” (Hyland, 2000: 10), which is in tandem with Baumann and Graves’ (2010) categorization of academic vocabulary. Thus, Figure 19 simplifies the approach adopted in discussing the referents of the tri-PP, as presented in this chapter, following Yaakob (2013) and Yeo and Ting (2014).

***I*-Referents in and across DS**

The aim of this section is threefold: to discuss the *I*-referents at the intersection of all the three DS; at the interface of two DS, and peculiar to an individual DS. But before these are done, I highlight some important observations.

Generally, HS, SS and NS recorded 20, 15 and 13 *I*-referents respectively, with some overlaps (See Appendix C). The varied referents manifest how lecturers “shift into and out of the first-person register” (Yates & Hiles, 2010: 535) in their classroom encounter with students. There are 31 distinct *I*-referents across DSs. The findings are overwhelmingly higher than previous studies, as Yaakob (2013) found three distinct *I*-referents across four DSs; Yeo and Ting (2014) two; Zhihua (2011) five; and Gomez (2006) two.

Three main reasons can be adduced for the pronounced differences between the present study and the previous ones. First, the compositions of the corpora (subcorpora) in the present study and the previous studies (contra Zhihua, 2011) differ. While the present study designed full-lecture subcorpora, Yeo and Ting (2014) and Yaakob (2013) built lecture-introduction corpora. It is, therefore, possible that this factor influenced the number of referents of *I*. Therefore, it is not only the size of corpus, as Sinclair (1991) posits, which affects the distribution of rhetorical choices, but also the composition of the (sub)corpora.

The next reason borders on corpus-based vs corpus-driven approaches. The previous studies operated within the corpus-based paradigm by employing a

predetermined set of *I*-referents to ascertain whether their corpora ‘fitted’ into them. As such, they limited themselves largely to the metadiscursive *I*-types (Ädel, 2006). However, the present study approached the subcorpora broadly to determine the semantic referents associated with *I*, as employed by the language users (the lecturers) in their interaction with students.

Finally, the approaches adopted in the studies are also responsible for the difference. The previous studies used manual analysis to identify the referents. However, the present study adopted concordance analysis which enabled me to identify what could have otherwise been ignored in manual analysis. Bayley and Vicente (2004: 240, cited in Sarfo, 2016), therefore, note:

Concordancing software used together with relatively large collections of text is capable of identifying the regularities that seem to be inherent in language use in a way that would not be possible, or would be very time consuming, with the naked eye.

The concordance allowed me to observe PPs in context in order to determine their appropriate referents.

***I*-referents across disciplinary supercommunities**

This subsection examines the commonalities in the discourse referents of *I* across Humanities (HS), Social Sciences (SS), and Natural Sciences (NS). These common core *I*-referents with their raw frequencies (RF), normed frequencies (NF)

and log-likelihood (LL) values are provided in Table 17. Given the *space* constraints in this study, the first three are discussed.

Table 17: *Distribution of I-referents Common to DSs*

I-Referents	HS: RF(NF)	SS: RF(NF)	NS: RF(NF)	HS vs SS: LL	HS vs NS: LL	SS vs NS: LL
Lecturer	309(84.46)	433(98.60)	319(92.14)	4.35	1.19	0.85
Students	7(1.91)	10(2.28)	120(34.66)	0.13	128.2 1	137.7 0
Lecturer + students	6(1.64)	5(1.14)	150(43.33)	0.37	173.4 6	207.3 6
Lecturer + scholars in the field	1(0.27)	2(0.46)	4(1.16)	1.42	2.10	1.24
Lecturer then a university student	6(1.64)	5(1.14)	2(0.58)	0.37	1.88	0.71
One	24(6.56)	5(1.14)	25(7.22)	17.25	0.11	19.73

There were six trans-DS referents of *I*, viz lecturer, students, lecturer + students, one, lecturer + scholars in the field, and lecturer then a university student. In the ensuing subsections, I examine three of the referents: I for lecturer, I for students, and I for lecturer + students.

I as lecturer

Lecturers mostly engage in self-mentioning, and self-promotion in their interaction with students in the classroom. This is evident in the use of the first person pronoun to designate themselves across the subcorpora. Concordance

analysis reveal that *I* for lecturer frequently co-occur with the verb ‘to be’, as shown in Figure 20.

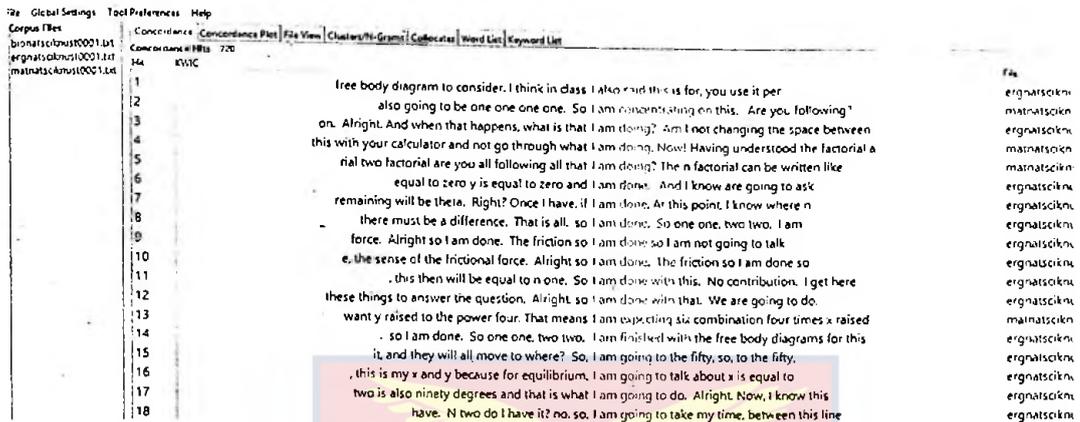


Figure 20: Sample concordance lines of *I* for lecturer from NSC

We observe from Figure 20 that the context and co-text of the I-type show that it designate the speaker (i.e. the lecturer). Like the present study, Yeo and Ting (2014), and Yaakob (2013) discovered that *I as lecturer* was common to both Arts and Science; and all the four broad knowledge domains (Arts and Humanities, Social Sciences, Life Sciences, and Physical Sciences) respectively. The trans-DS use of *I* as lecturer reflects lecturers’ desire to project their independent selves in order to enhance their authorial visibility in the ongoing classroom discourse. It, thus, highlights the centrality of lecturer as a discourse participant in classroom lectures (Biber & Conrad, 2009; Crawford Camiciottoli, 2007). The instances below illustrate the use of *I* for lecturer.

HSL: I am sure in Egypt there were intermarriages and so definitely people with that kind of colour might have been produced. [HSC 0001]

SSL: Good! **I** agree with that but the constitution itself said it. [SSC 0002]

NSL: But **I** said you will have to draw lines that are parallel to your x and y, isn't it? [NSC 0001]

All the hallmarked *I*-forms explicitly make semantic reference to lecturer. This discursive strategy thus helps lecturers to make their voices pronounced in their lectures. It also demonstrates how lecturers construct their individuality, and 'extract' themselves from the collectivity of lecturers in the discourse communities (Lerner & Kitzinger, 2007). Highlighting their individual personhood reveals their authority in their relationship with the students in the classroom. They, therefore, make obvious their agency that arguably present them as being responsible and accountable for their knowledge claims (Ler & Kitzinger, 2007). It is, thus, a rhetorical means of "claiming authority and exhibiting some form of ownership for the claims stated..." (Martin-Martin, 2003: 8). Yaakob (2013) notes that *I for lecturer*:

...confirms the nature of the relationship between the lecturer and student whereby the lecturer is in a position of giving knowledge or delivering information to the students and exerting this authority figure by owning the lecture and explicitly imparting information to students and leading the lecture (p. 217)

Although *I for lecturer* is qualitatively common to the DSs, there is quantitative variation. Table 17 reveals that HS, SS and NS used 84.46, 98.60, and 92.14 of *I for lecturer* respectively. The foregoing figures show the degree of

lecturer visibility across the three disciplinary supercommunities. They indicate that lecturer visibility is greater in SS than in HS and NS. The observed frequencies are, however, significant at HS vs SS (LL 4.35), and not significant at HS vs NS (1.19), and SS vs NS (LL 0.85). I have already reiterated that some previous studies found lecturer as a semantic referent for *I*, but only two of such studies (Yeo & Ting, 2014; Yaakob, 2013) were interested in broad disciplinary variation. While Yeo and Ting (2014) did not find any statistical significance between the Sciences and Arts, Yaakob (2013) used descriptive statistics (percentages). Hence, it is unjustified (statistically) to compare the present study to Yaakob (2013).

But because of how crucial Yaakob's (2013) study is to the present one, I proceed to normalize his figures so I can compare the current findings to his. It is important to note that there is the need for disciplinary typologies in the two studies to also be *normalized* for fair comparison, given that Yaakob adopted a quadripartite typology (Arts/Humanities, Social Science, Life Science, and Physical Science) while the present study employed tripartite one (HS, SS, and NS). Consequently, Yaakob's (2013) Life and Physical Sciences are lumped up to make it correspond to Natural Sciences in my study. Thus, the sizes of the subcorpora are 11604, 17449, and 16252 for HS, SS, and NS respectively. See Table 18 for the statistical details on *I* for lecturer that Yaakob (2013) found.

Table 18: Statistical Details on *I for Lecturer From Yaakob (2013)*

A/H: RF(NF)	SS: RF(NF)	NS: RF (NF)	AH vs SS: LL	HS vs NS: LL	SS vs NS: LL
72(19.68)	45 (10.25)	110(31.77)	12.19	10.23	45.76

The normed figures from Table 18 show greater lecturer visibility in NS (31.77) than HS (19.68), and SS (10.25). The finding of the present study, therefore, disconfirms Yaakob's because in the present one, SS recorded the highest frequency, not NS as found in Yaakob's study.

Two reasons can be adduced for the differences in the findings: composition of (sub)corpora, and sources/producers of the data (native-nonnative paradigm). The findings indicate that variability in the composition of lecturer corpus (comprising full or part of lecture) and native-nonnative parameter have implication for disciplinary variation. While Yaakob's study used lecture-introduction produced by native speakers, the present one built a full-lecture corpus produced by nonnatives (Ghanaians). Thus, it suggests that lecturer visibility is greater in NS lecture introduction, but greater in SS, using the full lecture. The factors largely also underpin the variation in the log-likelihood significance test. Interestingly, we notice from Table 17 that disciplinarity affected *I for lecturer* at the three independent levels of comparison: HS vs SS (12.19), HS vs NS (10.23), and SS vs NS (45.76), contrary to the present study where statistical significance was realized at HS vs SS (4.35) but not HS vs NS (1.19), and SS vs NS (0.85).

I for students

Pronoun switch is common in academic speech for the positioning of selves (speaker, audience, and others) (Yates & Hiles, 2010). There are, therefore, instances when different pronouns are used for the same referent (Ädel, 2010; Yaakob, 2013; Zhihua, 2011), and situations when a pronoun conjures different referents (Ädel, 2010; Fortanet, 2004; Rounds, 1987; Yaakob, 2013; Yeo & Ting, 2014; Zhihua, 2011) –what Anderson (2007) termed *referent shift*. A usage found in this study, affirming the former is the use of *I for students*, which corresponds with the notion of interpersonal pronoun shift, where the speaker uses a particular pronoun to designate the audience (Whitman, 1999).

Concordance analysis indicated that several I-forms (e.g. subjective, objective, and reflexive) were used to designate students. Figure 21, therefore, shows 3 of 4 instances of *myself* from SSC, which designate *students*.

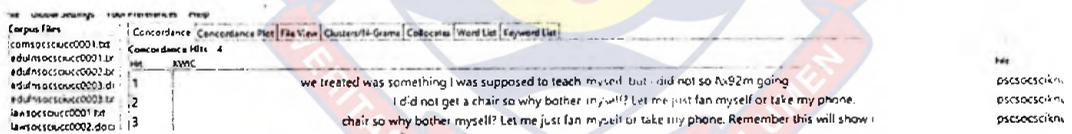


Figure 21: 3 of 4 concordance lines of *myself* designating students

From the concordance lines in Figure 21, we observe how the lecturer shifts footing and uses *myself* as though it was a student talking. It is important to note that this realization is not new. Yeo and Ting (2014) identified *I for students* (=you), *empathetic I*, following the notion of empathetic identification (Whitman, 1999), as a common referent to Arts and Sciences, just like the present one where *I* for

students is common to all the three DSs. Additionally, Fortanet (2004) and Zhihua (2011) found this in their studies but Yaakob (2013) did not. Fortanet (2004: 45) emphatically stated: “the use of first and second person pronouns is an important indicator of how audiences are conceptualized by speakers and writers in academic discourse.” The similarity between the present study and Yeo and Ting (2014), on one hand, and the differences between them and Yaakob (2013) borders on native-nonnative variability. Both the present and Yeo and Ting’s (2014) studies used corpora from Ghana and Malaysia respectively, while Yaakob (2013) used MICASE, which is from a native context. See corpus instances of *I for students* below:

HSL: You say, for this essay, **I** choose to discuss the scholar called Herbert Spencer. [HSC 0002]

SSL: I was even expecting that some of you who are standing would actually take the pain and write ... After all **I** did not get a chair so why bother myself? Let me just fan myself or take my phone. [SSC 0003]

NSL: This is what I will do, I will expand that and then I am going to pick where I have the xs and that is where **I** have to be wise to rewrite this one like this. [NSC 0002]

The use of this *I* can be described as a rhetorical transfer of the students from the status of lower power (novices) to the position of high power (experts), corresponding to the concept of *osmosis* in Physics. Thus, the students are psychorhetorically rankshifted to a near-expert (lecturer) position on “power ranks” (Brown & Gilman, 1960: 256) as depicted on the disciplinary membership cline (Afful, 2010; See Figure 4). This practice is expressed by Goffman (1981):

...we represent ourselves through the offices of a personal pronoun, typically “I,” and it is thus a figure—a figure in a statement—that serves as the agent, a protagonist in a described scene, a “character” in an anecdote, someone, after all, who belongs to the world that is spoken about, not the world in which the speaking occurs. And once this format is employed, an astonishing flexibility is created. (p. 147)

More so, it ‘bridges’ the *I-they* gap which is created by the physical environment in the lecture hall where the lecturer stands, while the student sits. *Standing* and *sitting* in the lecture hall alone evoke the asymmetric power relation between an expert (lecturer) and novice (student) (Csomay, 2002; Brown & Gilman, 1960). Therefore, lecturers attempt to create a *rhetorical equality* to facilitate teaching and learning in a “collegial atmosphere” (Csomay, 2002: 220) through the use of this type of *I* is apt. The “equalitarian” (Goffman, 1981: 126) rhetorical strategy helps lecturers “to minimize the threat to the students’ positive face” since “talking in front of a big lecture hall can be intimidating for some students” (Yaakob, 2013: 217). Unsurprisingly, Brown and Gilman (1960) described pronouns in this context as “the pronoun of condescension and intimacy” (p. 258). *I for students* helps students to manage the unequal power relations (Csomay, 2002) which “increase students’ conceptions of isolation and alienation” (Archer, & Leathwood, 2003: 261) in the classroom. Thus, their sense of

belongingness is enhanced and deepened since lecturers strive “to establish common ground” (Dafouz, Nunez & Sancho, 2007: 647).

Interestingly, the normed frequencies (HS: 1.91; SS: 2.28; NS: 34.66) presented in Table 17 evoke variation across the subcorpora. The figures put NS (34.66) in the lead, followed by SS (2.28) and then HS (1.91). Additionally, the significance measure tests positive (statistically significant) at two intervals: HS vs NS (LL 128.2), and SS vs NS (LL 137.7), but negative (not significant statistically) at HS vs SS (LL 0.13). The significance test shows that disciplinary variation has effect on the use of *I* for *you* at HS vs NS, and SS vs NS, but not HS vs SS.

Generally, from Table 17, *I as lecturer*, *students*, and *lecturer + students* reveal the significance of speaker presence, audience visibility or representation (Cherry, 1988), and lecturer-student interaction or engagement in classroom lectures. These three trans-DS *I*-referents thus affirm how interpersonal relations (Wetherell, 2001) and interpersonal tenor (Hyland, 2005a) characterise lecture genre. In metadiscourse parlance, *I as lecturer*, on one hand, and *I as students*, and *I as lecturer + students* on the other hand function as self-mentions and engagement markers, a rhetorical strategy which recognizes the participation rights (Wetherell, 2001) of students – respectively (See Ädel, 2006; Hyland, 2005a & b). Further, *I as lecturer + scholars in the field* functions evidentially to show the value of the claims made (Yales & Hiles, 2010; Martin-Martin, 2003, Tang & John. 1999) by the lecturers in their interaction with students in the classroom. It increases the credibility and acceptability of the arguments, claims, propositions and views

SSL: When **I** was a student like you in those days, we were writing three quizzes a day within two days.... [SSC 0004]

NSL: That reminds me, when we were students. How many of you are in Queens Hall, Queens Hall. The royals, who are the royals in the school here? Plus one mark each because I was a royal. [NSC 0003]

In all instances, the lecturers reminisce their university studentship life. Thus, the identities projected are non-metadiscursive as they relate to real world, rather than the text-internal world (Ädel, 2006, 2010). Psychologically, this referent helps the students to map the personality of the speaker (then as a student) and now as a lecturer. This may yield a positive result as it can inspire students to take their studies seriously at least with the hope that they can also attain greater feats just like the lecturers who are teaching them.

The normed frequencies (NFs) tend to partly affirm Biber and Conrad's observation since NS (0.58) recorded the least of *I as a lecturer then a university student*. HS (1.64) recorded the highest NF, followed by SS (1.14). The finding resonates with previous studies (e.g. Biber & Conrad, 2009) since HS has been found to adopt narrative style in lectures than SS and NS. It is, however, interesting to note that statistical significance test shows that the differences among DSs at the three independent levels of comparison are statistically not significant: HS vs SS (LL 0.37), HS vs NS (LL 1.88), and SS vs NS (LL 0.71).

***I*-referents at the inter-disciplinary supercommunity level**

This subsection discusses the referents of *I* at the interfaces of two DSs. It is important to note that while there are HS-SS and SS-NS commonalities, there is

zero I-referent shared by HS and NS. This finding is not surprising as it further affirms the tacit *proximity hypothesis* that underpins cline-based disciplinary typology models such as Hyland (2009). It is shown in such models that the degree of proximity affects the quantity of shared features. Consequently, the longer the distance between DSs on a cline, the fewer the shared referents, while the opposite also holds.

I-referents peculiar to HS and NS

Table 19 recounts I-referents common to HS and SS: *I for political figures*, and *I for lecturer as a child*. These referents are non-metadiscursive such that they refer to non-ratified absentee *participants* (Goffman, 1981) outside the discourse internal world (Ädel, 2006; Hyland, 2005a & b). Interestingly, they are both anthropocentric (i.e. human-related), affirming the centrality of humans in the discourses of HS and SS (Becher, 1994). *I for lecturer then a child* is instantiated in the extracts HSC 0004, and SSC 0005, while *I for political figures* is also exemplified in HSC 0005 and SSC 0006.

HSL: Because growing up in a typical village **I** go to, **I** go to the farm, **I** come with cassava, okay. [HSC 0004]

SSL: So that is how we ended up in Nigeria and **I** had my early primary in Nigeria. **I** came back only for the secondary school. [SSC 0005]

The non-metadiscursive I-referents exemplified in the above extracts refute Biber and Conrad's claim that "pronouns refer to things that are present in the

communication situation: oneself, the listener, other people or objects. Such people and objects exist in the situational context for classroom teaching...” (p. 64).

Table 19: *I*-referents Peculiar to HS and SS

Referents	HS: RF(NF)	SS: RF(NF)	LL
Political figures (e.g. Kwame Nkrumah)	1(0.27)	9(2.05)	5.98
Lecturer then a child	11(3.01)	2(0.46)	8.61

In HSC 0004 and SSC 0005, lecturers reminisced their childhood days and tapped into such experiences for emphasis. In HSC 0004, for instance, the lecturer recounted how he went to farm and came home with *cassava* which was exchanged for plantain or other ‘goods’ from their neighbours. The lecturer, therefore, utilized that to substantiate the African concept of communalism which entrenched the practice of barter trade, and the Akan concept of personhood (See Gyekye, 1998) in the pre-colonial African societies.

On the other hand, both HS and SS used *I* to refer to some political figures. Most appropriately, with respect to pronoun-pronoun mapping, this *I* is *I for he* as in HSC 0005; and *I for I* (non-discoursal speaker) as in SSC 0006.

HSL: The other time I made it clear that even when he started his duty as the General Secretary, Nkrumah for some time was not being paid but he was indifferent about money and so he went ahead and promised his staff and the General Secretary of the U G C C not thinking about whether he was paid and having the interest of the people at heart, ensuring that the independence, political independence of the people had been achieved without thinking about what I am receiving in the form of money. [HSC 0005]

SSL: Anyway so they came to see my dad so that he can actually be with the C P P instead of U P...You know I'm not moving. This is my party. [SSC 0006]

Using *I* for *themselves* and for political figures (*I* for *he/they*) implies the complex footing employed by HS and SS lecturers in using *I*. This discursive strategy resonates with Bakhtin's (1981) ventriloquation, echoed coincidentally in the same year by Goffman (1981: 149):

One can see that by using second or third person in the place of first person we can tell of something someone else said, someone present or absent, someone human or mythical. We can embed an entirely different speaker into our utterance. For it is as easy to cite what someone else said as to cite oneself.

Largely, the 'common denominators' to HS and SS affirm their closeness as having dispersed knowledge (Hyland, 2009). Thus, they draw on such retrospective referents to accumulate such historical disciplinary dispersed knowledge. Interestingly, Table 19 indicates that there is disciplinary variation in the use of these referents. The log-likelihood test, thus, shows that disciplinarity has an impact

on the use of the HS-SS specific I-referents, since the LL values in all respect were above the significance cut-off point (LL 3.84).

I-referents specific to SS and NS

Interestingly, I as practitioners in the field is found to be SS-NS specific, as shown in Table 20.

Table 20: I-referents Peculiar to SS and NS

Referents	SS: RF(NF)	NS: RF(NF)	LL
Practitioners in the field	6(1.37)	20(5.78)	11.65

The Social and Natural Scientists evoke the presence of threshold practitioners (Afful, 2010) in their lectures to show students the relatively bridged distance between ‘academy’ and industry in these two fields, in line with the rationale behind ‘Academia-Industry Stakeholders’ Conference’ held annually by one of the participating institutions (KNUST) (<https://goo.gl/YPS98R>). Thus, students are educated to understand the applicability of the knowledge acquired. *I for practitioners* is exemplified in corpus evidences SSC 0007 and NSC 0004.

SSL: If it’s being upheld, if somebody is a er makes application to the court, **I** want a declaration, for X Y Z, and the court says erh your submission has been upheld...[SSC 0007]

NSL: Then, if **I** happen to calculate effort to be equal to twenty. how many young engineers will **I** need? [NSC 0004]

In the above excerpts, the marked *I*-forms do not refer to lecturer, student, or both.

They allude to non-discoursal participants, which are a legal practitioner (in SSC

0006), and a practicing engineer (in NSC 0004). Thus, the *I*-forms marked as *I* for practitioners are non-metadiscursive, because they make referents to entities in real world (Ädel, 2006). It is, therefore, not surprising that in his cognitively-based model of disciplinary typology, Biglan (1973) classified most of NS and SS disciplines as applied, and all HS ones as pure. Becher (1994) also mentioned “Applied Social Sciences” (p. 159) and, of course, Natural Sciences.

Furthermore, the normed frequencies show NS’s high patronage of this referent, affirming the view that NS demonstrates a higher degree of knowledge application than the SS (Coughlan & Perryman, 2011; Becher, 1994). Most expectedly, the significance test reinforces the fact that disciplinary variation affects the practitioner referent use between NS and SS, with LL value at 11.65.

The only study that reported a finding close to this present one is Zhihua (2011) who found *I for anyone in the field*; and Rounds’ (1987a) *I for mathematicians*. It is important to note that the terms used in the studies (the present, and the previous ones) connote different referents. Zhihua’s (2011) *I for anyone in the field* encompasses the present study’s *practitioners in the field*, and some other disciplinary discourse communities aligned members such as administrator, supporting staff like Teaching Assistants, Research Assistant, Graduate Assistant. Furthermore, Rounds’ *I for mathematicians* partly relates to my *I for practitioners*, since a mathematician could be either an academic or a professional, what I refer to as *scholars* and *practitioners* respectively.

I-referents at intra-disciplinary supercommunity level

The referents discussed under this section are peculiar to the individual DS, and thus suggest disciplinary storehouse of discourse referents of I (Wetherell, 2001), which are most probably “community generated and community maintained” (Afful, 2010: 26). Although most of the referents under this section have relatively marginal frequencies, they are symptomatic of tacit disciplinary *typicalities*. Thus, the issues discussed here need further investigation using larger (sub)corpora than the current ones.

I-referents peculiar to HS

Table 21 presents the HS-specific referents of *I*. A number of them project the lecturer as person in the discourse external world (See S/N 1-6). It shows the complicated nature of politics of representation (Wetherell, 2001) or the “various treatments of self-representation” (Cherry, 1988: 251) in HS classroom lecture.

Table 21: I-referents Peculiar to HS

S/N	Referents	Raw Freq.	Normed Freq.
1.	Lecturer as passenger	1	0.27
2.	Lecturer as a person (human being)	7	1.91
3.	Lecturer as a TV watcher	1	0.27
4.	Lecturer as member of staff	2	0.55
5.	Lecturer as SHS student	2	5.74
6.	Lecturer + scholars + general students in the field	1	0.27
7.	Pre-modern Africans	9	2.46
8.	Attendant on a plane	3	0.82
9.	Africans	6	1.64
10.	Women in society	2	0.55
11.	Men in society	1	0.27

The referents 1-6, which are lecturer-related, thus show how HS lecturers integrate their “physical selves” (Friesen, 2011: PP) or “selfhood in the sociocultural and institutional context” (Ivanic, 1998) or societal self (Chery, 1988) in lectures. It is akin to what Goffman (1981) terms “code-switchinglike behavior” (p. 127) that lecturers exhibit in their engagement with students in the classroom. It further gives credence to Cherry’s (1988) assertion that “self-representation ...is a complex multidimensional phenomenon that skilled writers [speakers] control and manipulate to their rhetorical advantage” (p. 385). The findings indicate a rhetorical strategy to dovetail the three selves (societal, genre, and discoursal) in this key instructional genre. All these help the lecturers explain disciplinary concepts to facilitate students’ understanding. The web of discourse external and internal selves arguably illustrates the complementary relation between real world experiences and scholarly ones.

Besides the speaker-oriented discourse external identities. HS lecturers have *I* varieties “referring to members of a category defined in context” (Ädel, 2006: 35) such as women in society, men in society, and attendants on a plane. All these constitute the rhetorical strategy to create a miniature world in the classroom to bring reality close to the student. Yaakob (2013) notes that some of these occurrences, which appear in real and hypothetical worlds (Crawford Camiciottoli, 2007), are “for the benefits of the students so they can put themselves in the hypothetical situation” (p. 220) to enhance their understanding of the theoretical and conceptual disciplinary knowledge (Crawford Camiciottoli, 2007; Luo &

Hyland, 2017). Interestingly, the numerous HS-specific I-referents are in line with the fact that Hyland (2009) describes it as explicitly interpretive, with dispersed knowledge. Thus, they create varied references in order to ‘assemble’ the dispersed knowledge for students’ understanding and socialization in the HS discourse community.

I-referents peculiar to SS

Tang and John (1999: 23) argue that “the first person pronoun in academic writing is not a homogeneous entity” in that it can conjure multiple referents, both human, and non-human. As shown in Table 22, SS lecturers used *I* to designate non-human referents comprising toponyms: western countries, and any country; institutions: political parties; and “members in a category defined in context” (Ädel, 2006) such as Ghanaians and scholars NS. The use of *I* to designate non-human referents corroborates Kitagawa and Lehrer’s (1990) claim that the impersonal use of *I* is common in English. It further supports Zhihua’s (2011) observation that *I* was used to refer to “personified objects”. However, while Zhihua’s impersonal *I*-referent is non-human-related, those in the present ones are anthropocentric.

Table 22: *I*-referents Peculiar to SS

Referents	Raw frequencies	Normed frequencies
Western countries (e.g. US)-	8	1.82
Any country	3	0.68
Political party	2	0.46
Ghanaians	1	0.23
Scholars in NS	1	0.23

The first three referents, as can be seen in Table 22, exemplify impersonal use of PP (See Kitagawa & Lehrer-1990 for details on this phenomenon). Zobel (2014) describes such pronouns as “impersonally interpreted personal pronouns”. This practice contrasts with “impersonalization” or “impersonality”, which refers to “the absence of agentivity as well as non-specified person (Skorupa & Dubovičienė, 2016: 82). Appropriately, the phenomenon is depersonalization of PPs, which construes the use of a PP for non-human referents such as countries and political parties. Pragmatically, the *I*-forms in extract SSC 0008 used to refer to developed or western countries whom the lecturer claims may benefit from climate change.

SSL: So if it is based on institutional dynamics, it's based on not the person choosing to agree but if **I** think **I** am benefiting from the impact of climate change there is the likelihood that **I** may deny that you are vulnerable from the things of climate change because of **my** action. [SSC 0008]

The lecturer (as illustrated in SSC 0008) depersonalizes himself/herself and speaks as a 'country', thereby casting a non-humanistic identity of themselves. Clearly, this demonstrates a change in footing, or positioning (Goffman, 1981). Now, the toponymic references offer the lecturers the opportunity to take the minds of the students outside the classroom for a *rhetorical tour*, consistent with the role of the lecturer as a guide (Tang & John, 1999). The result of this rhetorical act is that it brings those non-human institutions into the immediate rhetorical environment of the students. It also helps the students to grasp the shared knowledge as they observe the "speaking personalized countries" in the classroom. Essentially, therefore, these referents perform ideational functions rather than interpersonal ones.

I-referents peculiar to NS

As presented in Table 23, there are five NS-specific *I*-referents. Interestingly, four of them are lecturer-oriented while one is student-oriented, albeit they are identities outside the discourse (Alajaji, 2015). The two categories of *I*-referents in NS refer to both the speaker and the audience as experiencers in the discourse external world, the "real world" (Ädel, 2006: 35). The NS-specific *I*-referents are shown in Table 23. These illustrate NS lecturers' move to draw on their own (lecturers and students) *ordinary* experiences to explain complex scientific phenomenon to enhance shared understandings (Hyland, 2005b).

Referents	Raw frequencies	Normed frequencies
Lecturer as driver	24	6.93
Lecturer as patient	1	0.29
Lecturer as father	1	0.29
Lecturer as bank client	7	2.02
Students as applicants	2	0.58

They further reveal how NS lecturers depend on personal narratives or anecdotes which “concentrate attention and produce involvement...They are used to achieve specific content-oriented and interactional goals” (Strodt-Lopez, 1987: 194 cited in Querol Julian, 2011: 132). Further, it shows that NS lecturers manifest their discourse-external selves (permeated through *I*), unlike their HS and SS counterparts who either ‘unsell’ or ‘undersell’ their real world selves in their lectures, which are also legitimate and valid sources of ideas/knowledge (Hyland, 2002b). It also shows how lecturer-centeredly *dialogical* (in Bakhtinian sense) (Wetherell, 2001; Bakhtin, 1981) NS lectures are as they allude to other rhetorical ‘sources’ of their *other selves* in the classroom. The finding partly confirms Querol Julian’s (2011) study on personal narratives in academic lectures where he found NS (represented by Biology) to comparatively outnumber both HS and SS in terms of the frequency of narratives and personal anecdotes.

Aside from the portrayal of the discursal external self of lecturers, a non-metadiscursive identity of the audience is also projected *students as applicants*.

This audience representation draws the students back to their pre-university life, a strategy to raise “rhetorical consciousness” (Hyland, 2002b: 5) in the students. Their current state as members of the discourse community compared to their historical selves stimulates their “curiosity and encourage them to actively and independently engage...” (Hyland, 2002b: 8) with such literacy practices of note taking/making, and questioning.

Generally, Tables 21, 22, and 23 have revealed DS-specific *I*-referents. The DS-specific polyreferential systems of *I* indicate how lecturers adjust or change their footing, or positioning (Dafouz & Nunez, 2001) while lecturing. Thus, they talk “as either the **author** of what they say, as the **principal** (the one the words are about) or as the **animator** of someone else’s words” [bolded in original] (Wetherell, 2001: 19). The change in footing (Goffman, 1981) arguably has “interactional significance” (Goffman, 1981: 163). Goffman, therefore, argues: “A change in footing implies a change in the alignment we take up to ourselves and the others present as expressed in the way we manage the production or reception of an utterance” (p. 128).

The figures for the DS-specific *I*-referents show a degree of complexity of footing (Metzger, 1999) in the DSs. HS alone recorded 12 while SS and NS had five each. Comparatively, therefore, Humanities has a more complex footing than both SS and NS (even combined). The *rhetorical ethnography* allows the lecturer in the HS more than both SS and NS position themselves severally inside and outside the discourse (Ädel, 2006; Hyland, 2005a) to enable them to share

knowledge with the students. This reinforces Wetherell's (2001: 23) argument that "language positions people –discourse creates **subject position**" (bolded in original). The vast difference between HS, on one hand, and both SS and NS, on the other hand, can be ascribed to HS's over reliance on interpretive and qualitative paradigms of inquiry (Hyland, 2009; Creswell, 2003) which affords them multiple voices to describe reality.

***We*-referents in and across disciplinary supercommunities**

This section of the chapter discusses the referents of *we*. Thus, it has three subsections, which respectively focus on *we*-referents shared by all the three DS, common to paired DSs, and peculiar to individual DSs. But before this is done, the number of *we*-referents realized is compared to the previous studies.

In totality, *we* recorded 49 distinct discourse-defined referents across DSs, a realization exceedingly higher than figures recorded in the previous studies – Yaakob (2013) recorded 5 distinct *we*-referents across DSs; Zhihua (2011) seven; four for Yeo and Ting (2014), seven for Fortanet (2004); and five for Rounds (1987a). The myriad *we*-referents demonstrate how lecturers rhetorically *enter* and *exit we* (Yates & Hiles, 2010) during lectures. Two main reasons can be adduced for the dissimilarity in the findings between the present study and the previous ones. One is the approaches adopted in the present study, and the previous ones (e.g. Yaakob, 2013; Yeo & Ting, 2014; Zhihua, 2011). On the referents of the tri-PP, the present study adopted a hybrid (corpus-based/driven) approach while the previous

employed corpus-based approaches. These concepts are discussed earlier in Chapter Four). The approaches respectively allow the studies to take *open-ended* and *closed-ended* views to discovering the discourse referents of the tri-PP.

Again, a contributing factor to the disparity in the findings is the composition of (sub)corpora. The present study used full-lecture corpus but a number of the previous studies (Cheng, 2012; Yeo & Ting, 2014) employed lecture-part corpora. A third reason is specifically related to Yeo and Ting's (2014) study. They, unlike Yaakob (2013), Rounds (1987a & b), Zhihua (2011) and the present study, did not particularize the human, and/or non-human referents (i.e. the nominal referents) of the tri-PP. They rather specified the pronominal referents of the tri-PP. For instance, they recorded *we* 'pronominal referents' as *we* for *I*; *we* for *you*; *we* for *you + I*, and *we* for *I + they*. While the first three referents can be respectively mapped to lecturer, students, and students + lecturer, the fourth one rather looks vague. *We* for *I + they* in Yeo and Ting's (2014) study can refer to my lecturer + scholars in the field, lecturer + university mates, lecturer + childhood friend, etc. So, this vagueness in their study can also account for the vast difference in the number of referents of *we* in the two studies.

***We*-referents across disciplinary supercommunities**

The analysis of the discourse referents of *we* across DSs reveals striking differences and commonalities. Afful (2010, See Figure 4) provides a model of the members in academic discourse community. We note that all the three DSs used

we to refer to these members in Figure 4. These intersecting discourse references of *we* transcend individual DS borders. These referents with their statistical details are presented in Table 24.

Table 24: *We-referents Across DSs Plus Statistical Details*

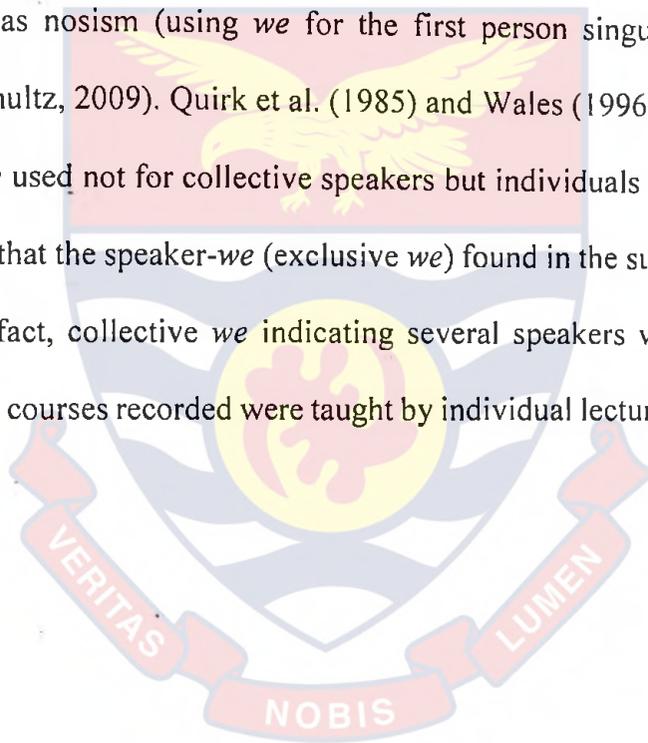
We-referents	HS: RF(NF)	SS: RF(NF)	NS: RF(NF)	HS vs SS: LL	HS vs NS: LL	SS vs NS: LL
Lecturer(=I)	51(13.94)	69(15.7)	79(22.8)	0.42	7.72	5.14
Students	48(13.12)	24(5.5)	39(11.2)	13.14	0.50	8.06
Lecturer + current students	86(23.51)	128(29.1)	312(90.1)	2.41	149.08	129.32
Lecturer + scholars in the field	26(7.1)	45(10.2)	56(16.1)	2.27	12.95	5.24
Lecturer + colleague lecturers	3(0.82)	7(1.6)	1(0.28)	1.00	0.94	3.75
Lecturer (as a university student + programme mates)	4(1.09)	1(0.22)	5(1.4)	2.52	0.17	3.95
Lecturer + students + scholars in the field	19(5.19)	63(14.3)	15(4.3)	17.55	0.28	21.45
One	30(8.20)	90(20.49)	9(2.60)	21.44	10.80	59.06
Scholars in the field	92(25.15)	26(5.9)	23(6.6)	57.89	40.61	0.16

As shown in Table 24, *we* is used by Humanity, Social, and Natural Scientists to refer to *lecturer, students, lecturer + students, lecturer + scholars in the field, lecturer + colleague lecturers, lecturer (as a university student + programme mates), lecturer + all students + all scholars in the field, lecturer +*

students + scholars in the field, humankind/general and *one*. Four of these are discussed in the ensuing subsections.

We for lecturer

All the three broad knowledge domains used *we* to refer to the speaker (the lecturer). *We* for lecturer corroborates the concept of intrapersonal pronoun shift, whereby a speaker uses different pronouns for self-designation (Whitman, 1999) – which can be contrasted with *interpersonal pronoun shift*. This rhetorical use of *we* is referred to as nosism (using *we* for the first person singular pronoun *I*) (Maxey, 2016; Schultz, 2009). Quirk et al. (1985) and Wales (1996) described this nosistic type of *we* used not for collective speakers but individuals as editorial *we*. It should be noted that the speaker-*we* (exclusive *we*) found in the subcorpora is the editorial type. In fact, collective *we* indicating several speakers was completely absent since all the courses recorded were taught by individual lecturers. See Figure 23 for instances



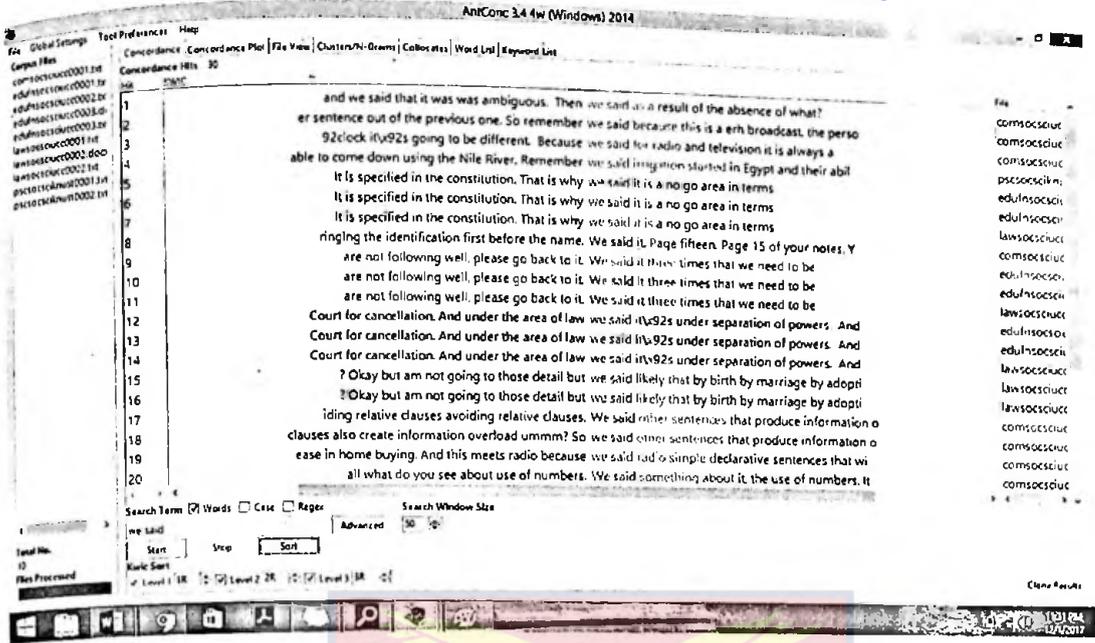


Figure 23: Concordance lines for we for lecturer from SSC

Across the subcorpora this we-type generally collocate with the verb *said*, as shown in Figure 23. Using the editorial *we*, the lecturers sought to project their DS-specific ethos (Afful, 2010; Hyland, 1999b) and also enhance their visibility in the discourse. DS (disciplinary)-specific ethos indicates how lecturers portray “themselves in their speeches as having a good moral character, ‘practical wisdom’, and a concern for the audience in order to achieve credibility and thereby secure persuasion” (Cherry, 1988: 259). More so, the editorial *we* is used as an *I* substitute to avoid being egoistical (Quirk et al., 1985), thereby projecting themselves as humble servants in the scholarly community (Hyland, 2001a).

HSL: But one key thing we said about the derivational morpheme is that it helps us arrive at what? New words. [HSC 0006]

SSL: But we are saying that to remove the ambiguity in the text, this is the way we are going to capture it. [SSC 0009]

NSL: But the only one as at now but not completely explain the the function of the membrane relating to the structure as we have described is what we call the fluid mosaic model. [NSC 0005]

The use of *we* for *I*, as exemplified in extracts HSC 0006, SSC 0009 and NSC 0005, supports findings in the previous studies (e.g. Yaakob, 2013; Yeo & Ting, 2014; Zhihua, 2011; Rounds, 1987a). This *we for I* is adopted across the disciplinary supercommunities as a politeness strategy (Brown & Levinson, 1994) thereby projecting the lecturers as unauthoritative (Quirk et al., 1985). Aside from the cross-DS employment of *we for I* (lecturer), there is statistical variation.

It is shown in Table 24 that HS, SS and NS respectively recorded 13.94, 15.7, and 22.8 normed frequencies per 10, 000 running words. The figures indicate that NS used more of this *we* referent than their HS and SS counterparts. It suggests NS's shift from more transactional use of language towards an interactional one, as it has been described as being content-oriented knowledge domain (Hyland, 2009; Crawford Camiciottoli, 2007). It is also important to note that the significance test shows that the observed differences are statistically significant at HS vs NS (LL7.72), and SS vs NS (LL 5.14) levels only. On the other hand, the difference observed in HS vs SS in terms of both raw and normed frequencies are not significant statistically.

We for students

Corpus evidence shows that the three broad knowledge fields used *we* to refer to the audience, a kind of *we* Ädel (2006) termed *we the audience type*. This

we is metadiscursive because it is limited to the audience in the discourse internal world (Ädel, 2006, 2010; Hyland, 2005a & b). This type of *we* has a -speaker feature + current audience feature, as shown in Figure 24.

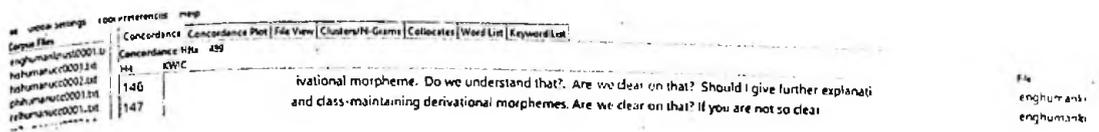


Figure 24: Sample of concordance lines for *we* for students from HSC

The lecturer used *we* in the interrogative structures in Figure 24 to refer to the students. It, thus, evidences the lecturers' awareness and recognition of the students in the ongoing discourse. Examples from the subcorpora are provided below:

- HSL: Are we ready for the lecture?...Everything we are learning here and even those we are not learning are not for here and now. [HSC 0007]
- SSL: Then you are lost. Find yourself. I think that is clear now. Are we getting the argument? We said we made a statement which we said was ambiguous. [SSC 0010]
- NSL: So I pick that part and then I extract wherever the I see x, and where do I see x? I see x raised to the power six minus r times one over x all raised to the power r. Can we all see that? [NSC 0006]

This *we* explicitly recognises the presence of the audience who are co-participants in the lecture discourse. So in SSC 0010, *we* is synonymous to *you* (students) such that the question can be recast "Are you getting the argument?" The *empathetic we* is employed by the speakers to rhetorically *share* students' during-lecture responsibilities, and activate their interest. This type of pronoun reveals the speakers' condescending or rank shifting strategy to studentship (Csomay, 2002;

Brown & Gilman, 1960). It is akin to the concept of diffusion (in Physics), where lecturers move from the 'region' of higher power (experts) to the 'region' of lower power (novice), as presented in the "hierarchical power structures among the community members". (Chang, 2012: 113). Brown and Gilman (1960) appropriately described this *rhetorical diffusion* as "a shift from power to solidarity" (p. 260) realized through the "pronoun of solidarity" (p. 260). This may inspire the students and allay their fears for lecturers (Navaz, 2013), as they may psycho-emotionally perceive lecturers as partners in the learning task. Eventually, the presence of this type of pronoun will place a lecture forward on the monologic-dialogic cline (Navaz, 2013), thereby increasing the level of interactivity (Csomay, 2002).

This finding is congruent with previous studies such as Fortanet (2004), Rounds (1987a & b), Yaakob (2013); Yeo and Ting (2014), and Zhihua (2011) who also discovered that *we* was used to designate the students. It has been pointed out that several factors determine pronominal choices in discourse (Rounds, 1987b), viz user's role, perceived relationship to hearers, speaker's idiosyncrasies, disciplinary ideology, norms, cultures and practices, institutional ideology, etc. Rounds (1987b) further argued that "...the use of inclusive pronoun is a positive factor in terms of interactivity" (p. 650). This has implication for the disciplinary discourse community's-view on the role and power in teacher-student interaction or relation to discourse (Csomay, 2002).

Table 24 reports that HS (13.12) recorded the highest use of *empathetic we*, followed by NS (11.2), and then SS (5.5). These normed frequencies imply that HS lecturers more than SS and NS lecturers *empathise* with their students. The figures thus reveal the degree of lecturers' *studentship* in classroom, or psycho-emotional attachment, which is a means of "creating and maintaining sociability and affective well-being" (McCarthy, 2002: 49). HS's more use of this *we* can be justified by the fact it subscribes to the social constructivist view (Hyland, 2009) which supports the sociorhetorical stance on the sociology of emotions (Kemper, 1981), as against NS which upholds the physio-biological position on sociology of emotions, inspired by the positivist theory (Kemper, 1981). However, SS recording the lowest use of this *we* is surprising as the differences between it (SS) and NS (LL 8.06), a more positivist knowledge domain, and HS (LL 13.14) are statistically significant.

We for lecturer + students

The commonality among the three disciplinary discourse communities is further manifested in the lecturer/student-oriented *we*. Inclusive *we* is used in this case to reveal the interpersonal relationship between the lecturer and the students in the discourse communities, as conceptualized by Crawford Camiciottoli (2007) in her book *The language of business studies lectures*. See Figure 25 for instances of *we for lecturer and students*.

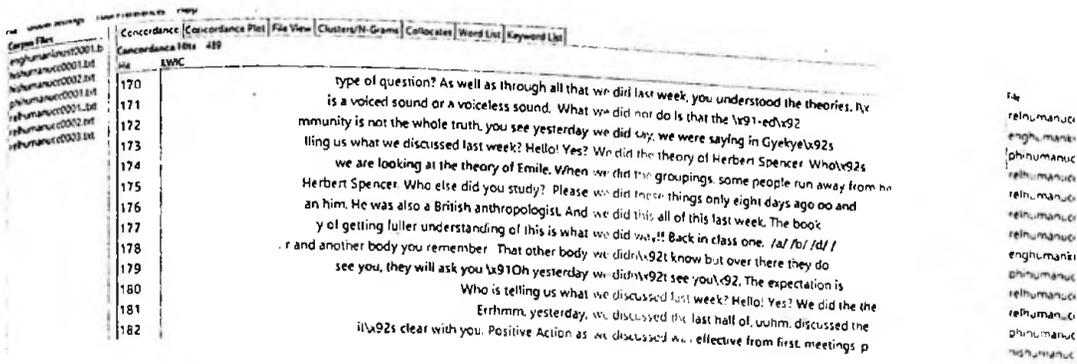


Figure 25: Samples of concordance lines for *we* for lecturer + students from HSC

The immediate collocational context and co-text of the *we*-type in Figure 25 shows that it has a + lecturer + students feature. Although lecturers and students have asymmetric power relation (Afful, 2010; Crawford Camiciottoli, 2007; Csomay, 2002), the use of *we* to enact solidarity and interaction is a positive rhetorical strategy of recognising students as legitimate members in the discourse communities. Milne (2006) thus posits that the lecturer-student *we* “suggests the lecturers’ twofold intention: to shorten the distance with students and to establish common ground”. As seen in extract NSC 0007, the lecturer explicitly recognised and addressed the students as members not just in the *physical setting* but as members in the discourse community.

- HSL: In the second word what we have is *play* plus /s/. Right? So the morpheme is /s/. [HSC 0008]
- SSL: So here we are looking at that contribution of education the contribution of education to economic growth as well as economic development. [SSC 0011]
- NSL: Now we are two in this class, me and my students. [NSC 0007]

This finding is consistent with Rounds (1987a & b), Yaakob (2013), Yeo and Ting (2014), and Zhihua (2011). Biber (1995) proposed involvement/detachment continuum; the finding, therefore, shows the degree of involvement rather than detachment in classroom lectures, which is akin to conversation and thus shares a lot of its features (Biber, 2006a & b; Biber & Conrad, 2009; Csomay, 2002).

We for lecturer + scholars in the field

It is interesting to note that lecturers across the three broad knowledge domains enacted their 'experthood' identity through *we*-forms. Thus, they strategically de-emphasized their individual self-reference, and emphasize collective self-reference (Lerner & Kitzinger, 2007). Lerner and Kitzinger (2007), therefore, asserted: "On some occasions of self-reference there can be two equally viable forms available to speakers: individual self-reference (e.g. *I*) and collective self-reference (e.g. *we*)" (p. 526) respectively referred to as "aggregation (of an individual to a collectivity) and extraction (of an individual from a collectivity)" (p. 526). See Figure 26 for examples of *we for lecture plus scholars in the field*. (*we* + call)

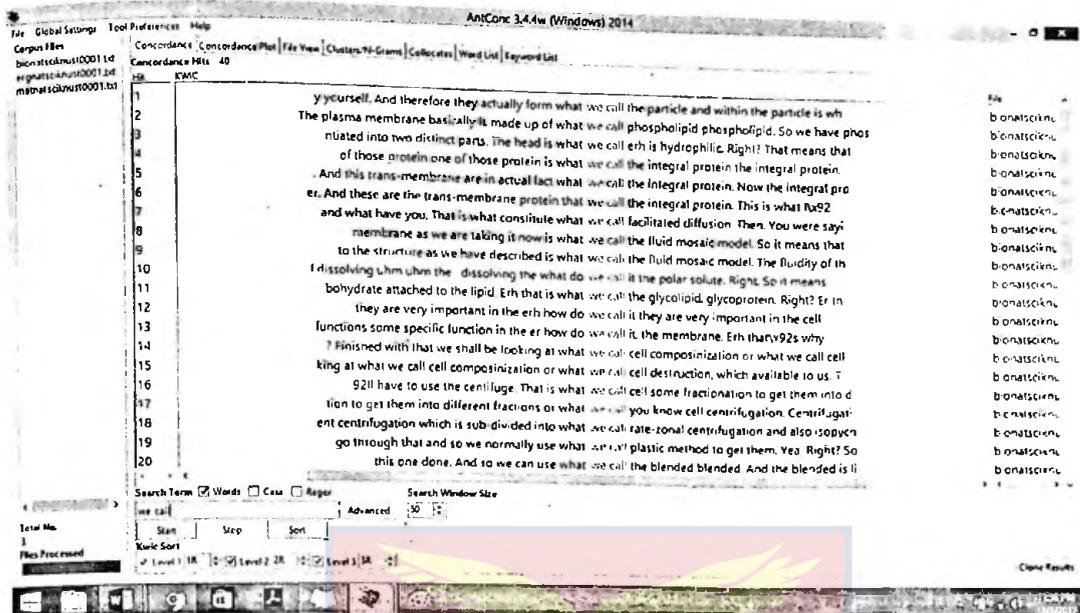


Figure 26: Concordance lines for lecturer + scholars in the field from NSC

The node expression in Figure 26 is ‘we call’. Clearly, the context and co-text of *we* in this case shows that it designates disciplinary gatekeepers, which of course involve the lecturer. As a proxy of disciplinary experts, the lecturer uses this structure (*we call*) to demonstrate the authority of the experts to label disciplinary phenomena.

Semantico-pragmatically, *we* in this situation is equivalent to *I + they*. This realisation is present in Fortanet (2004), Yeo and Ting (2014); Ädel (2006) as a subtype of non-metadiscursive *we*, which Ädel specifically labels *we the audience type*, and Rounds (1987a) who termed it lecturer + mathematicians, but absent in Quirk et al. (1985) and Wales (1996). *We* for lecturer + scholars in the field in this study is *loosely* equivalent to Yaakob’s (2013) *we* for lecturer + other people in the field. I use the word *loosely* because the two expressions are not the same, semantically. Yaakob’s expression is so broad that it encompasses the lecturer plus

any of the members in the academic discourse community such as practitioners, teaching/graduate assistants, and even administrators in the field. Drawing on the degree of lecturers' involvement or detachment (Biber, 1995), I observed *we* for lecturer + scholars in the field; *we* for lecturer + teaching assistant; *we* for lecturer + scholars in the field + students in the field; *we* for scholars in the field –lecturer. and *we* for lecturer plus African scholars in the field. Consequently, it will be unjustifiable to equate Yaakob's *we* for lecturer + other people in the field to *we* for lecturer + scholars in the field in the present study. It is, however, obvious that *we for lecturer + scholars in the field* entails *we for lecturer + other people*.

The lecturers, thus, highlight their images as experts (Caliendo & Compagnone, 2014; Hyland, 1999b) to “register solidarity and commonality of experience” (Fairclough, 1989: 180) in their interaction with students. Caliendo and Compagnone (2014: 116), therefore, state “by doing so speakers construe their image as experts, while conferring high reliability on what is being conveyed to the audience.” Thus, they project their membership identity in the general academic discourse community where the audience also belongs as students.

Martin-Martin (2003), therefore, reiterates:

The function may represent an attempt on the writers' part to signal their desired membership in the discourse community. This can be seen as if the writers display knowledge of the facts and opinions that are generally accepted by the members of the scientific community. This use shortens the distance between writers and

readers and emphasizes solidarity with readers, indicating shared knowledge between the writer and the reader, and a presupposition of the writer's acceptance in the discourse community. (p. 5).

The enactment of the lectureship identity highlights the speakers' genre role, while the experthood identity reveals their discursual role (Cherry, 1988). This disciplinary aligned ethos enables the lecturers to win the trust of the students since they promote themselves as learned, and recognized authorities in their respective DS.

HSL: But listen to this, when we say that a derivational morpheme enables us to get new words, then we are defining new words as different lexemes. [HSC 0009]

SSL: That's not how we we have it in in er broadcast. [SSC 0012]

NSL: That is the heading, the next heading is Absolute value problems let's write, given, given x with this thing on it, that's what we call absolute given this is equal to k.[NSC 0008]

The lecturer reveals to the students that the views expressed (as in HSC 0009, SSC 0012 and NSC 0008) are not *individualistic*, but *communalistic*, ratified by the disciplinary gatekeepers. Caliendo and Compagnone (2014) offer two statuses of knowledge in discourse communities: individual-based and community-based. The *we* for *I + they* thus serves as a booster (Hyland, 2005b), since it shows that the knowledge shared with the students is community-based. Eventually, it deepens the students' confidence in their lecturers in the classroom interaction. With this, the students then perceive the lecturer not as an individual who is *selling* their personal views but as a representative of the scholars in the field (Tang & John,

1999). Consequently, this does not only serve promotional purposes, but also persuasive function (Caliendo & Campagnone, 2014; Hyland, 2004b; Wetherell, 2001). Again, it increases students' dependence on lecturers for knowledge, which they believe is sanctioned by experts in the field. Caliendo and Campagnone (2014: 120) conclude that "laying stress on their affiliation and membership to a group of experts enhances the credibility and reliability of the information being provided by the speaker and makes the whole delivery more persuasive and grounded."

***We*-referents at inter-disciplinary supercommunity level**

The previous subsection examined the discourse referents of *we* at the intersection of the three disciplinary supercommunities. Here, I discuss *we*-referents at the inter-DS levels: HS vs SS; HS vs NS, and SS vs NS.

***We*-referents specific to HS and SS**

There are some *we*-referents common to HS and SS. These are mainly toponyms (Africa and Ghana) and geographic anthroponyms (Africans and Ghanaians).

Table 25: We-referents Peculiar to HS and SS

Referents	HS: RF(NF)	SS: RF(NF)	LL
Ghana(ians)	22(6.01)	16(3.64)	2.36
Africa(ns)	35(9.57)	62(14.12)	3.49

HS and the SS compared to the NS are considered more anthropocentric and society-centred (Afful, 2010; Trowler & Becher, 2001). Hyland (2009) also maintains that HS and SS have more varied audience as compared to NS which has concentrated audience. Additionally, HS and SS are perceived to draw more on discourse external events than NS (Ädel, 2006). Thus, it is not surprising to find HS and SS employing *we* to refer to countries and continents and their associated anthroponymic references. The *we* in extracts HSC 0010 and SSC 0013, correspond with Africa(ns), and Ghana(ians) respectively.

HSL: And uuuhm, most of the values we, we, we used to have or we claim to have, now have been thrown... [HSC 0010]

SSL: So although we had a written constitution, we did not have constitutional supremacy. [SSC 0013]

This finding is peculiar to the present study, as none of the studies on *we*-referents has reported on this. It is quite difficult to justify the absence of this in the literature. It thus suggests the effect of geopolitics on academic discourse (Coker, Munoz, 2013; Canagarajah, 2002; Hyland, 2002b) as we have seen Humanity and Social Scientists enact socio-academic identities through the discourse-defined *we*-referents. Tuathail and Agnew (1992: 190) define *geopolitics* “as a discursive practice by which intellectuals of statecraft ‘spatialize’ international politics and represent it as a ‘world’ characterized by particular types of places, peoples and dramas”. Thus, the finding is congruent with the social constructivist ideology which informs the discourses of the HS and SS –contrary to NS which is informed by the positivist philosophy/ideology (Hyland, 2009).

It is important to note that there is no *we*-referent common to HS and NS. This could be explained by the distance between them based on their position on the linear representation of the three broad knowledge domains (see Hyland, 2009; McDonald, 1994). As we can see from Figure 7, the cline reveals that HS and NS are at the extremes. While this can provide a loose basis of justification, we cannot stretch the argument so much, given that in spite of their distance, disciplines (such as medical humanities, bioethics, neurolinguistics, are increasingly emerging from the two perceived ‘irreconcilable’ knowledge domains.

We-referents specific to SS and NS

We as practitioners in the field, and lecturer + general students + scholars in the field are found to be peculiar to SS and NS. The raw and normed frequencies in addition to the LL values of these referents are presented in Table 26.

Table 26: *We-referents Peculiar to SS and NS*

SS vs NS	SS: RF(NF)	NS: RF(NF)	LI
Practitioners in the field	14(3.19)	13(3.75)	0.18
Lecturer + all students+ all scholars in the field	49(11.16)	51(14.73)	1.93

The difference among *we* for scholars in the field + lecturer + students and other related ones is based on the degree of attachment of the speaker (lecturer) to the proposition made. The practitioners in the field, on the other hand, refer to what Afful (2010) terms as threshold practitioners.

We for practitioners in the field indicates the desire of SS and NS lecturers to invoke in their students the community of practice (Crawford Camiciottoli, 2007) that awaits the students after school. It can be perceived as a strategic step by these lecturers to integrate academic discourse community (theory) and community of practice (practice) to signify their complementary relation. By doing this, these “lecturers not only facilitated understanding, but also introduced learners to what kind of knowledge is important and how it is negotiated within the *community of practice*” (Emphasis mine) (Crawford Camiciottoli, 2007: 115-6). Unsurprisingly, in her extensive study into the language of business lectures, specifically Economics (a Social Science discipline), Crawford Camiciottoli revealed that lecturers enact professional identities in their lectures. This resonates with the view that both NS and SS are more practice-oriented than the HS (Becher, 1994; Biglan, 1973; Hyland, 1999b; Kagan, 2009).

The absence of these in the HS is hard to explain. Hyland (2009: 63) argues that “the sciences see knowledge as a cumulative development from prior knowledge accepted on the basis of experimental proof” and next to NS on the ‘ideological continuum’ is SS. Thus, their recognition of the practitioners in the field is quite justifiable.

SSL: So we have to we have to put it before we put it into the context, and by the time that context comes by the time that context comes. listeners may have forgotten what they were supposed to remember. [SSC 0014]

NSL: So we use these things in decision making as in engineers as we go out there. [NSC 0009]

Similar to written academic discourse where literature and authorities are cited. NS and SS allude to the scholars in the field as scholars in charge of the ‘knowledge economy’ and the practitioners as the implementers of the generated knowledge in real life to solve practical problems. The two *we* referents reported here seem novel as it is only Zhihua (2011) who found *anyone in the field* which is broader than what I have found in this study. Zhihua’s (2011) term seems vague as it can encompass all the members presented in Figure 1 in this study.

***We*-referents at intra-disciplinary supercommunity level**

In this section, I discuss the referents of *we* that are exclusive to the individual DS.

***We*-referents peculiar to HS**

Table 27 presents a complex paradigm for the semantics/pragmatics or *politics* of *we* especially in the context of HS. It can be observed from Table 27 that there are 16 *we*-referents peculiar to HS. In the case of NS, they are only two. HS and SS seem to draw on real world or discourse external experiences, events and realities more than NS in their lectures (Ädel, 2006). The *we*-references identified here are evidence of the complexities of footing shifts (Metzger, 1999) in classroom lectures across the three disciplinary supercommunities. The idea of lecturer speaking for others helps to highlight the defined norms of the DSs. In Hyland’s (2009) model, on the continuum of interpretivist, Humanities is considered more

interpretive, followed by SS and then NS. It is unsurprising, therefore, to find Humanities manifesting varied identities through *we*-references.

Table 27: *We-referents Peculiar to HS*

Referents	Raw frequencies	Normed frequencies
One student + other students	1	0.27
Lecturer + current students –one student	2	0.52
All lecturers + all university students	5	1.37
Other lecturers	2	0.52
Lecturer(a pupil) + students(when pupils)	1	0.27
Lecturer + teaching assistant	1	0.27
Community members	4	1.04
Ethnic group (e.g. Yurobas)	4	1.04
English Speakers	5	1.37
Passengers on a plane	10	2.73
Ideological anthroponyms (evolutionists)	2	0.52
Another lecturer	2	0.52
Lecturer (then a child + other children)	1	0.27
Lecturer (then a child + siblings)	2	0.52
African scholars + lecturer	23	6.29
Religious people (e.g. ATR believers)	12	3.11

As encapsulated in Adel's (2006) concept of participation (as against metadiscourse), Humanity Scientists enact varied discourse identities in their lecture discourse. This can be attributed to the ethos, epistemology, philosophies

and norms of this broad area of knowledge (Kagan, 2009). For instance, in terms of epistemology, it is said to have dispersed knowledge (Hyland, 2009) which allows the lecturer to change footing to be able to construct diverse identities. This is supported by the fact that it has a more varied audience, and more fluid discourses (Hyland, 2009). Table 27 presents four major classifications of the Humanities-specific *we*-references: audience-oriented metadiscursive *we*, inclusive metadiscursive *we*, inclusive non-metadiscursive *we*, and exclusive non-metadiscursive *we*. Audience-oriented metadiscursive *we* alludes to the current audience of the evolving discourse (here, the classroom lecture) while the inclusive metadiscursive encompass the current speaker (lecturers) and at least a participant of the ongoing discourse. On the other hand, there are two categories of a non-metadiscursive *we*. The inclusive non-metadiscursive *we* encompass the lecturer who enacts an identity of himself in the real world –i.e. the discourse external world (Ädel, 2006, 2010; Hyland, 2005a); the exclusive non-metadiscourse also alludes to the discourse external world but this concerns other referents without the discourse-external self of the lecturer.

We-referents peculiar to SS

Similar to HS, SS also manifests its distinctiveness with respect to *we*-referents, as shown in Table 28. The first three broad classifications of the SS-specific *we*-referents are the same as the HS'. The only difference is instead of Humanities' inclusive metadiscursive *we* SS has personified non-metadiscursive *we*.

Table 28: *We-referents Peculiar to SS*

Referents	Raw frequencies	Normed frequencies
Students in general	4	0.91
Institutions (department, university)	1	0.23
Colonizers	2	0.46
Colonized countries	7	1.59
Some Ghanaians (excluding lecturer)	1	0.23
Political leaders in Ghana	10	2.28
Teaching Assistants	1	0.23
Current lecturer (then a child + parents)	3	0.68
Elderly people (old generations)	6	1.37
Other nations (Japanese)	1	0.23
Political parties (e.g. UGCC)	2	0.46
President of Ghana	1	0.23
One student	3	0.68
Rural people	4	0.91

These are discourse-external identities revolving around non-human entities such as political parties, colonized countries, and universities/departments. This *we*-type is referred to as *rhetorical we*, which is used in collective sense (Ädel. 2006) to address human institutions such as political parties. The Social Scientists, therefore, used 2PP to designate non-persons, a practice Whitman (1999) describes as personalization. We can observe from Table 28 that *impersonal we* has 4 non-human referents: institutions (department, university), nations, colonized countries.

and political parties. The strategic positioning of SS on the disciplinary continuum, allows it to draw on both positivist and constructivist practices. Thus, SS seems to have a wide spectrum of *we* references that help it consolidate its status at HS-NS interface (Hyland, 2009). It is, however, important to note that these referents “reflect an informational rather than interpersonal purpose” (Biber, 1995: 173).

The finding corroborates Zhihua (2011) who found that *you* was used to designate personified objects. Again, it affirms Conrad, Biber, Daly and Packer’s (2009) assertion that a referent can be anything directly or indirectly related to humans. Considered as society-oriented field of study, the Social Scientists enact for themselves identities in this direction: elderly people in society, President of category and most particularly the non-personified society-related entities. Besides, the varied referents for *we* in SS are relatively consistent with SS’s reflective and interpretive nature (Hyland, 2009). Given that the SS hugely overlaps with Humanities (Hyland, 2009), the findings here are not surprising, as they demonstrate that in terms of fluidity of discourse, and epistemology (unlike methodology) SS is closer to Humanities than NS.

We-referents peculiar to NS

The NS also through *we* references enacted some identities which are unique. Unlike HS and SS, NS has just two peculiar *we*-referents. The limited NS-specific *we* references can be attributed to its norms and orientations. It believes in realism and positivism and thus “take the positivist line that there is a world to be investigated which exists independent of human belief, perception, culture and

language: reality and truth are, therefore, to be uncovered or discovered” (Hart, 1998: 85).

Table 29: *We-referents Peculiar to NS*

Referents	Raw frequency	Normed frequency
Customers/clients	2	0.46
Other students (aside from the current ones)	1	0.23

Consequently, Natural Scientists more or less limit themselves to the defined members in the academic discourse community, ranging from undergraduates to expert. We observe from Table 29 that the two NS-specific are still related to the defined academic discourse community membership. This is further supported by their understanding of knowledge as cumulative and thus restricted scope of knowledge (co)-producers. Interestingly, the two NS-specific referents are humans, and they are both non-metadiscursive.

Generally, Yaakob’s (2013) study appears closer to the foregoing discussion. He focused on the discourse reference of *we* across four broad knowledge domains (arts and humanities; SS, life sciences and physical sciences) *we* recorded five semantic referents: lecturer, students, lecturer + students, people in general and people in the field. These referents were found to be common cross-disciplinarily but no DS-specificities were identified. While it is quite difficult to find reasons for this, one can rely on the differences in the scope of the subcorpora for the two studies. Yaakob’s (2013) subcorpora focused on only the lecture

introduction while this focuses on the entire lecture. Thus, the scope of Yaakob's subcorpora did not allow him to present a 'global picture' of the discourse references of *we*. This would have pointed out the cross and inter-DS commonalities, and particularly intra-DS specificities to account for "discoursal variation and disciplinary distinctiveness" (Hyland, 2009: 63).

Most importantly, the differences in the present study and Yaakob (2013) with respect to the absence or presence of broad-knowledge-specific *we*-referents can be attributed to some factors outside 'global disciplinarity'. While the DSs share some universalities particularly in terms of approach and epistemology, geopolitics arguably has its effects on the choice and use of rhetorical resources for communication (Hyland, 2002b). Using the Engineering Lecture Corpus (ELC) which "is a growing corpus of English-medium lectures from across the world..." (Aslop, Moreton & Nesi, 2013:1), Aslop et al. (2013) recognised the effects of sociocultural and geopolitical variables on disciplinary discourses. They, thus, acknowledge that engineering lectures are likely to remain both context- and culture-specific. The unique findings in the present study further corroborate the positions of scholars in intercultural/contrastive rhetoric and (critical) geopolitics (See Canagarajah, 2002). Aslop, Moreton and Nesi (2013) realised cross-cultural variation in PP use in the Malaysian, New Zealand and UK subcorpora of the Engineering Lecture Corpus. It, thus, gives credence to Afful's (2010) argument that it is not sufficient to attribute discoursal or rhetorical variation to disciplinarity.

***You*-Referents in and across Disciplinary Supercommunities**

This section discusses *you*-referents within and across DSs. The section is divided into three, where *you*-referents shared by all the DSs, specific to paired DSs, and peculiar to individual DSs are respectively examined. But prior to this, I examine the number of *you*-referents that emerged from the analysis and compare to previous studies (e.g. Yaakob, 2013; Yeo & Ting, 2014; Zhihua, 2011).

Anderson (2007) equated PPs to a manicule (i.e. ). The varied referents of *you* across the DS spectrum attest to this. Lecturers across the DS have multi-pronged *you*-referents. From the subcorpora, there were 36, 38 and 18 *you*-referents from HS, SS and NS respectively, comprising some overlaps (See Appendix E). Overall, there are 55 distinct *you*-referents across the three DSs. There is a marked difference between this study and previous ones. Yeo and Ting (2014) recorded two; Yaakob (2013) three; Zhihua (2011) recorded 6 *you*-referents, and Gomez (2006) seven. As I have reiterated, the difference is attributable to the nature of the corpus, as full-lecture corpus justifiably contains more *you* varieties than lecture-part corpus.

***You*-referents across disciplinary supercommunities**

I examine the commonalities in the discourse of *you* across the three broad knowledge subdivisions here. The occurrences are presented in Table 30. Ädel (2006) noted that *you* has varied discourse referents, as it certainly has different intended referents (Biber et al., 1999). I found from the subcorpora seven *you*-

referents shared by all DSs. These commonalities affirm the view that there are trans-DS shared features which generally distinguish academic discourse communities from other non-academic ones such as community of practice, virtual community, speech community, and the likes (Biber & Conrad, 2009). The similarities can also be attributed to the common situational characteristics as well as the communicative purposes of the classroom lectures (See Biber & Conrad, 2009: 65 for detailed situational characteristics of classroom lectures). As shown in Table 30, all the DS used *you* to enact speaker-, audience-, speaker/audience-oriented (and others) identities.

Generally, the identities enacted relate to both the academic and the non-academic referents, showing the DS socio-academic identities. These also have implications for the two-pronged disciplinary ethos, which reveal the discourse internal and external selves of the lecturers, affirming similarities in standards of rhetorical intimacy (Moore & Vance, 2001) in classroom lectures across the DS. For instance, the metadiscursive references (Querol Julian, 2011) such as *you as lecturer*, *you as students*, and *you as lecturer+ students* indicate the speakers' awareness of the ongoing discourse.

Table 30: *You-referents Across DSs*

You-referents	HS: RF(NF)	SS: RF(NF)	NS: RF(NF)	HS vs SS: LL	HS vs NS: LL	SS vs NS: LL
Lecturer	3(0.82)	13(2.96)	5(1.44)	5.05	0.62	2.03
Students	494(135.02)	495(112.72)	597(172.43)	8.05	16.25	49.20
One student	84(22.96)	49(11.16)	13(3.75)	16.82	54.20	14.59
Cross section of students	7(1.91)	40(9.11)	3(0.87)	19.96	1.43	29.66
Lecturer + students	30(8.20)	20(4.55)	120(34.66)	4.26	62.90	105.0
Lecturer + scholars + general students in the field	33(9.02)	24(5.46)	29(8.38)	3.55	0.08	2.41
One	106(30.62)	81(18.44)	67(19.35)	4.75	9.47	0.08

The present finding shares some commonalities with previous studies. For instance, the audience-oriented *you*, speaker-oriented *we*, participant-oriented *you* (lecturer + student) and general people were found by Gomez (2006) and Yaakob (2013), Zhihua (2011). It appears that Yaakob's (2013) and Zhihua's (2011) *you* for anyone in the field, or Yeo and Ting's (2014) *you-generalised* is the same as the current study's *you as lecturer + scholars + general students in the field*. But I prefer this expression (i.e. *lecturer + scholars + general students in the field*), given that anyone in the field or *you-generalised* appears too vague as it may even encompass threshold practitioners (Afful, 2010). But in this study, I distinguish practitioners from other discourse participants. The similarity between this study

and the previous ones is interesting as it helps reveal what typify the lecture genre with respect to the referents of *you*.

On the other hand, there is some difference between this study and previous studies. While *you* was found to be used to refer to the indefinite *one*, Yaakob (2013), Yeo and Ting (2014) as well as Zhihua (2011) did not find this. The cause for this difference particularly with respect to Yaakob (2013) and Yeo and Ting (2014) is largely due to the corpus type. While the present study used '*complete text*' [italicised and bolded in original] (Biber & Conrad, 2009: 5), Yaakob (2013) and Yeo and Ting (2014) utilized "*excerpt type*" [italicised and bolded in original] (Biber & Conrad, 2009: 5) corpora. Yaakob (2013: 225) intimated that "In the lecture introduction corpus, *You* is seen to have three semantic referents: students, anyone or anyone in the field". (Details for the causes for the differences are discussed under *Discourse referents of we in and across the subcorpora* in this study).

You for lecturer

Aside from the qualitative commonalities across the subcorpora, there are some quantitative differences. First, it is shown in Table 30 that SS (2.96) is rated first in terms of *you for lecturer* (=I); and followed by NS (1.44) and then HS (0.82). This type of *you*, *self-referential or exclusive you*, is employed by lecturers to de-personalize their stance. This usage is discussed by Fairclough (1989), who notes that this enables speakers to reduce themselves "to the status of common experience" (p. 180). This largely enables them to present "perceptions as shared,

not merely individual” (Myers & Lampropoulou, 2012: 1206). This is clearly seen in HSC 0011. Although it is used to refer to the individual speaker, it evokes a sense of shared ‘practice’ by all lecturers in the discourse community. Again, this *you* is used when lecturers shift footing or perspectives (Brunye, Ditman, Mahoney, Augustyn, & Taylor, 2009) in their discourse. In SSC0015 and NSC 0010, the lecturer and students interchange position (Goffman, 1981).

HSL: And it’s true, because some of the things we mark, especially level hundred, two hundred, there are some papers we mark every line you have problems. [HSC 0011]

SSL: Many of you went there and call me and say ANON thank you because I miss you. [SSC 0015]

NSL: Then I say expand x plus y raised to the power thousand and fifty and you say ooo sir what time are you going to give us. I can give you three hours, five hours. [NSC 0010]

The interchange enables lecturers to speak with the voice of the students, thereby using *you* for themselves. This practice is akin to Bakhtin’s (1981) concept of ventriloquation which is “a specialized type of voicing ... when a speaker speaks through the voice of another for the purpose of social or interactional positioning (Wertsch, 1991; Wortham, 2001a)” (p. 52). Now, Social Scientists’ comparatively more use of this type of *you* suggests that it engages in lecturer-student rhetorical interchange more than their HS and NS lecturers. This can be supported by the fact SS is situated in the middle of the objective/interpretive paradigm (Hyland, 2009) and, thus, appears not to be completely subjective (by using *I*) or objective (by using *we*). Instead, it resorts to using *you* to provide a neutral ground, or construct an

identity inspired by the ideologies of both positivism and social constructivism. It thus appears clear and justified why SS is closely followed by NS, and then HS.

Meanwhile, the Log-likelihood significance test shows that the observed differences at HS vs NS (LL 0.62) and SS vs NS (2.03) are not statistically significant. However, the significance test showed that the difference between HS and SS (LL 5.05) is statistically significant. The foregoing discussion indicates that the use of *you* for *I* is influenced by disciplinary norms at only one independent level of comparison: HS vs NS, but not both HS vs NS, and SS vs NS.

You for students

Grammatically, *you* is defined to have the referent addressee. This 'traditional' referent is justified by the overwhelming use of *you* for students across the subcorpora, per the normed frequencies: HS (135.02), SS (112.72) and NS (172.43). Thus, *you* is the central pronominal address term for students in classroom lectures, to enhance lecturer-student interaction (Crawford Camiciottoli, 2007). Figure 27 shows concordance outputs of this *you*-type.

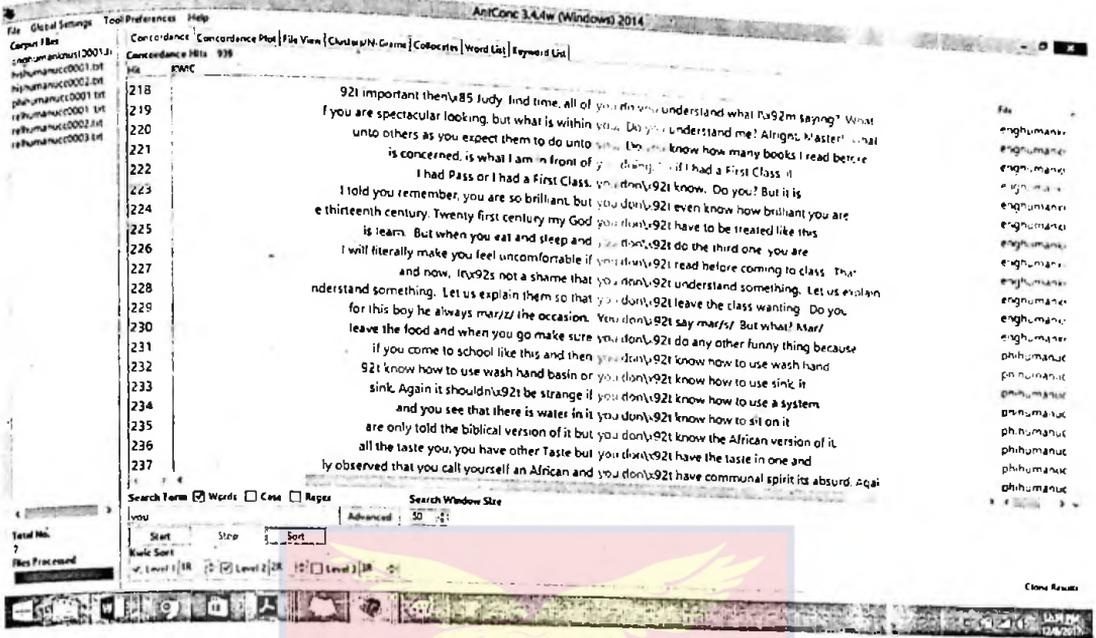


Figure 27: Samples of concordance lines for you for students from HSC

The you-type in Figure 27 have +students –lecturer feature, hence, audience-oriented. Guided by Lerner and Kitzinger’s (2007) concepts of extraction and aggregation, and individual self-reference, and collective self-reference, I observed six student-oriented metadiscursive *you*-referents: students, one student, cross-section of students, two students, male students, and female students. Of course, the identification was based on the “local reference context” (Schegloff, 1996a: 450, cited in Lerner & Kitzinger, 2007: 534) bounded by “locally initial” and “locally subsequent” signals/information (Lerner & Kitzinger, 2007: 534). The rhetorical strategies of extraction, and aggregation regarding *you* showcases the semantico-rhetorical *membership* of student-oriented explicit recognitional *you*-types (Lerner & Kitzinger, 2007).

Interestingly, the first three were found across the three subcorpora; female students limited to HS-SS interface; male students HS only, and two students SS

only. To some extent, *you for students* corresponds with Yeo and Ting's (2014) *you-generalised* used to aggregate the students into a collectivity (Lerner & Kitzinger, 2007); and quantified referents (i.e. one student, and two students) to "enumerated reference" (Lerner & Kitzinger, 2007: 534). Thus, we can talk about *you* that generalizes, and *you* that particularizes an individual, selected individuals (e.g. two), unspecified individuals (a cross-section of students), male, and female students in classroom interaction. As Lerner and Kitzinger (2007) explained, the *you*-type that particularizes is used "to extract an individual [or a group of individuals] from a collectivity" (p. 533). These observations uncover lecturers' discursive *micro* and *macro* student-referencing strategies for some targeted "interactional accomplishment" (Sprain & Black, 2017). The corpus extracts below exemplify *you* for students in the subcorpora.

HSL: So you have all these theories erh last week I ask you to do er erh small research, and the a few did. [HSC 0012]

SSL: So you are not just learning to pass the examination and after that you discard all that you have learnt. No. No [SSC 0016]

NSL: We have all the other materials that we can think about, the microsome, and then you solve the problem by yourself. [NSC 0011]

In all the corpus evidences above, coupled with Figure 28, the marked *you*-types are metadiscursive (i.e. they explicitly refer to the students in the ongoing discourse).

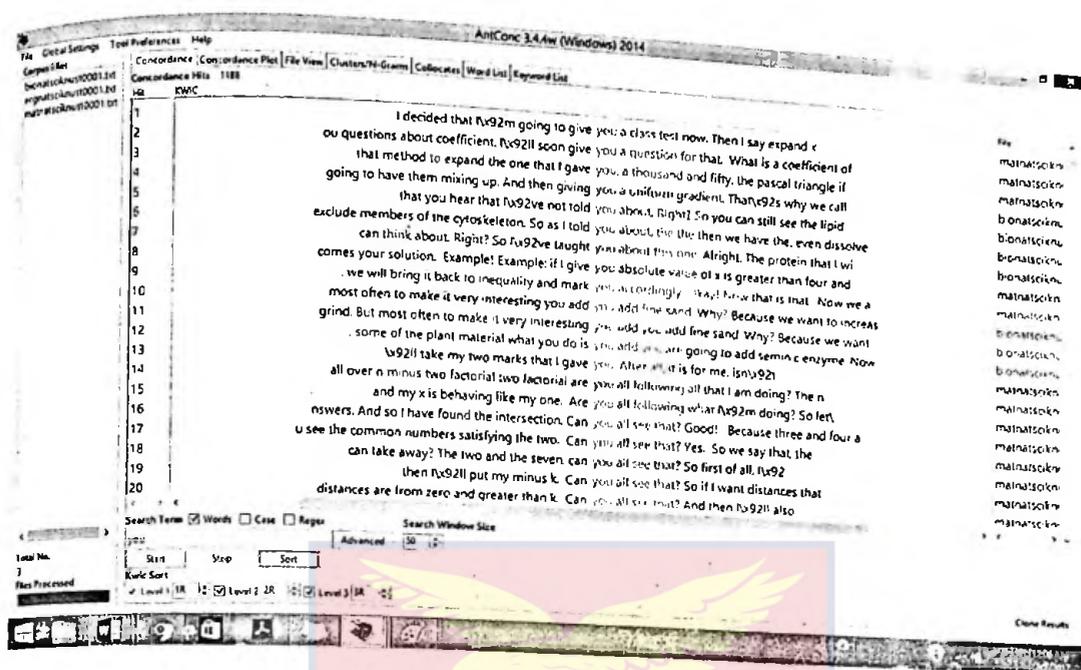


Figure 28: Concordance lines illustrating you for students from NSC

For instance, in HSC 0012, the lecturer reminds them of the theories (in religion) that he had exposed them to; and continues to remind them of the task he has assigned them in their previous lectures. The *you*-types here meet Ädel's (2010:75) audience qua audience criterion. This realization affirms the fact that students are principally the recipients in classroom lectures (Biber & Conrad, 2009; Crawford Camiciottoli, 2007). Thus, more use of the *metadiscursive you* may “facilitate students’ understanding of subject content” (Sadeghi & Heidaryan, 2012: 168) since direct recognition of their presence will cause them to be attentive. Essentially, the use of *you for students* makes lectures more interactive (‘conversational’), and contributes to students’ attentiveness and responsiveness (Crawford Camiciottoli, 2007). The figures show that NS used more of this referent than HS and SS, and that NS lecturers explicitly address their audience in the ongoing lectures more than their HS and SS counterparts. This is surprising because

NS is described to be largely interested in “‘what’ happened, ‘how’ it was done and ‘what’ was found (Quoted and underlined in original)” (Morley, 2014: 59), but not the discourse participants and their roles. Meanwhile, SS and particularly HS are interested in the latter.

However, it is interesting to note that the significance test showed (See Table 31) that the observed differences are significant (statistically) across the three disciplinary supercommunities: HS vs SS (LL 8.05), HS vs NS (16.25) and SS vs NS (LL 49.20). This, therefore, stresses the effect of disciplinarity on the use of the metadiscursive *you* in classroom lectures across DSs. The present finding contrasts with Yeo and Ting (2014), who found that disciplinarity did not affect the discourse referent of *you* in Science and Arts lectures. On the other hand, Yaakob (2013) reported that *you for students* recorded 27 (90%), 21 (87.5%), 39 (67.24%) and 6 (23.08%) in Arts/Humanities, Social Science, Life Science and Physical Science respectively. Given that the sizes of the subcorpora were uneven, one cannot make any strong case from these figures. Yaakob (2013) himself did not interpret the figure. To be able to compare the two studies, I normalized the frequencies per 10,000 tokens, and provided LL test as shown in Table 31. For ease and direct comparison, I merged Life and Physical Sciences as Natural Sciences, resulting in subcorpora sizes 11604, 17449, and 16252 for HS, SS and NS respectively.

Table 31: Statistical Details on *You for Students* (Yaakob, 2013)

A/H:	SS:	NS:	AH vs SS:	HS vs NS:	SS vs NS:
RF(NF)	RF (NF)	RF (NF)	LL	LL	LL
27(23.27)	21(12.04)	45(27.69)	5.18	0.52	10.72

With respect to the normed frequencies, the studies share common findings that NS is rated first, HS second and SS third. However, while the present study recorded statistically significant differences at three independent levels of comparison, in Yaakob (2013), statistical significance is realized at two levels: HS vs SS, and SS vs NS. I consider one key factor as responsible for the differences in the present study and the previous one, specifically Yeo and Ting (2014): the differences in the geopolitical contexts in the studies under consideration.

You for one student

The analysis of the subcorpora revealed three metadiscursive student-oriented *you*-types: *you for students*, *you for cross-section of students*, and *you for one student*. Unlike the previous that adopted the lumping approach (Ädel, 2010) to the determination of referents of PPs, I employed the splitting approach (Ädel, 2010). The literature reports of *you* for students (e.g. Gomez, 2006; Rounds, 1987a; Yaakob, 2013; Yeo & Ting, 2014; Zhihua, 2011) but I distinguished the subtypes of *you*-referents because each has unique rhetorical or communicative functions.

You for one student was identified as a cross-DS referent. It can be described as a specific-student-oriented *you* since it seeks to individuate students. This

referent thus suggests that lecturers recognise their classroom audience individually and collectively, which invariably correspond with Lerner and Kitzinger's (2007) concepts of individual and collective referencing. This practice will yield individual student's alertness since they know they can be 'invited' to participate in an ongoing discussion, ask a question or perform a task. We see from the extracts below how this manifests:

- HSL: What do you think is an allomorph? My friend what's your name? Gift, Gift? Akyedee can you stand up for everyone to look at you? [HSC 0013]
- SSL: Going by what we've been saying so far, what you will pick up in the article is that what if parliament exercises its right to set public holidays but breaches the limitation in the constitution. Are you following? [SSC 0017]
- NSL: You were sleeping you didn't see anything. In fact, I will miss this class oo! From next week going. [NSC 0012]

From HSC 0013, the lecturer sought the view of a student on the concept under consideration. The lecturer could have proceeded to explain 'allomorph' to the students but s/he decided to solicit individual student's view. The rhetorical function of this strategy is that it helps reduce the teacher classroom monopoly that Crystal (1973) alluded to. In Biggs and Tang's (2011) view, the use of *you for one student* suggests a Theory X-driven (rather than Theory Y which doubts students' competence) climate, which affirms lecturers' trust in the knowledge-producing abilities of students. Biggs and Tang (2011) thus contend that "the extent to which we lean more towards Theory X or more towards Theory Y translates into action at virtually all levels [linguistic and non-linguistic] of student-teacher interaction" (p.

41). Arguably, *you for one student* implies that lecturers less often perceive themselves as knowledge brokers/producers, and students as knowledge consumers in their classroom encounters (Murray, 2009).

It is evident from Table 30 that HS (22.96) recorded the highest use of this referent, followed by SS (11.16), and NS (3.75). The normed frequencies indicate that HS lectures involve more of lecturer-engineered student input, than student-volunteered ones. It could also mean that lecturers in HS take a 'micro' rather than 'macro' view on students than their SS and NS counterparts such that HS lecturers address individual students, than the class (students).

The figures for the significance test show that the differences are significant at all three levels of comparison: HS vs SS (LL 16.82), HS vs NS (LL 54.20), and SS vs NS (LL 14.59).

You for lecturer + students

A critical analysis of the concordance lines from the subcorpora showed the use of lecturer-students-oriented *you*. Concordance analysis further showed that this *you* type normally occurred with a certain collocational context, particularly from NSC, as shown in Figure 29.

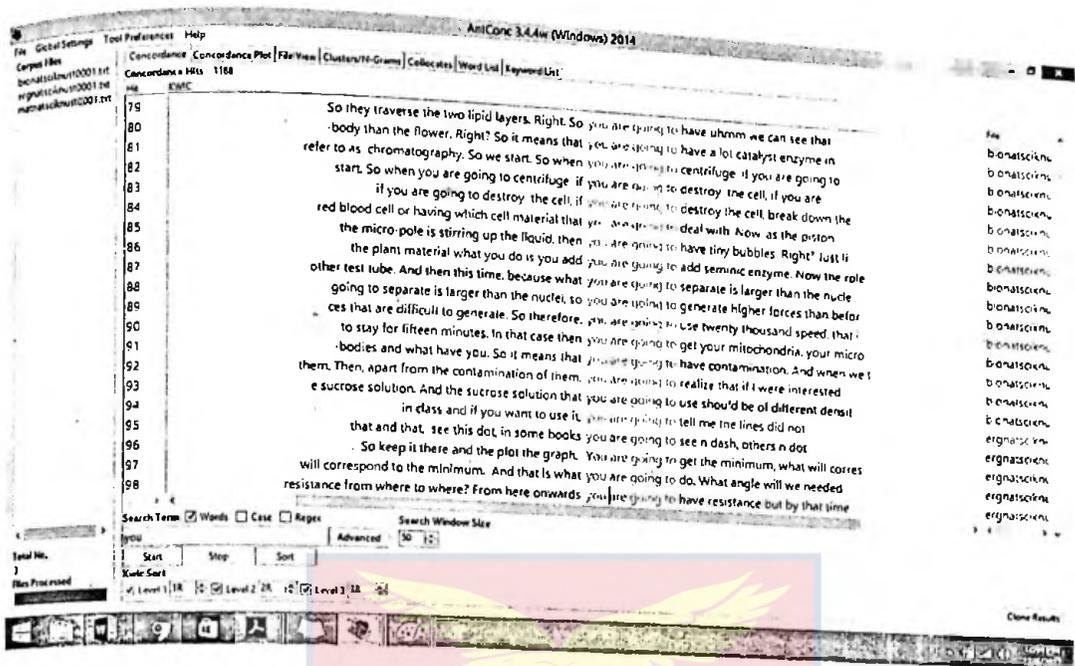


Figure 29: Sample concordance lines of you for lecturer + students

The *you*-type in Figure 29 is metadiscursive, given that it designates the lecturer and students in the ongoing lectures. The immediate contexts and co-texts of the *you*-type indicate that the activity being undertaken involves both the lecturer and the students. Thus, the outcome will not be known to only the students but the lecturer also.

This *you*-type is further illustrated by the extracts below:

HSL: But this afternoon I want you to proceed from where I left off yesterday and I remember stopping at where Nkrumah and his C P P supporters were so much unhappy about the Cossey report and this unhappiness with the Cossey report was evident in how he described the Cossey report. [HSC 0014]

SSL: Now you see that the, this tells you, you the number of minutes, the duration of this news is three point what? [SSC 0018]

NSL: That's what you have just shaded, the shaded portion you can read the results there three is less than x and x is less than four. [NSC 0013]

From HSC 0014, the lecturer desired that *you* proceed from where the previous lecture ended. It is evident from the context of use that this *you*-type conjures a collective lecturer-students referencring (Lerner and Kitzinger, 2007). This finding coincides with Gomez (2006), Rounds (1987a) and Zhihua (2011) who also identified lecturer-students *you*-type. Gomez (2006) reveals that this *you*-type is used to approximate the distance between lecturers and students in classroom encounter. Thus, lecturers rhetorically rankshift from their experthood rank (See Figure 4) and cooperate with students in this asymmetric power relational genre (Crawford Camiciottoli, 2007; Csomay, 2002).

Interestingly, the log-likelihood comparative test shows that the differences in the use of *you* for *lecturer+students* are statistically significant at LL value of 3.84: HS vs SS (LL 4.26), HS vs NS (LL 62.90) and SS vs NS (LL 105.0). It is evident from the aforementioned LL values at the three independent levels of comparsion that disciplinarity influences the use of the *you*-type under-discussion. NS's overwhelming use of this *you*-type is an evidence of increased degree of text-internal lecturer-students interaction (Ädel, 2006; Hyland, 2005a & b). This draws attention to the fact that disciplinary norms, practices and beliefs are subject to change as the NS is largely labelled as a less *social* DS largely due to its preference for positivist ideology (Hyland, 2009).

***You*-referents at inter-disciplinary supercommunity level**

As presented in Figure 19, there are intersections between two DS. Interestingly, with respect to *you*-referents, there are some at HS-SS, HS-NS, and

SS-NS interfaces. From Tables 32, 33 and 34, there are 7, 1 and 2 *you*-referents common to HS-SS, HS-NS, and SS-NS respectively. The figures suggest that the closer the DS on a cline (See Figure 5), the higher the number of common *you*-referents.

You-referents specific to HS and SS

We notice from Table 32 that there are some HS-SS *you*-referents that enact identities related to, to adopt Munoz’s (2013b) terms, retrospective (e.g. current students when pupils), current (e.g. female students) and prospective (e.g. current students when they become graduates) referents, re-echoing the first part in Jone’s (2002) RA title: “The way we were, are and might be” (p. 44).

Table 32: *You-referents Peculiar to HS and SS*

Referents	HS: RF(NF)	SS: RF(NF)	I.L.
Female students	1(0.27)	1(0.23)	0.02
Lecturer+ scholars in the field	7(1.91)	9(2.05)	0.02
Current students when pupils	4(1.09)	1(0.23)	2.52
Students of an institution (e.g. UCC)	3(0.82)	4(0.91)	0.02
Country	1(0.27)	9(2.05)	5.98
General students in the field	8(2.19)	15(3.42)	1.08
Current students when become graduates	6(1.64)	8(1.82)	0.04

HS and SS’s shared desire to navigate through the time dimensions can be attributed to the shared “norms of enquiry” (Moore & Vance, 2001: 126): qualitative and the common interpretive approach (Hyland, 2009). The qualitative research paradigms

allow the Humanity and Social Scientists to construct the three-pronged time based identities of the audience. Both broad disciplinary domains on one hand compared to NS, on the other hand, are said to have more fluid discourses that offer the lecturers the flexibility to draw on intertextual as well as discourse external realities. But allusion to discourse-external realities is not peculiar to HS/SS; we find HS and NS also referring to the past of the current student. These are attempts by lecturers to reinforce the cumulative nature of knowledge and, therefore, academic maturity.

You-referents specific to HS and NS

The retrospective use of *you* to designate the student’s pre-tertiary status (specifically, at the Senior High School [SHS]) was found to be common to HS and NS. It indicates that both HS and NS lecturers cause their students to reminisce their pre-tertiary studentship experiences. This discursive referent reminds students of the cumulative nature of knowledge, which can be transferred at the tertiary level for the sake of epistemic progression into their respective discourse communities.

Table 33: *You-referents Peculiar to HS and NS*

Referents	HS: RF(NF)	NS: RF(NF)	LL
Current students when at SHS	5(1.37)	11(3.18)	2.65

The basis for this HS-NS *you*-referent is difficult to arrive at but Querol Julian (2011) describes this as “reference to student’s background knowledge” (p. 136). This rhetorical reference inspires students to tap into their accumulated knowledge

on the subject matter under consideration. The finding corroborates Yeo and Ting's (2014) realization that *you* is used to activate students' prior knowledge.

The normed frequencies in Table 34 suggest that NS (3.18) used the above-mentioned *you*-referent more frequently than HS (1.37). But while the NF frequencies suggest effect of disciplinarity, the log-likelihood significance test indicates that the observed difference is not statistically significant, as the LL value (2.65) falls short of the significance threshold (LL 3.84).

You-referents specific to SS and NS

Table 34 indicates that *you for practitioners in the field*, and *SHS students* are peculiar to SS and NS. While *you for SHS students* appears difficult to be justified, *you for practitioners* is unsurprising.

Table 34: *You-referents Peculiar to SS and NS*

Referents	SS: RF(NF)	NS: RF(NF)	LL
Practitioners in the field	5(1.14)	69(19.93)	82.25
SHS students	3(0.68)	1(0.29)	0.63

Afful (2010) considered practitioners in the field as members of the academic discourse community. This shared referent can be attributed to the comparatively high degree of applicability of knowledge in SS and NS. Arguably, every DS has both theoretical and applied components, on a cline, some are more theoretical (and more applied) than others (see Biglan, 1973). Biglan (1973) shows that SS and NS

engage in knowledge application than HS, which at a point upheld the mantra *scientia gratia scientiae* (i.e. knowledge for knowledge sake).

Interestingly, the log-likelihood test shows that disciplinary variation affects this referent use as the LL (82.25) value is exceedingly above the significance cut-off point $-LL$ 3.84. NS lecturers' high patronage of this referent is not surprising as it is labelled as a highly applied knowledge domain (Biglan, 1973).

***You*-referents at intra-disciplinary supercommunity level**

This subsection examines *you*-referents that are DS-specific. In register study that adopts an “empirical comparative approach” (Biber et al., 2009: 52), these *you*-referents may be appropriately termed *register markers*, as they are pervasive and distinct to a particular DS. The DS specific referents can largely be ascribed to the variations in knowledge structures and norms of enquiry (Moore & Vance, 2001)

***You*-referents peculiar to HS**

HS-specific *you*-referents number 18. In all, only one (i.e. *male student*) is metadiscursive; the others are captured in Ädel's (2006) concept of participation. Again, except *one*, and *polygamous African societies*, all the other referents designate humans as can be seen in Table 35 below.

Table 35: *You-referents Peculiar to HS*

Referents	Raw freq.	Normed freq.
Lecturer + Students when children	4	1.06
Modern Africa(ns)	2	6.01
Male students	3	0.82
Pre-modern Africans	64	17.49
Polygamous African societies	9	2.46
Children in pre-modern African societies	8	2.19
Pre-modern African farmers	4	1.09
Lecturer then SHS student	1	0.27
Some scholars in the field	1	0.27
TA + students	9	2.46
People in society	1	0.27
Passengers on a plane	2	0.55
Scholars in the field (minus lecturer)	1	0.27
TA	1	0.27
Traditional leaders/chief	2	0.55
Kingmakers	1	0.27
Opposition to Nkrumah	1	0.27
General students across the globe	2	0.55

Table 35 reveals the multireferential *you*-referent system in HS classroom lectures.

HS lecturers have unlimited referents for *you*, and this supports Fairclough's (1989) claim that *you* conjures indefinite referents. This could be due to the nature of the subject matter, the epistemology, norms and conventions of HS (Hyland, 2009,

2009). On epistemology, for instance, Hyland (2009) notes that HS has dispersed knowledge. This is supported by the more varied audience (Hyland, 2009) it possesses. Unsurprisingly, there are *you* varieties that refer to the general students across the globe, kingmakers, and the likes who are part of the discourse external world audience. These factors possibly account for the diverse Humanities-specific *you* referents.

It is important to note that the varied human referents of *you* can have positive and negative impact on learning. Postively, it affords the lecturer the opportunity to provide a *mini-drama* where he/she alone performs multiple functions. Now, such a complex footing, rhetorically, enables the HS lecturer to *assemble* the disciplinary “dispersed knowledge” (Hyland, 2009: 63) for students grasp. On the other hand, it can be a “source of pragmatic failure” (Hyland, 1994: 239) which will affect students’ understanding since they will have an onerous task of interpreting or “deconstructing” all *you* referents in lectures. Indeed, assigning wrong referents to a pronoun in discourse can have a dire implication for the meaning of the message. This means that students will have to draw on their limited pronominal competence (Ricard, Girouard, & Decarie, 1999) to unpack all *you*-types in order to understand the disciplinary knowledge communicated.

You-referents peculiar to SS

Table 36 below outlines *you*-referents peculiar to SS. Except *two students*, which is metadiscursive all the others are non-metadiscursive. SS, as shown in Table 36, recorded 19 *you*-referents peculiar to it. These referents correspond to

Adel's (2006: 42) notion of participation, which refers to the "writers when they appear in the text to talk about personal experiences that have been accumulated outside the world of discourse. Adel maintains that participation includes "occurrences of pronouns with reference to the writer and/or reader ... and often including other referents". The undefined *other referents* are those that in this context designate both persons and non-persons.



Table 36: *You-referents Peculiar to SS*

Referents	Raw frequencies	Normed frequencies
2 nd year students	1	0.23
Two students	2	0.46
Political leaders	1	0.23
General students in the field	15	3.42
People in western countries	2	0.46
Lecturer + scholars as researchers in the field	7	1.59
Past students of current lecturer	2	0.46
Africans of colonized countries	24	5.47
Ghanaians	16	3.64
African countries	9	2.05
University authorities	3	0.68
Citizens of UK	2	0.46
Prominent people in society	2	0.46
Political party (e.g. NPP)	2	0.46
Parliament	2	0.46
Opponents of colonial rule	1	0.23

SS is said to be an anthropocentric knowledge domain (Afful, 2010). As such, we find several anthroponyms in their lectures. Further, SS allies itself with constructivist or interpretivist ideology. This then allows it to draw on several realities in its interaction in the classroom to provide a more rhetorically effective and persuasive lectures to students.

The *impersonal you* in the SS subcorpus is, however, not new. Zhihua (2011) found that *you* was used to refer to personified objects, although in this study all the *personified objects* are all largely human-related (e.g. African countries, political parties, and parliament). This finding supports Kitigawa and Lehrer's (1990) position that "the personal pronouns *you*, *we*, and *I* in English can be used as impersonal pronouns in discourse situations". The impersonal use of *you* has two key rhetorical implications. It personalizes the human institutions (Whitman, 1999) to transform the abstract entities into concrete form to aid students' understanding. Again, it corresponds with Bakhtin's (1981) concept of ventriloquation, which invariably self-positions the lecturers. This practice is dramatic as lecturers project themselves as speaking 'human institutions', which naturally have no voices.

You-referents peculiar to NS

While HS and SS recorded 18 and 19 distinct *you*-referents, NS recorded only four. NS has a low *you*-referent density, suggesting that a greater portion of its *you* designates are shared (either with one of the other two DS, or both). From Table 37, we observe that two of the NS-specific *you* referents are characters in a story, affirming Querol Julian's (2011) finding that NS lecturers employ more anecdotes than their HS and SS counterparts. The frequent use of anecdotes in NS lectures therefore call for discourse-external world 'selves' of the lecturers.

Table 37: *You-referents Peculiar to NS*

Referents	Raw frequency	Normed frequency
Christians	2	0.58
Lecturer as a driver	2	0.58
Father in a story	1	0.29
Son in a story	3	0.87

Again, the last two referents also cast the lecturer as a driver, a real world identity that communicates the experiences of the lecturers. This corresponds with Brooke's (1987) assertion that speakers sometimes enact new roles that are not known to members in their discourse communities.

All in all, it is noteworthy that all the DS-specific *you* referents are peculiar to the present study. None of the studies reviewed on *you* referents in academic classroom lectures reported of any of the DS-specific *you* referents found in this study. This can be attributed to an array of factors such as the nature of the present corpora, geopolitics (as I have already reported as a major basis for the similarities between the present study and the previous ones), and concordance analysis undertaken. The issue on geopolitics is considered crucial, given that the register (classroom) of the present study bears the same situational characteristics (Refer to Biber & Conrad, 2009: 40) with the previous ones. Biber and Conrad (2009) argue with copious evidence that cultural context results in variation in register features and markers. The present subcorpora are Ghanaian and thus the effect of the Ghana-oriented geopolitical conventions, cultures, norms and 'rhetoric' on university

classroom lectures cannot be overemphasized. The multireferential system of *you* across the three DSs and the peculiarities are possibly evident of Ghanaian lecturers' reliance on discourse external world experiences to impart knowledge to the students since classroom lecture as a "situational variety is maximally oriented towards giving new information..." (Owusu-Ansah, 1992: 85). The studies that are similar to the present one in terms of the approach to disciplinarity are Yaakob (2013), Yeo and Ting (2014) and Zhihua (2011) but none of them recorded discipline-specific *you* referents. Yaakob (2013), for instance, identified only three semantic referents of *you* in his study and they were all common to the four broad disciplinary domains he investigated.

Chapter Summary

The Chapter discussed the discourse referents of *I*, *we*, and *you* across and within DSs. It also discussed the differences and similarities between this study, on one hand, and the previous ones, on the other hand, and attributed them (differences and/or similarities) to three key contributing factors: composition of (sub)corpora, native-nonnative source of data(lecture), and geopolitics. Interestingly, these factors resurface in the next Chapter, Chapter 7, which discusses the discourse functions of speaker pronouns across the subcorpora.

CHAPTER SEVEN

DISCOURSE FUNCTION OF SPEAKER PRONOUNS IN LECTURES
Introduction

In Chapter 6, I discussed the discourse referents of the tri-PP. In this chapter, however, I examine the discourse functions of speaker pronouns across the subcorpora. I begin with commonalities, and then variations across the DSs.

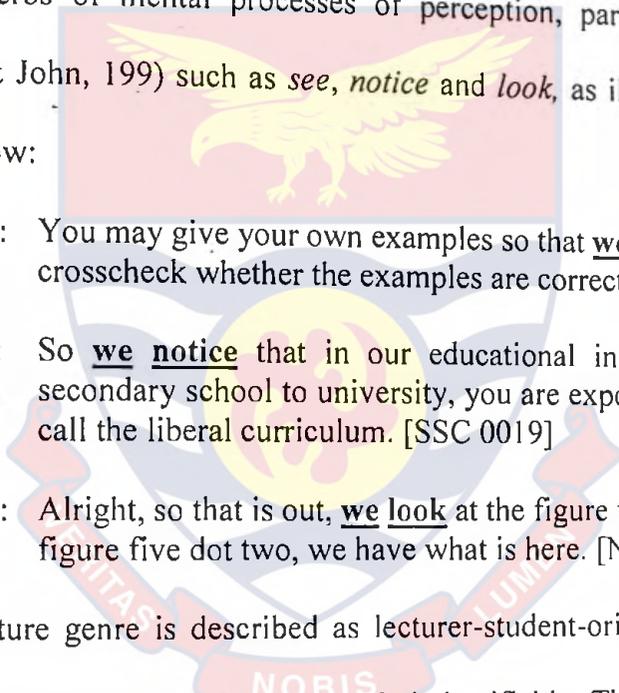
Commonalities in Discourse Functions of Speaker Pronouns Across DS

The analysis of the subcorpora on the roles of speaker pronouns reveals quite interesting (and surprising) findings. Table 38 reports on the raw and normed frequencies of the discourse functions of the speaker pronouns in HS, SS, and NS.

Table 38: Discourse Function of Speaker Pronoun Across DSs

Discourse Function	HS: (NF)	RF	Ran k	SS: RF(NF)	Ran k	NS: RF(NF)	Ran k
1. Representative	51(13.94)		3 rd	69(15.71)	2 nd	79(22.82)	4 th
2. Guide	146(39.91)		1 st	128(29.17)	1 st	610(176.19)	1 st
3. Architect	32(8.75)		6 th	21(4.78)	5 th	114(32.93)	2 nd
4. Recounter of Previous Experience	70(19.13)		2 nd	11(2.51)	7 th	17(4.91)	7 th
5. Reminder	43(11.7)		4 th	18(4.10)	6 th	22(6.35)	6 th
6. Recounter of Research Process	2(0.55)		8 th	2(0.46)	8 th	0(0.00)	9 th
7. Opinion Holder	41(11.21)		5 th	59(13.43)	3 rd	91(26.28)	3 rd
8. Interpreter	29(7.93)		7 th	28(6.38)	4 th	26(7.51)	5 th
9. Originator	0(0.00)		9 th	1(0.23)	9 th	1(0.29)	8 th

We note from Table 38 that there are some interesting commonalities among the three disciplinary supercommunities in terms of discourse functions of speaker pronouns. Across the three DSs, *I as a guide* is ranked the topmost speaker role. This role stresses the relevance of spatio-temporal interaction between lecturers and students in an ongoing lecture. With this, the lecturer “draws the reader’s [students’] attention to points which are plainly visible within the essay [lecture]” (Tang & John, 1999: 27). This role is mostly signalled explicitly by an *inclusive we* collocating with verbs of mental processes of perception, particularly visual perception (Tang & John, 1999) such as *see*, *notice* and *look*, as illustrated in the corpus extracts below:

- 
- HSL: You may give your own examples so that we see, so that we crosscheck whether the examples are correct. [HSC 0015]
- SSL: So we notice that in our educational institutions, from secondary school to university, you are exposed to what we call the liberal curriculum. [SSC 0019]
- NSL: Alright, so that is out, we look at the figure five dot two, for figure five dot two, we have what is here. [NSC 0014]

Given that the lecture genre is described as lecturer-student-oriented (Biber & Conrad, 2009), the dominance of *the guide role* is justifiable. This realization is supported by lecturers’ ultimate desire to share disciplinary specialist knowledge (Biber & Conrad, 2009) with the students who are nurtured and tutored to become custodians of disciplinary knowledge in future. This role affirms lecturers’ roles as “holders/dispensers of information” and students as “seekers/receivers of information” (Crawford Camiciottoli, 2007: 17).

More so, *I as the guide* occurs in almost all the different models of discourse roles of speaker function in classroom lectures. Fortanet (2004) identified two types of the guide role (i.e. guide through the speech event, and guide through the discipline), while Plaza and Alvarez (2013) found *I as a guide* through the lecture. Ädel's (2010) *I as organiser* is also akin to *I as a guide*. This finding suggests the ubiquitous nature of the guide role in classroom lectures. Most importantly, the finding confirms Fortanet's (2004) study in which *I as a guide* was found as "the most common in all lectures analysed" (p. 64).

Furthermore, as shown in Table 38, *I as originator* and *I as recounter of research process* appeared as the two least frequently employed discourse roles by lecturers across DSs. The finding on *I as originator* indicates that classroom lecture is characterized by the paucity of *originality* (a highly nebulous term, as Phillips and Pugh (1994), cited in Hart (1998: 24) provided nine meanings of this term). The underuse/non-use of *I as an originator* is quite surprising, as this is the most powerful discourse role. Thus, it is expected that lecturers, as experts of their discipline, manifest this role as Hart (1998) intimates that lecture is a channel for knowledge generation. Hart (1998), therefore, implies that written academic registers are not the only avenues for originality. Previous studies such as Plaza and Alvarez (2013) and Zhang et al. (2014) found *I as an originator* in their lecture corpora, although there were few occurrences.

Finally, the position of *I as a recounter of research process* is worth discussing. We observe that it is ranked 8th in both HS and SS as the second lowest

role, and lowest in NS. Hart (1998) maintains that lectures constitute one of the avenues of research outcome in higher education. But the present findings somehow refute this claim, in consonance with Ädel (2010) who noted that *I as a recounter of research process* did not manifest statistically in her corpora because “lecturers generally present information not based on their own research” (Ädel, 2010: 69).

Variation in the Discourse Functions of Speaker Pronouns Across DS

In the previous subsection, I examined the cross-DS commonalities in the discourse functions of speaker pronoun. I now turn to cross-DS variation in speaker pronoun discourse functions. In the ensuing subsections, I discuss variations in the functions of speaker pronouns across DSs.

I as a representative

I as a representative discourse role constitutes the least powerful of all the speaker roles enacted through speaker pronouns. In this role, the degree of the speaker’s presence appears highly minimal (Martin-Martin, 2003; Tang & John, 1999). The personhood of the speaker becomes evasive, as he/she appears to act on behalf of the disciplinary experts. This is exemplified in the concordance lines in Figure 30.

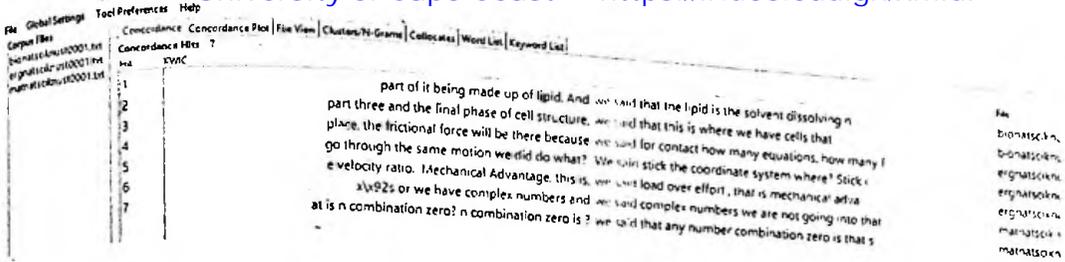


Figure 30: Concordance lines illustrating speaker-pronoun as a representative from NSC

We collocating with the verb ‘said’ helps reveal the we-type, and hence the role of the speaker. The lecturer could have used *I* instead of *we* but he/she chose *we* to highlight his/her representational role. Yates and Hiles maintained (2010) that *I as a representative* is not only a strategy to “distancing responsibility for one’s own actions or statements. It is also a means of distancing from their centre of self-referencing of ways in which speakers are situated in a social [socio-rhetorical] space in which their agency is curtailed and they are subject to restrictions, prohibitions and imperatives” (p. 549).

Table 38 shows that NS (22.82) recorded the highest frequency, followed by SS (15.71) and then HS (13.94). The significance test showed that the observed differences between DSs indicate significance difference (statistically) between HS and NS (LL 7.72) and SS and NS (LL 5.14) at $p < 0.05$ level. However, the difference between HS and SS (0.42) was found to be statistically not significant. These findings imply that disciplinary variation has an influence on the use of *I as a representative* at two independent ends of comparison (HS versus SS, and SS

versus NS). However, between HS and SS, it is shown that disciplinarity does not seem to affect the foregoing speaker role in classroom lectures.

The Natural Sciences have been described as favouring the objectivist, collectivist and positivist ideology (Hyland, 2009). The NS lecturers, therefore, affirm this position through their 'proxy' roles in lectures. Tang and John (1999) assert that *I as a representative* reveals one as "proxy for a larger group" (p. 27) – both discourse internal participants such as both lecturers and students, and external participants like members in a discourse community, people in the world, and citizens of Ghana. From the extracts below, the we-types used affirm the speaker as a part representing a whole, a situation similar to *synecdoche* in literary studies.

HSL: Allomorphs arise when we are dealing with tense. [HSC 0016]

SSL: Because the inversion will be to hold some information for some time before erh you deliver it and that is very good for print, for print that is the style but for radio we are saying that is not the style. [SSC 0020]

NSL: And therefore they actually form what we call the particle and within the particle is where all the actions actually take place [NSC 0015]

For instance, in extract, NSC 0015, the *inclusive we* used by the speaker reveals them as representing the members (scholars) in the Natural Science discourse community. In this situation, the speaker is reduced to a non-entity (Tang & John, 1999), as he appears to have no authority of his own, except that which is invested into him by the people he represents. *I as a representative* role rhetorically functions as a hedging strategy, which exposes "the author [speaker] as cautious claim maker" (Martin-Martin, 2003: 4), subject to the "attenuated responsibility"

(Freyne, 1991, cited in Yates & Hiles, 2010: 538). Thus, the lecturer becomes less responsible for the proposition made as his/her presence is obscured and shielded. NS lecturers, as a matter of principle, *bracket* (Smart, 1969) their individual selves and rather establish a disciplinary ethos consistent with the positivist, objectivist and collectivist ideology. Thus, more than their HS and SS counterparts, the Natural Scientists present themselves as powerless individuals who have no authority, except that which is conferred on them by the people they deputise in the discourse.

I as a representative role was reported by Fortanet (2004), who sought to uncover the discourse functions of speaker pronouns typical of the lecture genre. Given that she adopted the lumping approach (Ädel, 2010) to designing her corpus, Fortanet (2004) did not seek to ascertain the effect of disciplinarity on this role in lecture discourse. Consequently, it is quite difficult to compare the finding in this study to hers, as we both have different purposes.

Table 39, thus, shows log-likelihood values at the three independent levels of comparison.

Table 39: Inter-DS Log-likelihood Values at 3.84 ($p < 0.05$)

Discourse function	HS vs SS	HS vs NS	SS vs NS
Representative	0.42	7.72	5.14
Guide	6.75	332.25	467.23
Architect	4.75	53.48	94.47
Recounter of Previous Experience	59.38	31.80	3.12
Reminder of Previous Lesson	15.63	5.80	1.92
Recounter of Research Process	0.03	2.66	2.33
Opinion Holder	0.80	22.28	16.60
Interpreter	0.67	0.04	0.36
Originator	1.21	1.44	0.03

Table 39 indicates that the differences in the discourse functions of speaker pronouns were statistically significant and not significant at some levels. For example, for *I as a reminder*, the differences were statistically significant at HS-SS, HS-NS levels, but not significant at SS-NS.

I as a guide

It is shown in Table 38 that NS subcorpus contains the highest use of *I as a guide*, as it recorded 176.19 instances per 10,000 running words. NS was followed by HS (39.91) and then SS (29.17). The guide role enables us to see the “copresence” (Goffman, 1981: 130) of the two main discourse participants in the classroom lectures (i.e. lecturers and students). Crawford Camiciottoli (2017) notes that through this “lecturers ‘intrude’ into the text to explicitly announce to

audiences what they intend to talk about” (p. 80). *I as a guide* is considered the second weakest role in terms of explicitness of the lecturer because the lecturer co-occurs with the audience. So this lecturer/student-oriented inclusive speaker pronoun is strategically used to show co-operation and solidarity with the students (Fortanet, 2004; Hyland, 2010). See Figure 31 for concordance samples of *I as a guide*.

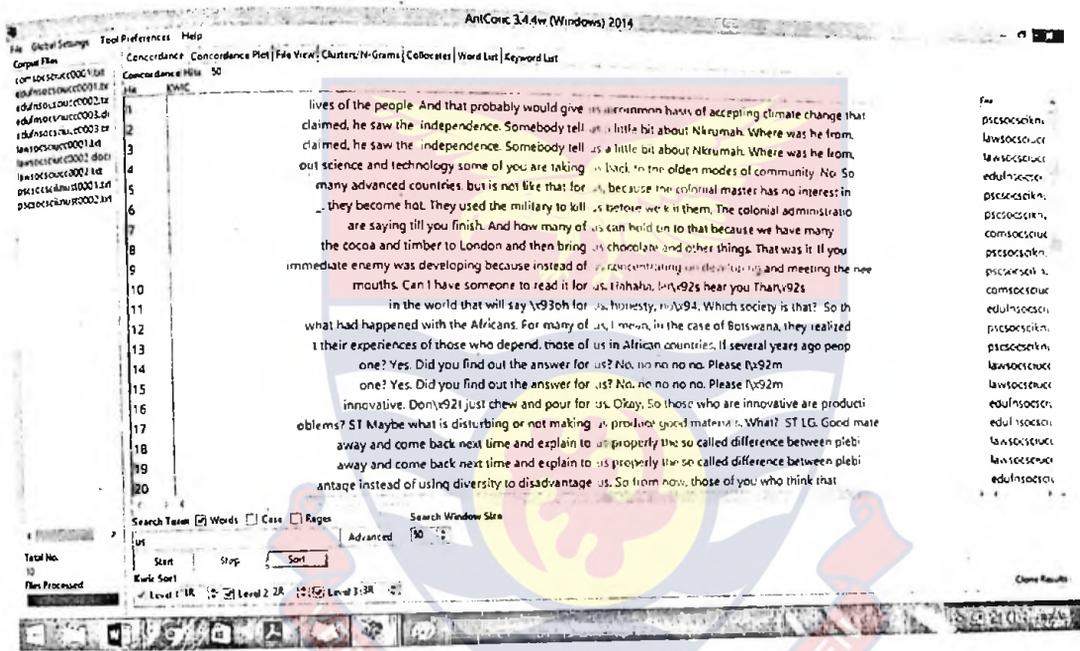


Figure 31: Concordance samples of speaker-pronoun as a guide from SSC

Interestingly, lecturers used varied forms of *we* to express the guide role. One of such *we*-forms is the objective *us* (as shown in Figure 31), which is used to reveal lecturer-students co-presence. The presence of the guide role in the subcorpora is consistent with Crawford Camiciottoli (2007), Fortanet (2004) and Rounds (1987a), who found this in their respective corpora. From the corpus evidence, HSC

0017, the lecture uses the inclusive *we* to indicate that he/she and students share a common agenda and 'interest'.

HSL: So the spelling of the sound may differ but today we are interested in the sounds and not the various spellings of the sound. and all these are business for next semester. [HSC 0017]

SSL: So we are unlikely to cover erh constitution making or we do start we won't get very much to it so my lecture on constitution making is not obviously going to be on the assessment... [SSC 0021]

NSL: So we are now going to look at the plasma membrane plasma membrane. [NSC 0016]

The normed frequencies from Table 38 show the preponderance of this role in NS. It indicates that the Natural Scientists interact with their audience in the text more than their HS and SS counterparts. More so, it shows that NS lecturers, more than their HS and SS colleagues, desired to reduce the power relation gap between them and their students, confirming Zare and Keivanloo-Shahrestanaki's (2017) study. NS has been reported to employ several visuals in their classroom lectures (Hyland, 2009; Swales, 2004). Thus, the substantial use of *I as a guide* can be attributed to this as they would have to *guide* the students through the numerous graphs, formulae, diagrams, and tables to enhance students' comprehension. Besides, NS comparative use of the PowerPoint technology (as I observed) can also account for the significant enactment of the guide role. Clearly, there is an overwhelming significant difference (statistically), as all the three independent points of comparison: HS vs SS (LL 6. 75); HS and NS (332.25). and SS vs NS (467.23). The marked statistical differences demonstrate how critical "the social

and rhetorical practices of academic communities” (Hyland, 2008: 20) are regarding the guide role in classroom lectures.

I as an architect

Metaphorically, *I as an architect* relates lecturing to a building. It therefore implies activities performed by lecturers in their interaction with students in the classroom. Such activities include organizing the lecture at the micro and macro levels in order to present a coherent text to the students. Consequently, the architect role is totally lecturer-oriented, and it manifests through explicit use of pronouns for a speaker (e.g. *I*), or speakers (e.g. *we*). The concordance outputs in Figure 32 exemplify *I as an architect*.

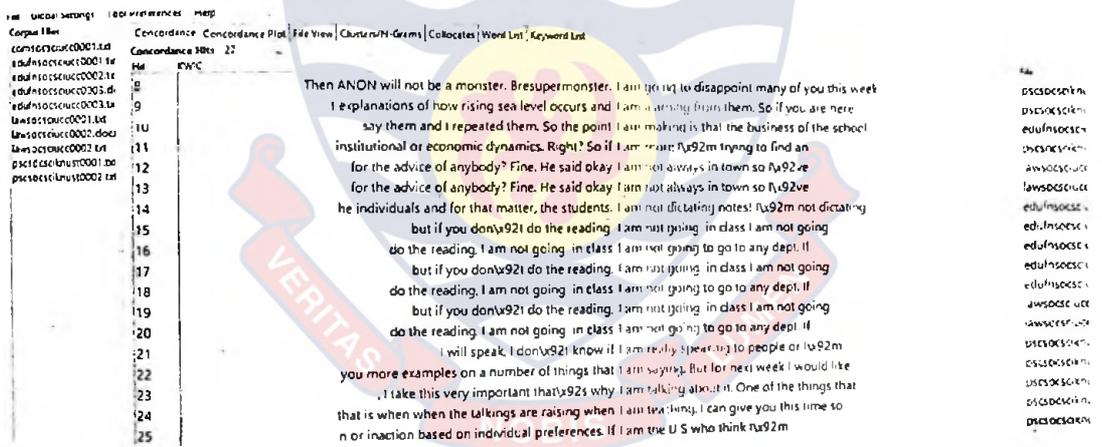


Figure 32: Concordance instances of speaker-pronoun as an architect from

SSC

We observe from Figure 32 that the speaker pronoun *I* collocates with the verb to be. Interestingly, all the lectures included in the subcorpora for the study were

delivered by an individual lecturer; so all cases of *I as an architect* were in the subjective first person pronoun *I*, as exemplified in Figure 32.

The normed frequencies per 10, 000 words in Table 38 indicate some differences in the use of *I as an Architect*: HS (8.75), SS (4.78) and NS (32.9). It is important to note that *I as an architect*, role as found in this study, was reported by Ädel (2010) as being typical of the lecture genre. In comparative terms, the log-likelihood values in Table 39 reveal that the differences at the three points of comparisons are statistically significant: HS vs SS (LL 4.75), HS vs SS (53.48) and SS vs NS (94. 47). The relatively substantial differences show that disciplinary variation influences lecturers' use of speaker pronouns in classroom lectures to "show awareness of reader's [students] needs in terms of readability and organization of the text" (Munoz, 2013a: 222). As shown in extract HSC 0018, the lecturer clearly mentions what he/she is going to do, a way of providing the 'map' for the task ahead.

HSL: I am going to give you passages, I'm going to ask you to identify the morphemes, and to explain why they are such morphemes. [HSC 0018]

SSL: So the point I am making is that the business of the school is to transmit the peripherally valuable elements of society's culture to the individuals, especially the students or the learners. [SSC 0022]

NSL: I was thinking that if I if I move into this layer, you will then be able to apply this principle. [NSC 0017]

In extracts HSC 0018, SSC 0022, and NSC 0017, the first person pronouns serve as "phorics" (Ädel, 2006: 101) or "road signs of discourse" (Ädel, 2010: 86).

pointing what the lecturer has done, is doing and will do. We notice that NS compared to HS and SS employed more of *I as an architect*. This means that NS lecturers demonstrate greater responsibility in stating goals outlining propositions, and signalling topic shift (Hyland, 2005b) in their lectures to aid students' understanding. This supports Hyland's (2009) position that NS, on one hand, incorporates "highly structured genres" (p. 63), as compared to HS and NS, on the other hand, which possess "more fluid discourses" (p. 63). To some extent, the laboratory conventions typical of the NS may also infiltrate through their lecture; thereby, affecting their desire to present well-outlined, structured and organized lectures, which help to "provide framing information about elements of the discourse" (Hyland, 2005b: 51).

I as a recounter of previous experience

Table 38 shows that HS recorded the highest use of *I as a recounter of previous experience* with a normed frequency of 19.13, followed by NS (4.91) and then SS (2.51). The presence of this role in the subcorpora confirms Fortanet (2004) and Yeo and Ting (2013), who found this in their studies of classroom lectures. Clearly, *I as a recounter of previous experience* role affirms the conceptualization of 'world' in text as internal and external (Ädel, 2006; Hyland, 2005a & b), and thus buttresses the discursive link between the two worlds. The finding supports Dyer and Keller-Cohen (2000) (cited in Crawford Camiciottoli, 2007: 18) who "found that university professors use narratives of personal experience embedded within lectures to construct both their identities as competent experts, but(sic) also as

ordinary people who at times fumble with the problems of everyday life". On this basis, we notice the scholarly usefulness of non-scholarly experiences in classroom lectures. See Figure 33 for examples of *I as a recouter of previous experience*.

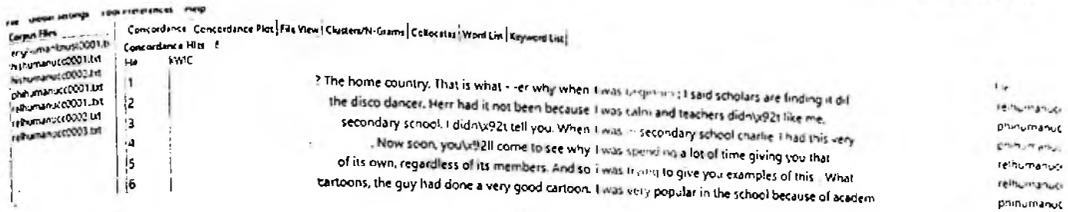


Figure 33: Concordance instances of speaker-pronoun as a recouter of previous experience from HSC

Given that *I as a recouter of previous experience* concerns past events, the speaker pronouns that realized this role generally collocated with verbs in their past form, particularly the verbs to be, as shown in Figure 33. At the three independent levels of comparison, we notice significant differences at two levels: HS vs SS (LL 59.38), and HS vs NS (LL 31.80), indicating that disciplinary norms and conventions influence this speaker role at these two levels. However, there is no statistically significant difference between SS and NS (LL 3.12), revealing clearly that disciplinary variation does not influence the use of *I as a recouter of previous experience* between SS and NS in classroom lectures. HS's overwhelming employment of this role means that more than SS and NS, HS lecturers incorporate and integrate several discourse external world 'materials' or information in their lectures. From corpus evidence SSC 0023, for instance, the lecturer recounts his childhood experiences and links that to the subject of discussion in the lecture, stressing the text internal-external world interdiscursive nature.

HSL: Because we had just come to form three we wanted to be guy guy because form three we wear unprescribed sometimes and then in our school form three you wear trouser uuuhm to class. [HSC 0019]

SSL: So that is how we ended up in Nigeria and I had my early primary in Nigeria. [SSC 0023]

NSL: The royals, who are the royals in the school here? Plus one mark each because I was a royal. [NSC 0018]

This strategy highlights the scholarly significance of real world experiences (Ädel, 2006) and, thus, aids students in appreciating the disciplinary specialist knowledge (Biber & Conrad, 2009). The *recourer of previous experience* role, therefore, “acts as a strategy to help readers [listeners] grasp a given concept by transforming it into a simplified generalization” (Crawford Camicittoli, 2007: 123). Humanity Scientists’ substantial use of this role is consistent with the fact that it is explicitly interpretive, and also has a dispersed knowledge (See Hyland, 2009: 63). Again, the finding is also, to some extent, supported by HS’s extreme connection to the social constructivist stance that “suggests that knowledge...is created through the daily interactions [past, present and future] between people...” (Hyland, 2009: 11). Maton (2000) further notes that HS is characterized by “subjective or intersubjective attributes and personal experiences” (p. 157).

I as a reminder of previous lessons

The subcorpora for the present study yielded a new speaker role manifested through self-referential pronouns (Hyland, 2010): *I as a reminder of previous lessons*. Reminders, according to Blagojevic (2015:13), are ‘expressions which serve to remind the reader of the previously exposed materials and thus facilitate

the flow of information”. The concordance lines in Figure 34, therefore, recount what the lecturer had previously *told* the students.

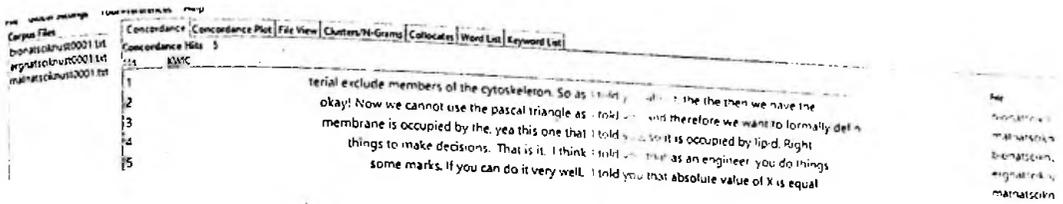


Figure 34: Concordance lines illustrating speaker-pronoun as a reminder of previous lectures from NSC

Through this role, lecturers seek to activate students’ prior knowledge (Yeo & Ting, 2013). On the cline of speaker presence, I place this new role between *I as a recounter of previous experience*, and *I as a recounter of research process* as I perceive it to be more powerful than *I as a recounter of previous experience*, and less powerful than *I as a recounter of research process*. With this role, lecturers refresh the memories of students on taught lessons, particularly those handled by the speaker. The reminder role is thus akin to Yaakob’s (2013: 130) “refer to earlier[sic] lecture” subfunction of the classroom lecture introduction. It, thus, awakens students’ awareness of their responsibility of keeping what they are taught to help them *currently* (as undergraduate students in their examinations and other tasks) and *prospectively* (as either postgraduate students, or threshold practitioners) in their respective disciplinary supercommunities.

I as a reminder of previous lessons appeared in two forms, drawing on text-external and internal paradigm (Ädel, 2006; Hyland, 2005b), which is related to the concepts of text reflexivity (Mauranen, 1993), and antecedent genre (Devitt, 2004).

Thus, there are inter-lecture reminder (alluding to an antecedent lecture) as in HSC 0020 below, where the lecturer alludes to *two lectures ago*. There is also an intra-lecture reminder (information given earlier in the ongoing lecture) as in NSC 0019, where the lecturer refers to a *definition* he had already given earlier in the course of the ongoing lecture.

HSL: Now I've stated earlier that Benny Kasson agrees with Gyekye that fundamental reality in traditional African society is the community. [HSC 0020]

SSL: People were tired of voting because of the term I mentioned last week...So you see what I was talking about. [SSC 0024]

NSL: Find x. Now by the definition that I gave you, we will first of all split the thing into two. [NSC 0019]

As can be seen from SSC 0024, the lecturer reminds the students of what he taught *last week*, suggesting a kind of lecture repertoire in the students' memories. This reminder discourse role, therefore, rhetorically, projects the lecturers as a 'library' of disciplinary knowledge, thereby eventually winning the trust and confidence of the students. It also portrays lecturers as people interested in the sustained understanding of the students, useful for their socialization into the disciplinary community.

Table 38 shows that, per 10, 000 running words, the DSs recorded the following normed frequencies: HS (11.7), SS (4.10) and NS (6.35). Besides, a log likelihood statistical analysis reveals that statistically there are significant differences at two comparison levels (i.e. HS vs SS: LL 15.63, and HS vs NS: LL 5.80), as shown in Table 39. Regarding the two levels, disciplinary variation

informed the choice of this role, but between SS and NS (LL 1.92). disciplinarity plays no role. Now, HS recording the highest use of *I as a reminder of previous lessons* suggests that lecturers built on previous lessons more than SS and NS lecturers to ensure “epistemic progression” (Osei, 2008:22). They probably do this to provide a trajectory for the entire lecture for the courses throughout the semester, or the programme. This role affirms the cumulative nature of scientific knowledge (Cao & Hu, 2014), a realization that refutes the advice given to some freshmen and women (as I was also offered): “University is unlike SHS (Senior High School). Whatever you study in a particular semester, you’ll not meet it again”.

I as a recounter of the research process

In classroom lectures, *I as a recounter of research process* can be understood in two senses: empirical investigation undertaken, and non-empirical pre-lecture activities (such as readings, gathering of gadgets like projectors, markers, etc.). From the subcorpora, this role was found to be infrequent. The few instances from HS and SS are also related to pre-lecture activities specifically *reading*, as the corpus evidences below illustrate.

HSL: Do you know how many books **I** read before **I** come to class? [HSC 0021]

SSL: **I** read something the other day. Very interesting. [SSC 0025]

In both instances, the activities reported are reading-oriented. There is, therefore, a complete absence of data-driven/based research-oriented presence of the lecturers across the subcorpora. This realization reinforces the description of the kind of

lecture under investigation as instruction but not research-oriented (Crawford Camiciottoli, 2007), and as a classroom genre but not research genre (Fortanet, 2005). This finding thus challenges the instruction-research overlap stance in academic discourse (Crawford Camiciottoli, 2007). The normed frequencies reveal that classroom lectures across DSs are less “research-informed” (Deroy, 2017a: 17) (in HS and SS) and totally non-research-informed (in NS).

Furthermore, *I as a recounter of research process* falls short of the LL baseline of significance. Hyland (2006b: 5) observed that “textbooks continue to depend on the writer’s experience and intuition rather than systematic research”. This observation seems appropriate to classroom lectures, at least, per the findings of this study across the three DSs. Generally, classroom lectures, per the LL values, appear non-research informed, although they were delivered by experienced lecturers cum researchers. Thus, there is a disconnect between research (both empirical, and non-empirical) and classroom lectures. This disconnect is quite worrying as one would expect that lecturers would construct this identity in their classroom lectures frequently and dovetail theory-based and research-based disciplinary knowledges in this all-important channel of knowledge dissemination.

Generally, the finding is consistent with previous studies (e.g. Adel, 2010; Fortanet, 2004; Plaza & Alvarez, 2013). Fortanet (2004) investigated the discourse roles of speaker pronouns across four ‘lectures’ (Education Colloquium, Introduction to Anthropology Lecture, Japanese Literature Lecture, and Medical Anthropology Lecture). He reported that this role was frequent (and present) in a

non-classroom lecture, Education Colloquium, only. Thus, the present finding of underuse in HS and SS confirms Plaza and Alvarez (2013), and Ädel (2010), or non-use in NS supports previous studies (e.g. Fortanet, 2004; Gomez, 2006; Yeo & Ting, 2013; Zhang et al., 2014). This *trend* is affirmed by Ädel (2010) that “lecturers generally present information not based on their own research” (p. 69).

***I* as an opinion holder**

It is reported that conveying opinion typifies classroom lectures (Biber & Conrad, 2009; Crawford Camiciottoli, 2007; Fortanet-Gomez, 2004; Plaza & Alvarez, 2013). Over the years, opinion expression has been studied and encapsulated into several concepts as attitude markers (Hyland, 2005a), appraisal (Martin-Martin, 2000), evaluation (Thompson & Hunston (2000), evidentiality (Barton, 1993), and stance (Biber, 1999). Biber and Conrad (2009) argued that expression of opinion constitutes part of the interpersonal functions of classroom lectures. Concordance analysis revealed that *I as an opinion holder* was expressed through speaker pronoun which collocated with ‘opinion’ verbs such as think, believe, hope, etc. When I realized this, I search for a node term *I think* and indeed it was found to be pervasive across the subcorpora. However, Figure 35 presents screenshots of this from SSC.

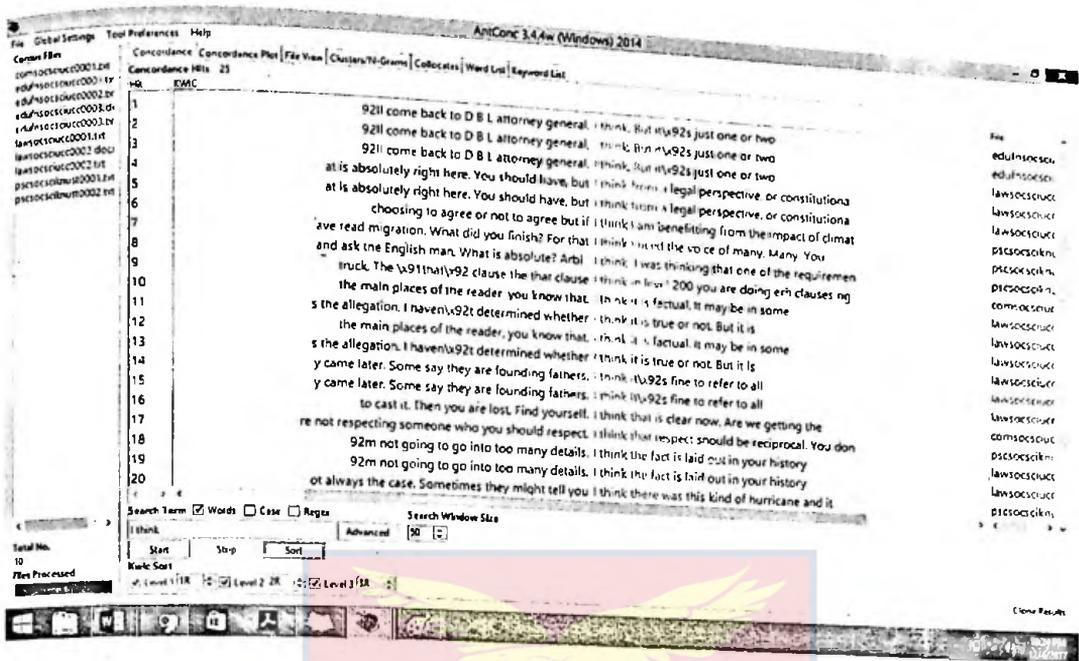


Figure 35: Samples of concordance lines for speaker-pronoun as an opinion holder from SSC

From, Figure 35, we observe that *I* collocates immediately with *think*, and this serves as a stance-making strategy. The lecturer positions himself/herself as “an independent agent – a ‘strong-willed’ individual able to voice one’s opinion and act autonomously” (Yates & Hiles, 2010: 544), of course, consistent with disciplinary norms and practices. The present study affirms the assertion that lecturers project themselves into their lectures as opinion holders, across DSs, as demonstrated below:

HSL: Yeah, I agree with you but I will add to yours is that the use of diplomacy was what the first step was all about. Resorting to humility resorting to any form of negotiation for their goal to be realized. So in general, use of diplomacy. [HSC 0022]

SSL: What I hate is tribalism or ethnicity. [SSC 0026]

NSL: Then, apart from the contamination of them, you are going to realize that if I were interested in separating the ribosome from the micro-body, I cannot use this method. [NSC 0020]

We notice how lecturers express their agreement (with students in HSC 0022) and their dislike for certain phenomena (as in SSC 0026) and their preferences as in NSC 0020. Generally, lecturers manifest their feelings towards discourse participants, propositions to reinforce their individuality rather than always committing themselves to truth-value (Hyland, 2002a). The expression of opinion arguably reinforces lecturer-student rapport in the classroom. More so, it indicates the levels of authority of lecturers as they seek to legitimate their uniqueness with respect to their views, emotions and perspectives on ideational information, and conventionalized or institutionalized disciplinary norms and practices.

The normed frequencies, as presented in Table 38, indicate that NS (26.28) recorded the highest use of *I as an opinion holder*, followed by SS (13.43) and then HS (11.21). Tang and John (1999) note that through this role speakers express their attitudes (agreement, and/or disagreement) towards established disciplinary facts. Thus, the above figures show that NS lecturers express their attitudes towards ideational information, more frequently than their HS and SS counterparts. This finding is very surprising as NS is said to be characterised by high level of consensus (Del Favero, 2003). Again, Hyland (2009: 63) maintains that Natural Scientists “see knowledge as a cumulative development from prior knowledge accepted on the basis of experimental proof”. Consequently, one expects HS that depends heavily on the cogency of argument (Afful, 2010; Hyland, 2009) to

manifest more of this role. This finding suggests that Natural Scientists are beginning to 'humanize' their discourses by focusing on the affective as well. On the other hand, the finding suggest that SS and particularly HS lecturers' seek to focus more on the ideational content than on opinions of the discourse community members than their NS counterparts.

As shown in Table 39, the log-likelihood test of significance reveals that the employment *I as an opinion holder* in HS vs NS (22.28) and SS vs NS (16.60) is influenced by the distinct disciplinary norms and conventions. The LL values clearly show that the differences are statistically significant. Meanwhile, the difference between HS and SS, as observed in the raw and normed frequencies, is due to chance but not disciplinaryity as their LL value (0.80) greatly falls short of the significance baseline (LL 3.84).

I as an interpreter

According to Munoz (2013b), *I as an interpreter* concerns comparing findings of current study to previous ones, assessing the strength and weaknesses of methodological techniques employed in a study, and interpreting the implications of the results and findings of a study. In this context. it means comparing one concept to another (in and/or across disciplines, or DS). evaluating a disciplinary concept, and finally interpreting a disciplinary concept, theory or knowledge. *I as an interpreter* role, therefore, subsumes reformulating, commentating on linguistic form/meaning, clarifying and managing terminology

roles in Ädel's (2010) discourse function model of metadiscursive PPs. The interpreter role focuses on the presence of lecturers in their discourses to expound disciplinary concepts, ideational information and "both technical and semi-technical terminologies used to introduce concepts" (Crawford Camiciottoli, 2007: 45) to students. This role thus underpinned one of Crawford Camiciottoli's questions to her student respondents: "Were you able to understand the meaning of important terms used by the lecturer (p. 114)?" The corpus evidence SSC 0027 illustrates how the lecturer asserts his/her position of making the position of the government clear to the students.

HSL: Do we understand that? Are we clear on that? Should I give further explanation? Do I need to explain further? I'll do so by inviting questions. [HSC 0023]

SSL: But I want to be clear on the preliminary objection point...and I explained here that their position the government's position was that N P P cannot win this case or should not be allowed to win this case because of what? [SSC 0027]

NSL: I have to see how best I can help you understand this...Do you understand what I am trying to say? [NSC 0021]

From the above extracts, the lecturers project themselves as disciplinary hermeneuts who seek to make clear disciplinary knowledge to the students who are being socialised. Indeed this role is crucial, given that the classroom lecture is regarded an avenue for explaining disciplinary constructs and knowledge to the novices (Hart, 1998; Hyland, 2009).

The normed frequencies of the DS are 7.93, 6.38 and 7.51 for HS, SS and NS respectively. These observed frequencies do not provide vast differences that can be the bases for disciplinary variation. Unsurprisingly, the LL values at the independent levels of comparison (HS vs SS: LL 0.67; HS vs NS: 0.04; SS vs NS: LL 0.36) show that the minimal differences observed are not significant statistically. This clearly discounts disciplinary variation as influencing the presence of a speaker as an interpreter in classroom lectures across the three DSs. The significant *underuse* of this role across DSs has some implications. The epistemological distinctiveness of the individual DS leads to their respective specialized constructs, concepts, theories and vocabularies (Hyland, 2009; Kagan, 2009; Woodward-Kron, 2002), leading to DS/discipline-specific reference books glossaries/dictionaries of humanities, social sciences and natural sciences terms. It is expected that lecturers will enact this identity (i.e. *I as an interpreter*) to explain disciplinary specialized knowledge to the students (Dontcheva-Navratilova, 2013), as the lecturer is perceived as a custodian of disciplinary knowledge (Biber & Conrad, 2009). Besides, as Crawford Camiciottoli (2007) found that lecturers in Economics employed other glossing strategies, specifically exemplification to interpret such concepts (For detailed discussion on glossing strategies, see Akoto, 2014; Hyland, 2006a).

I as an originator

In their study on students' attitude towards lectures, Hitchens and Lister (2009) found that students require that "the lecturer goes beyond what is written in the

lecture notes” (p. 93). This submission implies the originator role as the lecturer is expected to show themselves, not as reporters but as authorities and sources of ideas in the text (Ivanic, 1998; Tang & John, 1999) in order to “demonstrate their distinctiveness and superiority” (Hyland, 2010: 14). Lecturers are, thus, expected to be sources of new knowledge claims in their respective disciplinary supercommunities. Of course, as Koutsantoni (2007: 20) argues, such “new knowledge claims made in academic registers do not automatically become accepted knowledge but are granted acceptance after a process of negotiation between contributors and disciplinary gatekeepers”. Although the originator role is high stake among academics (Koutsantoni, 2007), its occurrences are infinitesimal in both SS and NS, but non-existent in HS: HS (0.00), SS (0.23), and NS (0.29) normed frequencies per 10, 000 tokens. See the only occurrence from SS.

SSL: But it is saying that there are evidence that is supporting the fact that the intensity of climate change is actually induced by human actions and some of these that in some examples cited is long spring seasons I mean early spring in western countries and erh how do I call it winter, excessive winter and in Africa long dry seasons.[SSC 0029]

NSL: When I refer to you as God, you are just God on earth. Because you are seeing what other people can't see. You think more than they can do. [NSC 0023]

From SSC 0029, we notice “an independent creativity shaped by shared practices” (Hyland, 2010: 3) where the speaker describes *spring in western countries* as *winter in Africa*. Notwithstanding this, it is important to note that disciplinary variation did not affect the use of the originator role as the log-likelihood values in Table 39 clearly show that there are no statistically significant differences at the three ends

of comparison: HS vs SS (LL 1.21), HS vs NS (LL 0.00), and SS vs NS (LL 1.16). *I as an originator* was found by Ädel (2010) and Zhang et al. (2014) but they did not provide any quantitative evidence on its employment. Thus, it makes it difficult to make a case out of it, in relation to the present study. We notice that this role is not totally absent from the three subcorpora. Since we are drawing on the frequency of use to make claims, the absence of statistical information in Zhang et al. (2014) and Ädel (2010) invalidates any comparison between this study and the previous ones.

Meanwhile, the relative non-use of the originator role in classroom lectures, as found in this study suggests a number of things. Unlike in written academic discourse where scholars attempt to 'create' new knowledge/concepts (Munoz, 2013a & b, Tang & John, 1999), in classroom lectures, the lecturers largely report only textbook-based disciplinary knowledge, both disciplinary common sense knowledge and specialist/uncommon sense knowledge (Biber & Conrad, 2009: Woodward-Kron, 2002) or core and non-core disciplinary knowledge (Akoto, 2013). Lecturers are, therefore, unable to claim ownership of any idea in their lectures (Tang & John, 1999), and eventually introduce the students (novices) to how knowledge is constructed in their respective DSs (Crawford Camiciottoli, 2007). This means that lecturers demonstrate less or no criticality, and creativity in this all-important instructional genre. This possibly leads to the practice that makes some students comfortable with either notes of past friends who had read the course, or textbook written by the lecturer or someone else that is used as a course

text (a phenomenon students term *grandpa*), without taking notes at lectures. This is reported as one of the causes of university students' absenteeism at lectures (Kottasz, 2005; Sharmin, Azim, Choudhury & Kamrun, 2017). According to these researchers, students remarked that even if they missed lectures, they might acquire the coursebook, or photocopy the notes from their friends. This is confirmed by a remark by one of SS lecturers in their lecture:

SSL: We just give you the material and you go and sit at home and you read. Even for those who are doing distance learning, I'm a tutor for University of Ghana, other universities in distance learning we still tutor them, because the assumption is that they will not get what they will read so it is very important that we discuss whatever the reading is. It is okay for you to read and not understand. [SSC 0030]

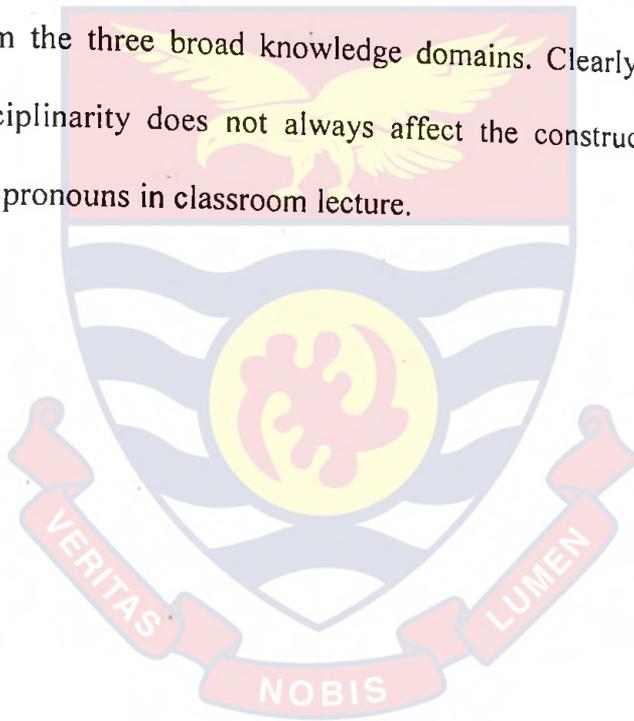
When students notice that the originator role is absent or underused, the observation of the lecturer becomes phenomenal.

I as an originator role informed my choice of only Senior Lecturers (and above) in their respective disciplines as those ones having published (with the evidence of their promotion) are experienced discourse community members and were thus expected to manifest their power to create new ideas through their lectures. This experienced-based argument, therefore, refutes Tang and John's (1999) and Csomay's (2002) time-constraints argument that *time constraints* or inexperience might make truly original contributions unlikely. What further weakens the time-based argument is the fact that lecturers have, arguably, adequate time to prepare and plan for their lectures (Biber & Conrad, 2009; Crawford Camiciottoli, 2007; Csomay, 2002). Thus, it is expected that their new understandings and thoughts are "pre-planned" (Crawford Camiciottoli, 2007: 20),

and infused into their lectures as they are *architects* in the lecture and reported by previous studies (e.g. Adel, 2010; Zhang et al., 2014).

Chapter Summary

This chapter discussed the discourse functions of speaker pronouns across the subcorpora. It appeared that all the DSs enacted most of the roles in their lectures, although with varied quantitative differences. The study further yielded a new role, *I as a recounter of previous lecture*, which was found to be utilized by all the lecturers from the three broad knowledge domains. Clearly, the discussion showed that disciplinarity does not always affect the construction of speaker presence through pronouns in classroom lecture.



CHAPTER EIGHT

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This final chapter has a three-pronged focus. First, it provides an overview of the study from the statement of the problem to the key findings (corresponding with the three research questions). Thereafter, the implications of the key findings are discussed. Finally, suggestions for further research are proffered, based on the key findings.

Summary of the Study

Pronouns, especially the tri-PP (*I, we* and *you*), are inevitable interactional resources in discourse, both spoken and written (Hyland, 2002a & b). The present study sought to explore the use of the tri-PP in classroom lectures from an L2 context, since most of the studies in this area have focused on L1 context (e.g. Ädel, 2010; Fortanet, 2004; Yaakob, 2013). Specifically, it aimed to ascertain variation in the distribution, discourse references and functions of the above-mentioned pronouns across Humanities (HS), Social Sciences (SS), and Natural Sciences (NS) disciplinary supercommunities (DS). To achieve this aim, classroom lectures were audio-recorded from two Ghanaian public universities, Kwame Nkrumah University of Sciences and Technology (KNUST) and University of Cape Coast (UCC). The recorded lectures were transcribed and processed into computer-readable form. The concordance tool in *AntConc*, a corpus software developed by

Anthony (2015), was used to generate frequency lists of the tri-PP. I then manually analysed the sorted concordance lines in order to identify the discourse references and functions of each pronominal hit. A corpus-based approach was employed to uncover both 'core/common' and 'non-core' discourse references in the lecture language (Owusu-Ansah, 1992) of Ghanaian lecturers. On the discourse functions, I adopted a corpus-based approach, drawing on Tang and John's (1999) discourse function model of self-referential pronouns. The findings derived from the analysis are summarised in the ensuing subsection.

Key findings of the study

The present study was driven by a three-pronged purpose: to explore the distribution, discourse references, and functions of *I*, *we* and *you* (tri-PP) in classroom lectures across three DSs.

Regarding the distribution of the tri-PP, there were considerable quantitative variations *collectively*, and *individually*. On the overall distribution of the tri-PP, the study found that they were predominant in Natural Sciences (NS) On the distribution of *I*, *we*, and *you*, in all instances, NS recorded the highest frequency followed by HS and SS, a pattern which challenges the degree of 'pronominalization' in discourses across the three broad knowledge domains (Hyland, 2002a & b). The findings indicate that NS had high pronominalised lectures, with HS having medium pronominalised lectures, and then SS low pronominalised lectures. The tri-PP distribution arguably correlates with the degree

of interactivity (See Csomay, 2002) as they have been described as inevitable interactional pronominal resources in lectures (Yeo & Ting, 2014) “to enhance the lecturer-audience relationship and create an inclusive atmosphere that is conducive to learning” (Crawford Camiciottoli, 2007: 182). The high, medium, and low pronominalised lectures correspond with Csomay’s (2002) framework of high, medium, and low interactivity lectures.

Furthermore, on discourse referents of the tri-PP, the study yielded interesting qualitative and quantitative variations across the subcorpora. The study discovered a discourse referent system of the tri-PP (See Figure 19), which revealed transdisciplinary, interdisciplinary and intradisciplinary choices of tri-PP referents. For example, *I for lecturer* was identified as common to all the DSs; *I for practitioners in the field* was found to be common to SS and NS, while *I for lecturer as SHS student* was observed to be peculiar to HS. Additionally, we noticed that different pronouns designated same referents (different pronouns: one referent), while a particular pronoun also conjured multiple referents (one pronoun, different referents), culminating into what I term *multireferentiality*, and *multireferencing* respectively. On multireferentiality, *I*, *we* and *you* had common referents such as lecturer, student, lecturer + student, and one. This is demonstrated in Figure 36, where the downpointing arrow representing the tri-PP is directed towards H. On the other, hand, the study revealed a *multireferencing* pattern of the tri-PP where, generally, *I* recorded 31, *we* 49, and *you* 55 distinct referents across the subcorpora. The figures across the tri-PP overwhelmingly exceeded those found in the previous

studies (e.g. Rounds, 1987a; Yaakob, 2013; Yeo & Ting, 2014). The imbalance in the number of *I*-referents in the present and the previous ones points to how corpus-based, corpus-driven or both, in addition to corpora compositions can result in variation in pronominal references.

Finally, the study found that largely Tang and John's (1999) discourse functions model of author pronouns fitted into classroom spoken lectures –although *I as recounter of research process* and *I as an originator* were completely absent in NS, and HS subcorpora respectively. Hierarchically, all the DSs also showed highest preference for *I as a guide*, and lowest preference for *I as a recounter of research process*, and *I as an originator*. The transdisciplinary similarity helps define the classroom lecture, at least, in L2 environment as showing the speaker as largely 'acting on behalf' of the members in the academic discourse community. On the other hand, the relative absence of *I as a recounter of research process*, and *I as an originator* revealed that the lecture genre is not an avenue for channelling research outcomes, and generating new ideas. Thus, the L2 lecture based on the present subcorpora is seen as more *text-based*, given the apparent lack of "synergic relationship" (Crawford Camiciottoli, 2007: 191) between this genre and data-based/driven research. This finding challenges Hart's (1998) assertion that the lecture is an avenue for disseminating research outcome, and that classroom lectures are informed by research. It is important to mention here that the study also yielded a new role, *I as a reminder*, in the continuum of speaker's presence in classroom lectures. This new role is placed between *I as a recounter of previous*

experience, and recounter of research process, based on the “degree of power embedded” (Munoz, 2013b: 49) in the role.

Implications of the Study

This section highlights the implications of the study, following the key findings. Implications relating to theory, pedagogy, methodology and curriculum are discussed.

Theory

The present study has some implications for theory. First, it contributes to the ongoing modification of Tang and John (1999) model of discourse function of speaker referential pronoun to enhance its theoretical robustness and explanatory adequacy. Originally, Tang and John’s (1999) model had six roles but Munoz (2013b) and Li (2011) respectively introduced *I as an interpreter* and *I as a recounter of previous experience*. The contribution of the present study to the above model is two-fold. One, I incorporated the *new addition* and provided an integrated version as shown in Figure 14. Finally, it has also introduced a new role, *I as a reminder*. Given that Tang and John (1999), and the other researchers used written data/corpora, the present study thus affirms the speech-writing dissimilarity (e.g. Biber, 2006, 1995; Biber & Conrad, 2009; Biber, et al. 1999).

Furthermore, the study provides some theoretical insights into pronoun reference in academic speech. It has been established that *I*, *we*, and *you* can designate one referent (e.g. students), while one pronoun (e.g. you) can also connote

different referents, resulting in *multireferentiality* and *multireferencing* respectively. These two constructs are conceptualized in Figure 36.

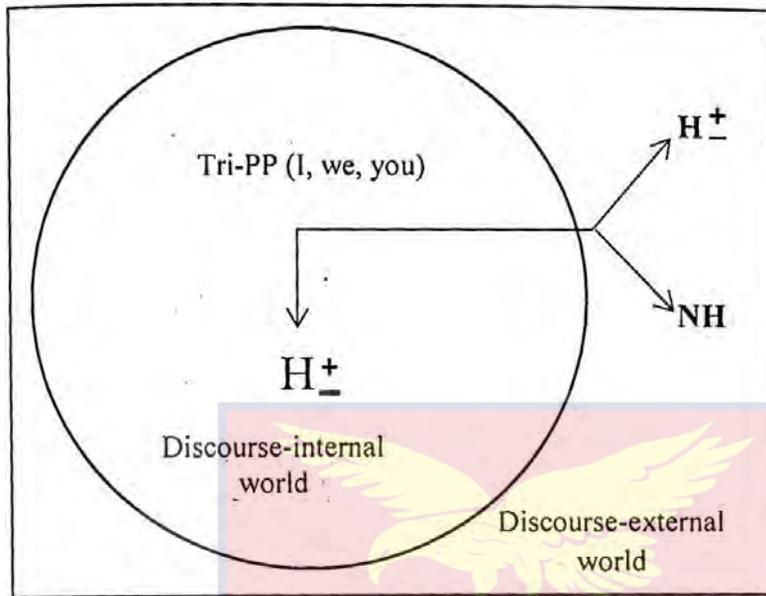


Figure 36: *Multireferentiality and multireferencing of I, we and you*

Multireferentiality is the use of different pronouns to designate a common referent. Thus, the arrow representing the tri-PP simultaneously or *unidirectionally* points to **H**, which could mean a monoreferent (e.g. lecturer + students). On the other hand, multireferencing refers to the situation where a particular pronoun conjures different referents. Thus, the arrows point to different directions concurrently to designate multireferents. Therefore, a particular pronoun can have as many referents as possible, especially, if a corpus-driven and or hybrid approach(es) is (are) adopted.

Furthermore, the diagram shows the metadiscursive-non/metadiscourse paradigm of tri-PP reference. We observe that *I, we* and *you* are used to designate

participants inside the discourse. The down-pointing arrow thus demonstrates this. As can be seen, H^+ shows that the tri-PP could be lecturer-oriented (+lecturer-students), and student-oriented (+ students-lecturer), and lecturer/student-oriented (+ lecturer + students). These referents are metadiscursive (See Ädel, 2006, 2010). One the other hand, the tri-PP as a discursive strategy points to non-discourse participants in the real world. It could be either human or non-human referents. The + and – denotes that the human agents could be with or without the “other selves” (See Brooke, 1987) of the lecturer and the students. As demonstrated earlier in Chapter 7, the extended selves could point retrospectively, currently, or prospectively. Besides, in the real world, the tri-PP also designate non-human figures. As found in this study (see Chapter 7), it could be a human institution such as a university, country, etc. The figure depicts the change in identity in classroom lectures, underpinned by such concepts as underlife (Brooke, 1987), intra/interpersonal pronoun shift (Whitman, 1999), footing (Goffman, 1981), ventriloquation (Bakhtin, 1981), participation (Ädel, 2006, 2010), metadiscourse (Ädel, 2006, 2010; Hyland, 2005a & b); interactional positioning (Wertsch, 1991), and perspective (Brunye et al., 2009).

Theoretically, there are also three positions on disciplinarity: generalist, discipline-specific and *divisionist*. The divisionist maintains that academic disciplines are monolithic and, therefore, have common sociorhetorical values (Hyland, 2009; Aguilar, 2008). This stance culminated into Writing Across the Discipline (WAD). The discipline-specific stance, the root of Writing in the

Discipline, recognises disciplinary distinctiveness in terms of epistemology, rhetoric, ideologies and practices. This theoretical stance has influenced curriculum in several universities where English for Academic Purposes (EAP) is prominent. This position, although useful, comes along with logistical, financial and human resource challenges. The present study does not provide support to any of these two but rather the divisionist stance. Essentially, the divisionist approach provides a middle stance. It is, thus, useful for providing a view to looking at disciplinarity from the interface of the two extremes. Instead of conceiving all disciplines as *one*, or considering an individual discipline as one, this approach affords us the opportunity to look at disciplinarity from the 'cluster' level. This implies that there are vocabularies distinct to Humanities, Social Sciences and Sciences (e.g. Baumann & Graves 2010; Hyland, & Tse, 2007).

More so, the study has implication for the scholarship on spoken academic registers, specifically classroom lectures. It has implication for variationist academic discourse. As has already been alluded to, disciplinary variation is looked at from two broad perspectives: a micro-disciplinary focus (disciplinary community), and a macro-disciplinary (disciplinary supercommunity) focus (e.g. Biglan, 1973; Hyland, 2009). The present study has implications for disciplinary supercommunity (DS) variation. Like studies such as Lindblom-Ylanne et al. (2006), Neumann and Becher (2002), Trigwell (2002), Neumann (2001), Hattiva (1997), and Brown and Bakhtar (1988), which adopted DS perspective. the present

study has revealed that there are differences across the three DSs in terms of pronominal resource usage.

Pedagogy

The present study relates to Bellés-Fortuño's (2009) concept of 'applied corpus linguistics' which introduces 'pedagogical goal' which hitherto was not part of the aims of corpus linguistics. Pedagogically, both lecturers and students can be beneficiaries of the findings of this research. Hyland (2005b) argues that study of PPs in lectures has implication for the training of lecturers, and the teaching of second language.

The study will be useful in the training of lecturers because it will help them to be aware of the various pronominal resources that they can employ to enhance speaker-audience interaction in lectures (Crawford Camiciottoli, 2007; Hyland, 2005b). Lecturers' knowledge on pronominal resources, regarding discourse references and functions, will have a significant impact on their lecturing strategies. as language is employed to perform both transactional and interactional functions in the lecturing process. Lecturers' meta-cognitive awareness of PPs has implication for the role of discipline-specific teachers of EAP courses in English-medium universities. Hyland (2002b) advised that non-native (NNE) students should be shown the various options for the use of PPs in disciplinary discourses. He noted that this will enable students to be familiar with their disciplinary norms regarding the use of PPs so they will know when and how to use them, and what to

use them for. As he noted, this will eventually contribute to students' appreciation of the 'language policies' on the use of PPs in their DSs.

Furthermore, designers and practitioners of EAP curricula will also find this work useful. Lecturers can be trained on their supercommunities' 'ideology' on PPs use. This will enable lecturers to enact appropriate discipline-specific identities that are known to lecturers and students. Flowerdew (1994: 14, cited in Bellés-Fortuño, 2009: 910) notes that studies such as the present one on academic lecture:

...can indicate to teachers and course designers what linguistic and discursal features learners need to be familiar with in order to understand a lecture and what, therefore, should be incorporated into ESL courses. In addition a knowledge of the linguistic/discoursal structure of lectures will be of value to content lecturers in potentially enabling them to structure their own lectures in an optimally [*disciplinarily*] effective way.

The study underscores the relevance of toning down on the 'substitution view' (Brown & Yule, 1983) in teaching PP. Thus, this can impact positively language lecturers' approach to teaching the tri-PP. It will help them stress how such recourse can be exploited by both content lecturers and students. Thus, "the findings lend further support to the value of corpus-based research for the development (sic) materials and methodologies that will be more effective in

helping L2 learners acquire ‘interactional literacy’ they need for successful lecture comprehension” (Crawford Camiciottoli, 2007: 184).

The study, furthermore, contributes to the teaching of disciplinary spoken discourse to both lecturers and students. It provides empirical basis for novice academics on their DS’s value on the use of the tri-PP. It is assumed that once an academic is socialised by producing a dissertation, he/she becomes familiar with the norms of the disciplines regarding all forms of literacies or registers. This assumption has led to some academics not being familiar with the disciplinary sanctioned practices of their discourse communities (Hyland, 2000). Thus, a number of such academics have imbibed the general advice given in textbooks and manuals on the use of *I*, *we* and *you*. It is, therefore, not surprising to find some Scientists who doggedly uphold the objectivist ideologies, which maintain that academic discourse generally must be faceless, detached, anonymous, decontextualized, asocial, monologic, disembodied, and impersonal (Ädel, 2006; Hyland, 2000, 2001a; Lischinsky, 2008).

Methodology

Studies on disciplinary variations in Ghana, so far, have looked at disciplines from the ‘micro-lens’ focusing on inter-disciplinary variation (e.g. Afful, 2010, 2005; Afful & Akoto, 2010; Akoto, 2013; Arhin, 2011; Musa, 2014a & b; Ngula, 2015). The present study departed from this hitherto default approach to looking at a rhetorical phenomenon through ‘macro-lens’ –Humanities, Social

Sciences and Natural Sciences. The ‘micro-lens’ approach may be arduous for EAP text development but the ‘macro-lens’ approach is quite simplified as it appears to have a defined scope. Again, the macro-lens approach, arguably, appears financially and logically (including human resource) affordable to universities in developing countries.

More so, the present study has troubled the non-clined corpus-based/driven paradigm in corpus linguistics (CL). The present study has shown that current state of the approach is not sufficient. Thus, it has proposed a corpus-based –driven continuum (See Figure 37) that will guide researchers in determining the degree of *basedness* or *drivenness* of their corpus linguistic studies.

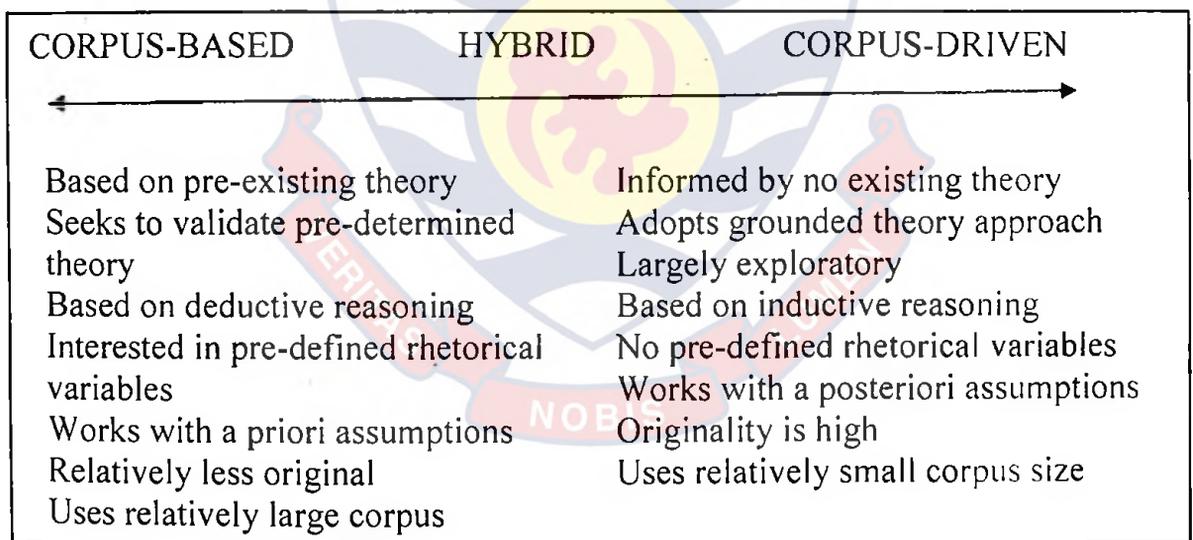


Figure 37: Corpus-based – corpus-driven continuum

Currently, the absence of such a continuum has led to some researchers describing their studies as ‘hybrid’ when they have already intimated that they are undertaking a corpus-based study (e.g. Ngula, 2015). For a detailed discussion on this subject,

refer to Chapter 4 of this work. The proposed cline thus offers an easy way of defining the approach adopted in a CL study.

Curriculum design

The EAP course for undergraduate students in Ghana underemphasises spoken academic discourse and, hence, discipline-specific rules in lecturing in these disciplines. Essentially, the EAP course in Ghanaian higher education institutions, particularly KNUST and UCC, adopts the generalist approach, but like Afful (2010), I believe that the hybrid will considerably help students to appreciate ‘the global’ (non-discipline-specific) as well as ‘the local’ (discipline specific) practices in this all-important spoken genre. The Communicative Skills (in UCC) or Communication Skills (in KNUST) course is silent on spoken registers, particularly lectures. This corpus-based research into lectures further supports the call (e.g. Aguilar, 2008; Crawford Camaciottoli, 2007) to teach students the lecture language to help enhance shared understanding (Hyland, 2002a & b)

Given the relatively emerging research on academic discourse in Ghana (e.g. Adika, 1998, 1999; Afful, 2016; Afful & Akoto, 2010; Akoto, 2013; Arhin, 2011; Gborsong et al., 2015; Gyasi et al., 2011), it is high time EAP material writers in Ghana started producing research-driven textbooks (Crawford Camaciottoli, 2007) that avoid claims that lack empirical validations. This can happen when these material developers familiarize themselves with research on this matter by reading the findings of studies like this one.

Thus, modules must be developed for lecturers in Ghanaian universities on spoken academic registers, specifically, lectures. Now, as far as I know, there is virtually no material on this subject at least from the two participating institutions.. These concerns have been vociferously addressed by Afful (2007) and Ngula (2015). A step towards this is the conference organised by Communication Studies Department in University of Cape Coast that necessitated the formation of National Association of Teachers of English for Professional and Academic Purposes (NATEPAP). This is a step towards what these authors have envisaged: developing modules that do not only address such competencies as grammatical, but also discursal, metadiscursal, pragmatic, disciplinary, interactional and rhetorical (Navarro, 2013; Crawford Camiciottoli, 2007). It must aim at raising disciplinary ‘omni-competent’ members within the supercommunities. Such workshops should not be limited to only English for Academic Purpose (EAP) or English for Professional Academic Purpose (EPAP) specialist or teachers but all academic staff who are involved in teaching in universities, polytechnics and colleges of education (Dzaka, 2015, 2017; Ngula, 2015). This intervention will enable lecturers to maintain disciplinary *standards* and impact on the next generation of experts, who inarguably are the current ‘lecture room audience’ (i.e. students).

Suggestions for Further Research

It will be very insightful for future research to be conducted into finding out from lecturers across the DS why they (under/over)use *I*, *we*, and *you*. Are they aware of the “institutionally or societally defined roles” (Luo & Hyland, 2017: 4)

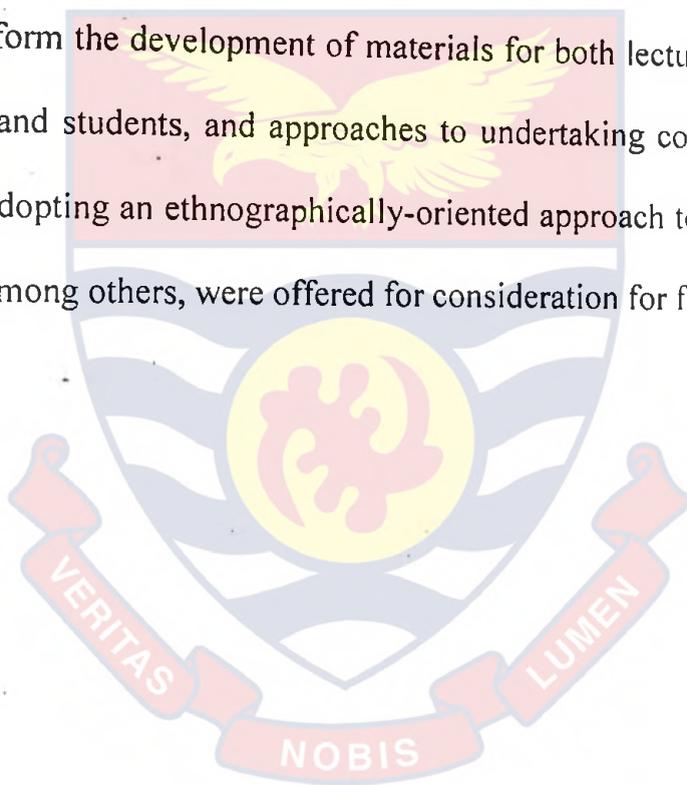
they enact through their pronominal choices? Do they know the impact of these on their lectures? In effect, I am proposing an ethnographically-oriented corpus linguistic study on the tri-PP, following Swales (1998) inspiring work on 'textography' –which combined elements of text analysis and ethnography. Such a study will provide a language-user-based rationale for the rhetorical choices in lectures.

The present study used relatively small lecture subcorpora to explore the discourse referents and functions of *I*, *we* and *you*. The sizes of the subcorpora were necessitated largely by financial constraints. Thus, a large scale study with funding can be undertaken by using large corpora running into at least 1, 000, 000 words. This can help verify the DS-specific tri-PP referents. It will also help us appreciate whether *I as a recounter of research process*, and *I as an originator* which were almost absent in the subcorpora are certainly atypical of classroom lectures.

Finally, further research can be undertaken to assess students' pronominal competence in identifying the discourse referents of PPs used in lectures. Do the students take notice of these pronouns? Do they bother to find out their referents in order to understand the message communicated? Are they able to ascertain the interactional or transactional functions of the pronouns? The finding of such a study can be helpful to both language and content lecturers regarding their use of personal pronouns.

Chapter Summary

This Chapter sought to provide an overview of the entire research, discuss the implications of the study, and suggest directions for further research. As expected, it summarised the study taking into account key findings related to the three research questions that drove the study. The Chapter further noted that the findings are useful for theorising PP referents and functions, and enhancing teaching and learning of both language, and content-oriented matters. It added that the findings can inform the development of materials for both lecturers (language and content ones) and students, and approaches to undertaking corpus linguistic research. Finally, adopting an ethnographically-oriented approach to investigating tri-PP in lectures, among others, were offered for consideration for future research.



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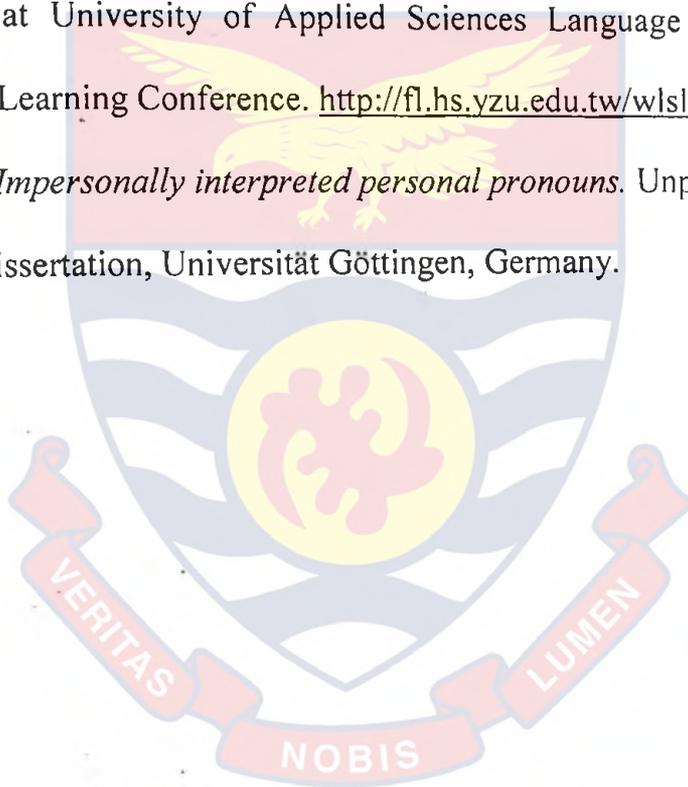
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APPENDICES

Appendix A: Letter of Request

Department of English
Faculty of Social Sciences
KNUST
Kumasi.
.....

.....
.....
.....

Dear Sir/Madam,

LECTURE RECORDING: REQUEST FOR ASSISTANCE

I am writing to request your assistance in a research project I am undertaking as part of my doctoral studies in English Language in University of Cape Coast.

The study intends to explore personal pronouns use –discourse reference and function –in undergraduate academic lectures across humanities, social sciences, and natural sciences disciplines.

Largely, the success of the project depends on your willingness and co-operation in agreeing to allow me record a two-hour lecture from you to be part of the data from your discipline.

The lectures, when recorded and transcribed, will be used strictly for research purposes. Besides, information (such as name) that reveal your personality will be deleted to ensure anonymity of the data.

Please, if you agree to be part of this project, proceed to the CONSENT FORM on page two.

I will also be willing to send you transcript of the lecture upon request.

Thank you for your willingness and co-operation.

Yours faithfully,

Osei Yaw Akoto
(PhD Candidate)

Appendix B: Consent Form for Lecturers

CONSENT FORM

If you are willing to be part of this project by granting me the permission to record your lectures, kindly furnish me with the information below:

Name:

Signature:

Course Code/Title:

Venue for Lectures:

Time for Lectures:



Appendix C: I-Referents in the HS, SS, and NS

HS	SS	NS
Lecturer	Lecturer	Lecturer
Lecturer as a university student	One	Lecturer + students
I (he): Kwame Nkrumah	Scholars in natural Sciences	One
Lecturer as a person (human being)	Western countries (e.g. US)	Lecturer as driver
Lecturer as a child	Practitioners in the field	Lecturer + scholars in the field
Lecturer as a passenger	Lecturer + scholars in the field	Students
Pre-modern Africans	Lecturer then a child	Lecturer as patient
Students	Lecturer then a university student	Practitioners
Attendants on a plane	Initials	Lecturer as father
Lecturer as a TV watcher	A country	Initials
Lecturer + scholars in the field	Lecturer + students	Lecturer as university student
Lecturer + scholars + general students	Political figures (Kwame Nkrumah)	Students as applicants
Lecturer + students	Political Party	Lecturer as bank client
Africans	Ghanaians	
One	Students	
Lecturer as staff member		
Women in society		
Men in society		
Lecturer as SHS student		
Human beings		

Appendix D: We-Referents in the HS, SS, and NS

HS	SS	NS
Lecturer (=I)	Lecturer + students	Lecturer (=I)
Student (=I)	Lecturer + scholars in the field	Students
One student + other students	Lecturer (=I)	Lecturer +students
Others (=I narrator in a story)	Lecturer + all lecturers in the institutions	Lecturer + colleague lecturers
Student (=you)	Current Students (plural you)	Lecturer + students +scholars in the field
Students (=you)	Students in general	Scholars in the field
Lecturer +students	A student (+singular you)	Lecturer + current students + all students+ scholars
Lecturer + colleague lecturers	One	Practitioners in the field (professionals)
Lecturer + students +scholars in the field	General People	People (customers/clients)
Lecturer+ all students-one student	Scholars/practitioners in the field	Students (external students)
All lecturers + all students in university	Some scholars	Lecturer (then univ. student + course/programme mates, they)
We (=other lecturers)	Institution(department, university)	We (=one)
We (=pupils, current lecturer +students when pupils)	Lecturer + scholars + all students in the field	We (=general people/human beings)
Lecturer + Teaching Assistant	Colonizers	
They (passengers, Yurobas, Africans, Community members, scholars, ATR believers, evolutionist)	Colonized countries	
You (speaker)+ I(partner)	Africa(ns)	
Lecturer + authors of books in the field	Ghana(ians)	

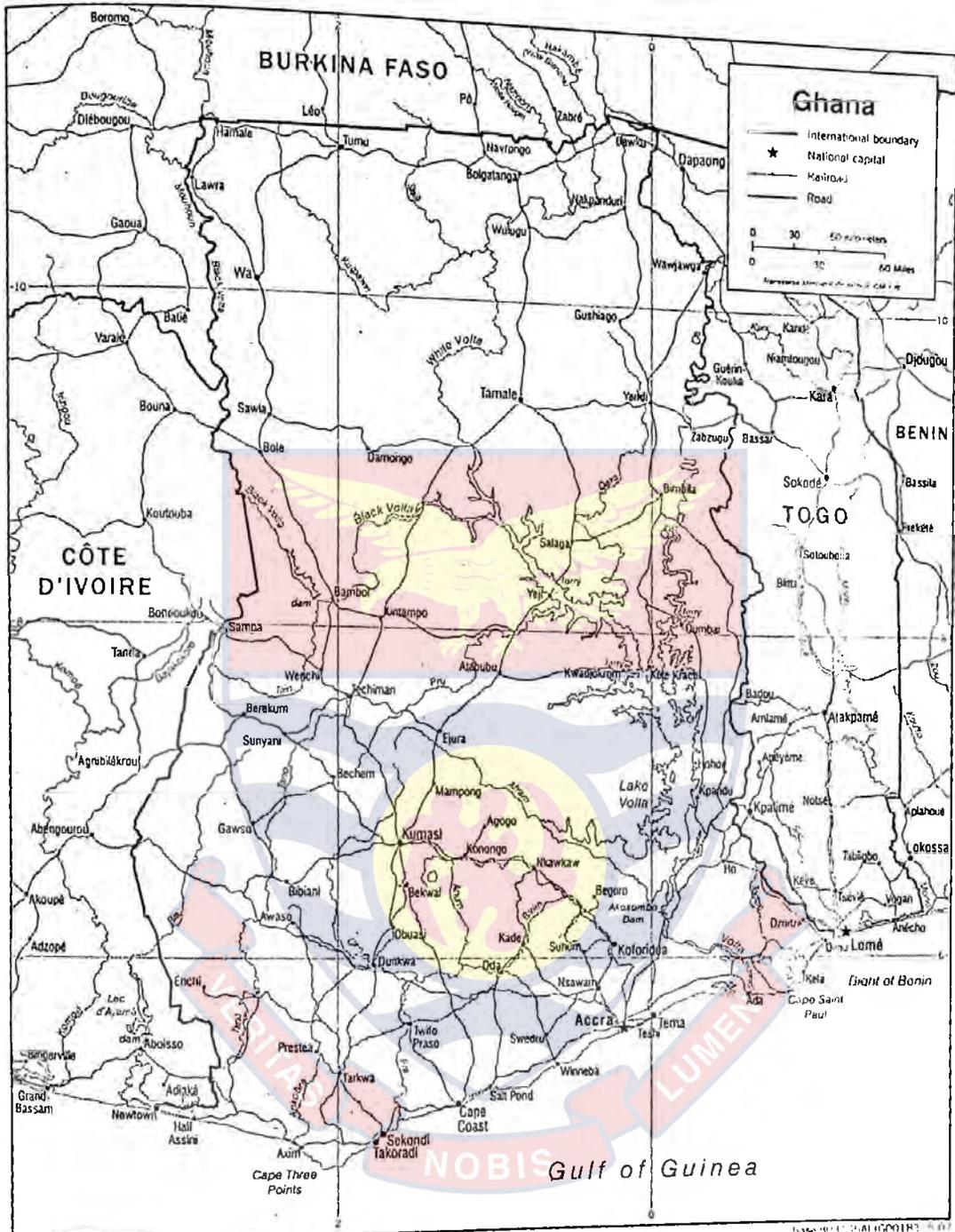
Another lecturer	Some Ghanaians (excluding lecturer)	
Lecturer(then a child) + other children	Political leaders in Ghana	
Lecturer (then a child)+ Siblings	Humankind	
Lecturer (then univ. student + course/programme mates, they)	Teaching Assistants (TAs)	
Lecturer (then univ. student + a course/programme mate, he/she)	Current lecturer (then a student +mates)	
Lecturer + scholars in humanities	Current lecturer (then a child + parents)	
We (=one)	'Old' people (old generations)	
We (=general people)	Humankind	
We (=Ghanaians)	Others (people at Kejetia,	
Africans ('old Africans)	People in a community	
Africans ('modern Africans')	Other nations (Japanese)	
Africa	Political Party (e.g. UGCC)	
Humankind	President of Ghana (=he)	
Others (passengers on a plane, pilot, church members, NNE speakers, villagers)		

Appendix E: You-Referents in the HS, SS, and NS

HS	SS	NS
Students	Students (all current students)	General students + lecturer + scholars in the field
Lecturer + students when children	One student (in class)	Students (current)
One student	Two students in class	Cross section of current students
Modern Africa(ns)	Cross-section of current students	Human beings/general people
Mourners at funeral	Female students of the class	Christians
Male students (current)	2 nd year students	Lecturer + students
Female students (current)	Lecturer	One student
Pre-modern Africans	One	SHS students
One	Practitioners	One
Polygamous African Societies	Lecturer + scholars (practitioners) + students	Practitioners
Children in pre-modern African societies	People (general)	Lecturer as driver
African farmers (pre-modern)	Political leaders	Current Students when at SHS
Lecturer+ scholars in the field	General students in the field	Current students when WASSCE candidates
Lecturer then SHS student	Lecturer + scholars in the field	Lecturer
Currents students when pupils	Customers/clients	Father in a story
Lecturer	Lecturer + students	Current students then applicants
Human beings/general people	Country (anyone)	A son in a story
Some scholars	Human beings	Current students as examination candidates at the university
TA + students	People in western countries	
People in society	Researchers in the field (lecturer + scholars)	

Students of an institution (e.g. UCC)	Current students when pupils	
Country (e.g. Britain)	One person (he/she)	
Passengers on a plane	Past students of lecturer	
General students in the field	Students of a particular university (University of Cape Coast)	
Students when at SHS	SHS students	
Scholars in the field (minus lecturer)	MTN user	
Lecturer + students	Ghana	
Cross section of students	Africans of colonized countries	
TA	Ghanaians	
Current students when become graduates	African countries	
'You as a word in a sentence example	University authorities	
Traditional leaders/chiefs	Citizens of a community	
Lecturer +scholars + general students in the filed	Citizens of UK	
Opposition to Nkrumah	Prominent people in society	
Kingmakers	Political party (e.g. NPP)	
General students across the globe	Parliament	
	Opponents of colonial rule	
	Students when they become graduates	

Appendix F: Map of Ghana



Appendix G: Photograph of KNUST

