Academic Writing and Interdisciplinarity

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FOREWORD

The original idea of embarking on a research of this nature came to my mind while I was engaged in research for my MA in English at the University of New South Wales, Sydney. My research was truly interdisciplinary, yoking the resources of English literature with those of linguistics and communication studies. Peripheral to these, of course, were interdisciplines such as women's studies, cultural studies, and critical theory. I first realized the huge potential of interdisciplinary studies in language studies while pursuing my studies in TESOL at the University of Technology, Sydney.

It is also significant to note here that at the time of completing my PhD, I was lecturing at the Sydney International Campus, Central Queensland University, in the capacity of a lead lecturer/lecturer with the Faculty of Informatics and Communication. Obviously there were immense advantages in associating myself with the academic community as well as the student population, especially my students, while being steeped in this research. For example, I was able to witness a significant number of difficulties encountered by students while coping with interdisciplinary knowledge in their diverse writing tasks.

This book is proposed as a knowledge resource for students, practitioners and researchers engaged in language studies in particular reference to academic writing (EAP/ESP) and interdisciplinarity in universities and colleges. Student writers may find here some useful insights into knowledge capital and assessment genres in interdisciplinary contexts. It also provides a solid framework for programs in language studies, academic literacies, foundation studies, and developmental education. Transdisciplinary institutions such as language skills centres, study skills centres, and academic support units can benefit from this book.

In general the book challenges traditional approaches to writing pedagogy while showing their limitations to cope with the new imperatives of interdisciplinarity. The book also introduces a new theory called 'critical interdisciplinarity' which presents itself as a sustainable pedagogical

paradigm to overcome a plethora of difficulties arising from the integration of interdisciplines into traditional disciplines.

By virtue of their encyclopaedic dimensions, knowledge domains relating to academic interdisciplinarity in student writing lend themselves to a wide range of future research projects. An attempt has been made here to critically explore only a tiny proportion of this inexhaustible repertoire of knowledge.

—Dr Ranamukalage Chandrasoma

INTRODUCTION

The main purpose of this book is to investigate how student writers cope with academic interdisciplinarity, and to offer remedial pedagogic measures where difficulties arise. Hence the book explores several aspects of student writing: disciplinary knowledge, interdisciplinary knowledge, intertextuality, interdiscursivity, extra-disciplinarity, linguistic capital, diverse assessment tasks, curricular issues, assessors' perceptions of interdisciplinarity, and the need of a sustainable pedagogy to cope with interdisciplinarity. Today we deal with intertextually agile students in universities and colleges as has never been before owing in large measure to the advent of new technologies of communication. Hence writing pedagogy needs to take cognizance of the nexus between this relatively new student population and the new interdisciplinary dynamics ushered in by the changes in the overall curricula.

In recent years, there has been an increasing awareness of student academic writing among theorists and practitioners as evidenced by the proliferation of published work in the field. Perhaps, one of the major reasons for this trend is the influx into tertiary studies of a relatively non-traditional student population, often with inadequate writing skills in English. These students include mature age students, working students, migrants from a non-English speaking background, socially disadvantaged students such as refugees, international students, and those on distance learning programs. In fact, the most prominent feature in our contemporary academic context is the student mobility from one country to another in search of knowledge, and at times greener pastures. The demographics and the mobility of these international students have been well documented in the literature (eg. Gopinathan, 1994; Ahmed & Basu, 1994; Sadlak, 1998; Lillis, 2001). Consequently, most tertiary institutions, especially universities, have introduced on-campus remedial measures in the form of learning support programs to facilitate, inter alia, these students' writing competencies. Student writing takes precedence over the other macro skills as it is the most important instrument in exposing one's performance and competencies in a course of study.

The corpus of knowledge student writers have to grapple with today seems to distance itself from the traditional mono-disciplinary contexts. Texts as well as the students who construct them are being continuously informed and conditioned by new values and imperatives of relatively new discursive practices. Hence, student academic writing (henceforward 'student writing') especially at postgraduate level can be regarded as a complex academic endeavour where students have to take up multiple writing positions. Analyzing student texts against the backdrop of the enormous intertextual and interdiscursive resources pertaining to interdisciplinarity is a major component of this book.

Electivization of the curricula, on the other hand, while providing student writers with a wide range of choices, has created yawning gaps between what is commonly known as prior knowledge and what is yet to be learnt in the form of new knowledges. These epistemological considerations, i.e., how disciplinary knowledge is acquired, evaluated, contested, and strategically used in texts also constitute an integral part of this book.

Also of importance in the above contexts are the often lengthy and generically diverse assessment tasks students are required to accomplish within specific deadlines. The nature and structure of assignment topics and assessment tasks have in the past two decades or so undergone tremendous changes owing in large measure to disciplinary as well as socio-economic imperatives. Student writing has several dimensions in terms of the mode of assessment, eg. examination-based, presentation-based, research-based, observation-based. This book, however, focuses on research-based writing tasks. A paradigm called critical interdisciplinarity has been proposed in the concluding chapter of this book. Pedagogical and curricular considerations play a vital role in critical interdisciplinarity.

The book is primarily based on research-oriented student writings belonging to 15 MBA students in two Sydney universities. Such writings are supplemented with their respective assessors' remarks, interviews with students and lecturers/assessors, course profiles, assessment tasks, students' prior knowledge and practices. The selected students represent identities of a broad spectrum of student population in the academy: non-English speaking, English-speaking, mature age, diverse cultural and academic backgrounds.

As evidenced by Chapters 6, 7, and 8, there are three major research strengths in this book: investigation of the culture of assessing students,

analysis of student texts, and introduction of critical interdisciplinarity respectively. These research-oriented chapters are preceded by five chapters and an introduction which provide background information relating to the overall theme of the book. While being heavily substantiated with empirical research, they also form a strong infrastructural support for the book as a whole. For the sake of brevity, I will outline the thematic structure of this book in the ensuing paragraphs.

Chapter 1 is characterized by an investigation of some prominent theoretical perspectives on disciplinary knowledge. Claims by social constructivists that disciplinary knowledge is socially constructed (eg. McCarthy, 1996) need further elaboration. This thesis argues that disciplinary knowledge is always discursively constructed and discursively consumed, too. Since our thoughts, aspirations, values, beliefs, assumptions, attitudes and experiences are shaped by innumerable discourses, it is hard even to think that knowledge is not discursively constructed. Discourses do not deal with contexts; they create contexts, indeed. While providing some empirical evidence, I have explicated how disciplinary knowledge is discursively constructed.

Much of the literature on interdisciplinarity is premised on ontological considerations, too; that is to explore interdisciplinarity as an existing phenomenon merely on a conceptual or philosophical. Derrida calls these explications 'constative utterances' (1992a:30). More to the point, its relational dimensions (eg. how it affects related discursive practices) have rarely attracted scholarly attention. These dimensions are pivotal to this book in several ways: they shed light on how novel interdisciplinarity is or could be in relation to student writing; they uncover pedagogical interest, skepticism, and at times frustration; they also reveal various impediments that stymie student performance within interdisciplinary contexts, most of which are indiscriminately intermingled with intertextual and interdiscursive resources. These relational dimensions also kindle scholarly interest through intellectual debates in exploring the difficulties encountered in the disciplinary integration process. I have explored some of these issues in Chapter 2. First I open up my discussion by proposing a typology of interdisciplinarity with a review of disciplinary texts on interdisciplinarity. This is followed by an investigation of what I might call the 'applied/ critical/critical applied revolution' in the academy. Here I also examine the relationship between interdisiplinarity and soft technoculture. Soft technoculture refers to a globally visible culture characterized by the integrative behaviour of three identifiable phenomena: sophisticated

software texts, predominantly electronic-based technology, and new socio-cultural identities ushered in by such technology. Without taking cognizance of these dimensions, it is hard even to be acquainted with the infrastructural aspects of interdisciplinary programs, and student writing.

Critical analysis of curricular issues surrounding interdisciplinary knowledge is the core of Chapter 3. It is obvious that several changes have been made to the curricula of most disciplines in order to ensure that students achieve what Hartwell et al calls 'expanded competencies' (2000:11). Whatever the target knowledge domain may be, student writers as well as student writing are disciplined, as they ought to be, by institutionally legitimized boundaries. If such boundaries do not exist, we might notice in student texts at least some evidence of antidiscursive textuality: that is the opposite of discursive textuality. It is worth examining what these institutionally legitimized boundaries are, and how they shape curricular changes. Hence the nexus between interdisciplinarity and discourses is also explored in this chapter. The chapter also briefly investigates the constructs of multidisciplinarity, transdisciplinarity, and antidisciplinarity.

Chapter 4 is devoted to analyzing the role of intertextuality, interdiscursivity, and extra-disciplinarity in student writing. Here I explore the nexus between the textual dynamics of intertextuality/interdiscursivity and student writing from an epistemology-based perspective. Intertextual and interdiscursive resources invariably embody vast knowledge domains; hence any serious inquiry into student writing should focus on issues relating to the acquisition and consumption of knowledges that are disseminated through intertextual/interdiscursive resources in a given context. Intertextuality and interdiscursivity are pivotal for discursive construction of texts within interdisciplinary contexts. These epistemological issues are central to student writing; however, much of the writing pedagogy and theory has been preoccupied with peripheral, yet significant, issues such as academic conventions, grammar-based writing strategies, generically defined textual construction, and syntax and structures. Exploration of intertextual/interdiscursive relations in order to unravel epistemological constraints is vital for any investigation into student writing (Fairclough, 1992).

I also explore in Chapter 4 the ways in which discourses are disseminated through extra-disciplinary texts. Extra-disciplinarity here is considered to be an essential part of interdisciplinarity since student texts are often

conditioned by extra-disciplinary texts. Extra-disciplinary texts process (eg. hereditary texts, media texts, paramedia texts) include all texts other than disciplinary and interdisciplinary texts which mediate student writing. Hereditary texts are texts that are cherished as traditional wisdom (eg. adages, fables, parables, proverbs). Social actors inherit such texts through an untutored process as part of their cultural capital. Media texts include newspapers, magazines, television, and the Internet. Paramedia texts **(**eg. pamphlets, brochures**)** are produced by special interest groups (eg. refugees, human rights activists, environmentalists).

In Chapter 5, I investigate contemporary disciplinary/ interdisciplinary dynamics of business studies. Several useful interdisciplinary knowledge domains within business studies are critically examined providing an analysis of the disciplinary evolution of each domain relating to postgraduate programs in business studies. I have investigated the significance of disciplines/interdisciplines such as cultural studies, law, psychology, information technology and communication. This chapter acts as a foil to the analysis of student texts in Chapter 7**.**

Some influential theoretical and pedagogical perspectives on student writing are examined in Chapter 6 under four categories: skill-based, text-based, discourse-based, and epistemology-based. Although there are significant overlapping between them, one could still observe an element of uniqueness in each category. This chapter also contains analyses of diverse assessment genres used for assessing students within interdisciplinary contexts.

Anchored primarily in a set of competencies and skills, the conventional ideal of student writing seems to prescribe that a student writer's success or failure depends on the extent to which he or she can adhere to grammar, syntax, and generic integrity within institutional conventions or cultures In other words, the major focus of such approaches has been on the rhetorical and structural dimensions of texts which promote student writing as a 'persuasive discourse' (Campbell, 1972:2). Text-based approaches focus on generic structures pertaining to various text types. They also reinforce the significance of various cultures within which texts are produced. Discourse-based approaches place much emphasis on the discoursal identity of students. One of the major considerations here is that students are conditioned by a variety of discourses around them. Another salient aspect of this approach is that to be successful writers, students should be

members of a discourse community (Swales, 1990; Cumming, 1998; Ivanic, 1998).

Epistemology-based approaches place much emphasis on the impact of the epistemologies of disciplinarity, interdisciplinarity, and extra-disciplinarity on student writing to fathom how students comprehend and use strategically diverse knowledges in their writings. Such approaches demonstrate the fact that while being engaged in their assignment tasks, students have to bear the brunt of the curricular changes introduced to most disciplines in the academy. In these environments, it is mandatory for students to take up multiple writing positions.

Selected student writings are subject to critical scrutiny in Chapter 7 which occupies a significant part of this book. This chapter is designed to explore two areas of student writings within interdisciplinarity in business studies: the technocentric and the theoretical. Technocentric assessments have a strong orientation in the use of technology and the related literature when completing assignments whereas the theoretical ones deal with disciplines/ interdisciplines such as law, cultural studies, communication, and psychology at conceptual level. Such analyses are supplemented with course profiles, textbooks, references to students' prior knowledge and practices, and interviews I had with my students and assessors.

Issues such as plagiarism, the use of secondary sources, transgressive intertextuality, the discursive construction of texts, understanding of assessment topics/tasks, interdiscursivity, and extra-disciplinarity - all related to the epistemology of interdisciplinarity - are problematized in this chapter. Although not a rare occurrence, ventures into creativeness that defy adherence to prescriptive guidelines relating to assessment tasks often result in transgressive discourses or discourses in students' texts that are deemed to be perfunctorily constructed. In their attempts at coping with assessment tasks, student writers have to work with both knowledge and linguistic resources simultaneously, and these disciplinary and codified entities, which lend themselves to several dimensions, are inextricably intermingled with each other. It is also important to bear in mind that students discriminately select repertoires of knowledges prior to their writing or material production of knowledges in the form of discourses within institutional settings really begins. **A**nd this enforced desire for discriminate treatment invariably leads them to hierarchize knowledges. In these exclusively conscious academic enterprises students, more often than not, take up multiple writing positions within multiple disciplinary contexts

enveloping diverse knowledge fields. Hence, student writing is a synergized activity ('synergy is a medical term meaning the cooperative working together of different body organs to perform complex movements' (Altschull, 1995:383). Student writers are no longer engaged in academic discourses that are anchored in a specific or monolithic individual discipline; instead they cope with integrative processes often involving two or more disciplinary domains introduced and sanctioned by the academy.

In the concluding chapter (Chapter 8), while discussing the implications of interdisciplinary ramifications for writing pedagogy in particular and for the construct of disciplinary knowledge in general, I have attempted to advance a theory of critical interdisciplinarity. The chapter starts with the prevailing status quo of interdisciplinarity in the academy: that is the one-directional approach based on course restructuring. The practical application of interdisciplinary knowledge in student writing is an overlooked area. For example students, as revealed by this investigation, often find it difficult to approximate the incomprehensible interdisciplinary knowledge, and to utilize such knowledge in generically diverse writing tasks. Course restructuring alone is not a remedial measure for such difficulties.

The assessment of students is also problematized here in interdisciplinary writing contexts. It is reiterated that students' achievability should always precede measurability in the process of preparing students for foreordained assessment tasks. In this chapter, there are certain echoes of the potential for critical interdisciplinarity to be an interdiscipline by itself under the rubric of education. Another issue I have raised here is the need for knowledge for specific purposes (KSP) programs peripheral to language programs to facilitate student writing at both graduate and postgraduate levels. English for specific programs (ESP) that are vigorously promoted in language and study skills centres in most tertiary education institutions do not seem to yield desired results as far as student writing in interdisciplinary contexts is concerned.

The preceding issues, I believe, have opened up new vistas for researchers, practitioners, and theorists alike for comprehending the complexities surrounding student writing and interdisciplinarity. It is worth rounding off this brief introduction with a note on some specific terminology used in this book. Breaking fresh grounds through conceptualization in any landscape of knowledge often entails the appropriation of new terminologies

and phrases since they are the tools with which writers forge their texts. In the context of this study, I have coined some terms and phrases which merit definition and elaboration in order to avoid any semantic ramifications or confusion associated with them. Difficulties invariably arise in any academic inquiry when certain terms and phrases are used interchangeably or synonymously or even ambiguously in situations where precise or near precise meanings are required. This inadequacy could also be overcome to a great extent by introducing new lexical items to replace ambiguous or vague terms and phrases. Hence, a glossary of terms and phrases, which I believe would facilitate the reader, is provided in the concluding part of this book. It is through the appropriation of new terminologies that scholars in any field of inquiry express themselves not only to elucidate new concepts but also to contest the prevailing ones.

CHAPTER ONE

STUDENT WRITING IN THE ACADEMY: THE COMPLEXITY OF COMPLEXITIES

The complexity inherent in the academic writing process emerges from among other things the new imperatives attached to the composition of student academic texts in terms of diverse knowledge domains. Student writing occurs within a normative, if not prescriptive, framework of power and knowledge. If one attempts to define student writing, then these institutional power structures and institutionally sanctioned knowledge domains may invariably surface. Student writing may be defined as any rhetorically organized text embedded in appropriate knowledge (disciplinary/interdisciplinary/extra-disciplinary) and its interpretive potential (discourses) within 'politico-institutional' power structures (Derrida, 1992a:23) with a view to meeting the assessment criteria of a particular course of study leading to a graduate or postgraduate qualification at a university or any tertiary educational institute. By 'rhetorically organized', I refer to the manipulation of the written word (or at times the spoken word) to demonstrate, amongst other things, analytical skills, in-depth investigation, critical detachment, clarity of expression, and acquaintance with appropriate institutionalized conventions at an acceptable level as determined by various bodies of the disciplinary community. In other words, it is the strategic appropriation of linguistic resources to manipulate appropriate knowledge structures in a given academic culture. A student text, according to this definition, is also couched in appropriate discourses in the sense that it is discursively constructed using intertextual/ interdiscursive resources of various discourses (disciplinary, interdisciplinary, and extra-disciplinary), which project themselves as texts. The term 'rhetorical' as I have used here also signifies the persuasiveness of student texts, a salient feature of the discourse of student writing. In fact this was also a salient feature of what is commonly known as rhetorical tradition where the importance of a text was determined not so much by its contents as by its narrative and phraseology.

As Nietzsche observes, ‘There are no facts, everything is in flux, incomprehensible, elusive; what is relatively most enduring is – our opinion’ (1967:327). This extract from Nietzsche’s *Will to Power* would, I believe, serve as a fitting interpretation of the nature of student writing in our contemporary contexts in which a variety of discourses surrounding knowledges, mostly dynamic, and at times nebulous and incomprehensible, are explored. While unraveling the complexity inherent in student writing, the impact of academic interdisciplinarity on a wide range of student academic writing can hardly be overlooked. Academic interdisciplinarity (henceforward interdisciplinarity) does exercise considerable influence on the discursive construction of student texts and students often experience difficulties in producing texts within complex and intricate relationships pertaining to diverse interdisciplinary knowledge domains. It should be noted that interdisciplinarity in academic writing does by no means indicate an isolated knowledge domain; it always mediates and is mediated by disciplinarity and extra-disciplinarity.

In the context of this investigation, a disciplinary text is a text (written, oral, visual, interactive) that is firmly anchored in a particular disciplinary/interdisciplinary knowledge domain. It should have explicit knowledge capital representative of a particular discipline, and also it should contain evidence of the linguistification of that disciplinary knowledge. In other words knowledge capital needs to be projected in appropriate linguistic resources. For instance, *Strategic Management: Competitiveness and Globalization* (Hitt et al. 2001) is a disciplinary text since it contains knowledge capital that is deemed to be part of business studies; it is also couched in appropriate linguistic resources befitting the discourse of business studies; eg. brand competition, impulse purchasers, and promotional variables.

An interdisciplinary text on the other hand may contain explicit knowledge content belonging to two or more disciplines with their corresponding linguistic markers. For example, *Technology of Internet Business* (Lawrence et al. 2000) is an interdisciplinary text since it contains at least two explicit knowledge domains: information technology and business studies, fortified with the terminologies akin to these two knowledge domains such as electronic invoices, e-commerce trading systems, and customized technological platform. In the context of student writing, these interdisciplinary ramifications find their expression through intertextual relations (Devitt, 1991).

Extra-disciplinary texts include all texts other than disciplinary and interdisciplinary ones, eg. media texts (popular newspapers, television etc.), paramedia texts (magazines, brochures etc. produced by special interest groups such as refugees, environmentalists), hereditary texts (proverbs, fables etc), anecdotal texts (anecdotes, narratives from memory), and also texts used in non-academic practices (eg. form-filling by an inventory clerk). Extra-disciplinarity is an essential dimension to student writing although its epistemological significance and potential are not adequately explored by critical scrutiny. Issues relating to how disciplinary knowledge is produced, modified, expanded, disseminated, and consumed within our contemporary contexts seem to have whetted the appetite of some theorists and researchers. Much of the academic work focused on the discursive and literacy practices of disciplinary knowledge in student writing (eg. Bergandal, 1983; Halliday & Hasan, 1985; Bazerman, 1988, 1994a, 1994b; Bernstein, 1990; Bhatia, 1993; Baynham et al, 1994; Baynham, 1995a; Berkenkotter & Huckin. 1995; Craswell, 1994; Dobrin, 1997; Freedman & Medway, 1994; Gilstraw & Valiquette, 1994; Paltridge, 1997; Prior, 1998; Candlin & Hyland, 1999) bears ample testimony to this predilection.

Extra-disciplinary texts disseminate popular discourses. They distinguish themselves from disciplinary and interdisciplinary ones by virtue of this popular appeal. More importantly, they are also distinguished and marginalized by the dominant culture of academic writing. They are nonetheless instrumental in discursive construction of texts in the academy. Extra-disciplinary texts include all media texts, paramedia texts, hereditary texts, anecdotal texts, and texts related to non-academic practices. Knowledges thus foregrounded through extra-disciplinary texts are complex in many ways. For example, they can be tantamount to disciplinary/interdisciplinary knowledge; they can also be useful source documents for disciplinary/interdisciplinary knowledge producers. It is evident that the hegemonically constructed institutional legitimacy is a factor that deemphasizes or even delegitimizes extra-disciplinary texts in the culture of academic writing. It seems to me that extra-disciplinary texts have strong appeal to disciplinary/interdisciplinary texts, and that they play an epistemologically significant role in textual construction, adding more complexity to the overall culture of student writing.

Contours of knowledges: Disciplinary knowledge

Disciplinary knowledge has always been a site of contestation. A relativist

would argue that disciplinary knowledge and disciplinarity are misnomers since each discipline intrinsically contains several strands of knowledges belonging to several other disciplines. In fact back in the 1970s, this was voiced by Balibar and Macherey when they contended that, 'Literature and history are not each set up externally to each other (not even as the history of literature, social and political history), but are in an intricate and connected relationship…' (1978:6). One might also argue that today's scientists deal not with a discipline per se, but with a plethora of problems, and these problems embody a wide spectrum of disciplines (Lenoir, 1993; Gibbons et al. 1994). Disciplinary frontiers are not like the former Berlin wall; in fact, almost every discipline has some area of proximity to one or more disciplines and the boundaries between them are often blurred. Economics, for example, as a discipline has close affinities with mathematics, political science, history, and sociology. As a result, 'the nature of the divisions between disciplines varies with the nature of the disciplines concerned' (Becher, 1989:37). While this is true, we need to remind ourselves that any investigations into the discursive practices of the academy need to be anchored in the institutional frameworks of power. In other words, disciplines in the academy are institutionalized, and legitimized entities of knowledges, as evidenced by the physical presence of several phenomena: the departments, the faculties, the centers, the programs of study, the literature (eg. textbooks, course profiles), and the designations (eg. deans, professors, lecturers) named after disciplines.

It is difficult to define disciplinary knowledge since its canvas can extend itself to encyclopaedic dimensions. Hence, most theorists and interested scholars often resort to geopolitical metaphors in view of these huge dimensions attached to disciplinary knowledge: eg. '*sphere, world, map, field, province, kingdom*' (King and Brownell, 1966:74. original italics). In fact some extending their rational boundaries have even suggested different metaphors (Lyon, 1992). These attempts are all indicative of the huge canvas of disciplinary knowledge.

So, what counts as disciplinary knowledge? What are its constituents? King and Brownell identify ten characteristics of disciplinary knowledge:

> a community of persons, an expression of human imagination, a domain, a tradition, a syntactical structure, a conceptual structure, a specialized language, a heritage of literature and artifacts and a network of communications, a valuative and affective stance, and an instructive community (1966:68-95).

While one might notice considerable overlapping in their classification of knowledge (eg. tradition, and heritage of literature), it is pertinent to note here that they have incorporated the necessary elements to advance a curriculum theory that is closely aligned with humanist and modernist paradigms. A careful examination of their work would reveal the preoccupations that have galvanized them to define disciplinary knowledge in this light. For them disciplinary knowledge should have a distinct intellectual heritage and a humanist and rational purpose.

Several useful insights into the nature of disciplinary knowledge in our current social contexts are found in the work of Foucault: 'a discipline is defined by a domain of objects, a set of methods, a corpus of propositions considered to be true, a play of rules and definitions, of techniques and instruments…' (1981:59). Again in his *The Archaeology of knowledge*, Foucault observes:

> Knowledge is that which one can speak in a discursive practice, and which is specified by that fact: the domain constituted by the different objects that will or will not acquire scientific status…knowledge is defined by the possibilities of use and appropriation offered by discourse (1972:182-183).

Here Foucault theorizes knowledge (savoir) in general with a marked emphasis on discursive practices since he believes that discursive practices are always activities defining either potential disciplines or established disciplines. Hence it seems to me to be logical to conclude that his definition is equally applicable to disciplinary knowledge (connaissance) as well.

Foucault quite explicitly reiterates the inadequacies of analyzing or viewing knowledge as an uninterrupted genealogical process. This I believe is the overarching theme of his influential work: *The Archaeology of knowledge* (1972; also cf. Foucault, 1995). It should however be noted that he does not completely reject the historical development of disciplinary knowledge; in fact his frequent references to the Classical period and also to the various discursive variations that occurred especially in the eighteenth and nineteenth centuries may be viewed as an acknowledgement of the significance of genealogy-based investigations (1972:52-89). I cannot see any specific methodology used by Foucault in his *The Archaeology of Knowledge* (1972) nor in *Discipline and Punish* (1995). This nature of his work marks the strength of his work, for methodologies often generate boundary consciousness in some form or another. What Foucault quite convincingly demonstrates is that

discontinuities, ruptures and interruptions must be essential episodes in any archaeological survey of systems of knowledge.

In a Foucauldian sense, the role of discursive practices is central to any formation of disciplinary knowledge (1972). Psychiatry as a discipline for example had inherited all its ingredients in the form of discursive practices long before its enunciation as a full-fledged discipline in the academy (Foucault: 1972). A more recent example of an institutionalized interdiscipline is terrorism studies as evidenced by the Inter-University Center for Terrorism Studies established in 1997 at George Washington University (www.gwu.edu/~terror/intunctr.html).

The existence and maintenance of institutions such as universities and schools hinge inter alia on the structured knowledges. Following the huge corpus of research contained in Foucault's *The Archaeology of Knowledge* (1972), disciplinary knowledge may then be defined as institutionalized discursive practices. In other words it is the repertoire of knowledge by which a particular discipline is characterized, represented, and comprehended. This relatively homogeneous condition of disciplinary formation is known as disciplinarity. Here the implication is that disciplinarity is contingent on differentiation, which results in boundary maintenance.

Derrida's theorization of the 'structure' and 'center' is equally applicable to the notions surrounding disciplinarity, too. He refers to the 'fixed' meaning or meanings in a given structure as 'center'. It is significant to note that this 'center' is confined to the rigid boundaries of the structure, and is subject to the interplay of its elements only within the structure. As Derrida succinctly puts it,

> As center, it is the point at which the substitution of contents, elements, or terms is no longer possible. At the center, the permutation or the transformation of elements…is forbidden… The concept of centered structure is in fact the concept of a play… constituted on the basis of a fundamental immobility and a reassuring certitude… (1978:278-279).

It is the non-transformation of the core of disciplines that ensures their immobility and the institutionalized identity. This is in fact associated with the structure as well as the methodology of most disciplines. One might even extend this argument to discourses as well.

Quite reminiscent of Bourdieu's (1991) notion of disciplines as political

structures, Lenoir defines disciplines as '…dynamic structures for assembling, channeling, and replicating the social and technical practices essential to the functioning of the political economy and the system of power relations that actualize it' (1993:72). Lenoir's main argument is that disciplines should not be regarded as monolithic entities, but rather as 'heterogeneous families of social, organizational, and scientific-technical practices… (*ibid*:85).

Disciplinary knowledge is not only constituted by systematized and compartmentalized knowledge with relatively impermeable boundaries; it is also disciplined by a set of values. The term 'compartmentalized' has distinct connotations of borders or frontiers, and these frontiers and borders are determined not so much by an individual discipline as by other disciplines. Each discipline, for instance, has got its own field specific lexis or discourse markers, its own informational content or knowledge capital, and its institutional and institutionalized stature, and when taken as a whole, these phenomena contribute to boundary maintenance. Disciplinary knowledge, preserved in the academy mostly in the from of textbooks, magazines and journals both in conventional, and electronic form, is modified and expanded through discursive practices associated with scholarship as revealed in research and epistemological stances, but a large part of its intrinsic characteristics remains more or less intact. The term 'intrinsic' literally seems to invoke meanings contingent on temporal transcendency; hence following Foucault's notion of the archive, 'the system that governs the appearance of statement as unique events' (1972:129), I shall refer to this basic characteristic of disciplinary knowledge as 'archival property', the property that characterizes a particular corpus of knowledge. It endows a discipline with defendable as well as defensive identity. Archival property of all disciplines consists of the historical development of their own discursive practices, for example economic history in economics, and business history in business studies. Thus, archival property can embrace traditionally accumulated theoretical and practical knowledge capital of a discipline.

Davidson's Principles and Practice of Medicine (Davidson, 2010), first published in 1952, and has been used in the academy throughout the world as a standard textbook for medicine, is now in its 21st edition. Since its first publication, each successive edition has introduced slight modifications, either in the form of new statistics, or new techniques, but most of the fundamentals of medicine (or archival property) as listed, explained and illustrated in the book have remained almost unchanged for

decades. Psychology is another disciplinary domain that merits our attention; psychology today has been reduced to a mere generic term, and it still carries with it a strong archival property (as a result of academic interdisciplinarity one might notice under psychology at least seven sub-disciplines; child, social, cognitive, physiological. clinical, educational, industrial). This list is by no means exhaustive. It should, however, be noted that 'archival property' does not portray disciplines as hermetically sealed entities bereft of any change or expansion.

Disciplinarization of knowledge

I have so far discussed some notions relating to disciplinary knowledge. Still one crucial question remains unanswered: How could people disciplinarize knowledge? As I have mentioned elsewhere, disciplinary knowledge is discursively constructed through diverse modes of interactions between social actors and discourses. The implication here is that disciplinary knowledge is not essentially a product of a particular culture, although it can be firmly anchored in the social canvas to which it relates. Anglo-American and European traditions of knowledge production have close affinities with each other, and they have exercised, and still do, enormous influence on the so-called marginalized traditions of Asia and Africa. Also of importance are the demographic and psychographic factors involved in the discursive construction of knowledge. These two aspects are basically related to the consumers of such knowledge. The former refers to audience types such as students, academics, farmers, etc. whereas the latter signifies the psychological dimensions of a particular audience type: values, beliefs, attitudes, needs, aspirations, and many more besides.

Disciplinarization of elements of knowledge certainly stems from diverse epistemologization processes. I am proposing six identifiable dimensions that characterize this diversity: disciplinary agents of power, target knowledge field, discursive sites, discursive strategies, discursive construction of knowledge, and ratification of discursively constructed knowledge.

By disciplinary agents of power (cf. Foucault's use of the phrase 'the regime of disciplinary power,' 1995:182, and Lyotard's reference to power relations, 1984:46), I refer to the legitimate producers of disciplinary knowledge. Themselves being hegemonically and hierarchically defined, most agents of power are academics and researchers, in most instances representing tertiary, and research institutes. I need to emphasize here that

hegemonic relations are always intertextually constructed, contested, rejected, modified, and maintained in a given academic culture.

There is always a target knowledge field that constitutes the nucleus of knowledge production. The target knowledge field of this book, for example, is interdisciplinarity. While locating a target knowledge field, one has to do a significant amount of research. This in itself is part of the discursive strategies of knowledge production.

Disciplinary knowledge production occurs in a particular discursive site. A laboratory, for example, is a discursive site for a scientist to produce knowledge. Similarly, an ethnically defined geographical area could be a discursive site for a linguist or a sociologist to embark on knowledge production. Discursive sites can envelop local, regional, and global dimensions depending on the cultural milieu that characterizes them. It is by no means suggested here that disciplinary knowledge production is solely anchored in a particular discursive site; in fact, there could be several discursive sites within a knowledge production project, and some can even assume interdisciplinary proportions. In the context of soft technoculture, discursive sites could well be virtual ones, too. Researchers are now able to exploit the enormous potential of online resources to supplement their discursive construction of texts.

Discursive strategies are the ways (eg. research methodologies) in which a variety of resources (eg. newspaper reports, televisual images, data obtained from research), are appropriated in quest of a would-be disciplinary knowledge. A newspaper report on a particular target knowledge field may be of immense value for a disciplinary agent of power engaged in knowledge production. This is an area where student writing is implicated through interdiscursivity. For instance students have access through a myriad of extra-disciplinary texts (eg. print texts, broadcast texts, televisual texts and radio texts, cyber texts (The Internet, intranet, and extranet), anecdotal texts, shadow texts,) to a particular disciplinary knowledge domain without necessarily referring to disciplinary texts relating to that domain. And very often the primary sources of a knowledge domain for the producer of an extra-disciplinary text and for the disciplinary agent of power could be the same.

Discursive practices are central to discursive construction of knowledge. These include collection and analysis of data, publication of research, organization of conferences and seminars, delivery of lectures and talks.

This is where the resources of disciplinarity, interdisciplinarity, and extra-disciplinarity could be utilized in complex ways. Thus, disciplinary knowledge is always discursively constructed; it is the selective combination of a wide spectrum of discourses.

The would-be disciplinary knowledge is always subject to a ratification process during which it is contested, trialed, and finally legitimized. Such ratification processes often involve publications in refereed journals or in the form of disciplinary texts. It is not implied here that once disciplinary knowledge is legitimized, it remains immune to contestation. In fact knowledge is a site of contestation, and is subject to intellectual debates at a given period of time. My argument here is that disciplinary knowledge is always discursively constructed.

Consider, for instance, the Bantus in the Kalahari who have acquired a wealth of knowledge from times immemorial. This is the knowledge that has helped them survive for centuries in one of the most inhospitable terrains of the world. This is the knowledge acquired on the basis of trial and error, and has passed down from one generation to another. A social anthropologist might embark on a research into such heuristically tested knowledge (target knowledge field) in the Kalahari, which is the discursive site, and in the process of such investigations, he might epistemologize this 'local' knowledge.

The epistemologization of local knowledge may entail discursive strategies such as formulation of field-specific lexis, comparative theorization, and systematization of knowledge in terms of hierarchal values or scales, thus leading to a disciplinarization process. Any epistemologization process generates what I might call an intellectual intensity, which adds an intellectual texture to a particular disciplinary domain.

Discursive construction of knowledge involves among other things the review of literature already built up surrounding the domain and the exploration of interdisciplinary domains such as applied linguistics. The former would include newspaper genres such as feature articles or televisual genres like documentaries on the central Kalahari Desert. As I mentioned before, student writers are often implicated in this stage of discursive construction of knowledge. Such developed and sophisticated knowledge may then be subject to dialectical evaluations and contestations by disciplinary communities through discursive practices such as seminar

presentations, blind reviewing, and publications in scholarly journals. Often punctuated by iterative citations in publications, these contestations and consensual voices may further discipline and develop such knowledge towards a 'research consensus' (Said, 1991:176). Such knowledge will eventually be part of social anthropology. This is by no means to suggest that this knowledge is immune to contestation. This is only a 'simplistic' way of depicting how knowledge is discursively constructed. If one examines the contents of Silberbauer's work (1981) on the central Kalahar desert, then it will elucidate the disciplinarization process I propose here.
Indisputably, even today the institutional supremacy in disciplinary knowledge production is still with the tertiary educational institutions. This is evidenced by the phenomenal growth in the production of disciplinary knowledge in the academy through journals and books available both in hard and soft copy form, enveloping every discipline. However, the importance of the emergence of various other sites of knowledge production since the 1970s cannot be underestimated. Among them, government departments, independent research institutions, workplaces of large corporations, international agencies, and above all the media institutions contribute substantially towards disciplinary knowledge production. In fact, the academy utilizes such knowledge owing to its easy accessibility through the new technologies of communication. It is this accessibility factor rather than cooperation among various institutions that facilitates disciplinary knowledge production, the academy being unarguably the pivotal institution.

The nexus between universities and non-academic organizations (eg. large corporations) in terms of knowledge production is a relatively new phenomenon. Sponsored professorships and chairs by leading organizations signify among other things this non-traditional confluence. This has two explicit implications: first, non-academic communities recognize the importance of the academy as a site of knowledge production, not merely as a knowledge disseminator. This liaison can immensely benefit the sponsors in terms of human resource development, the know-how for research logistics, transfer of experts and know-how, in-service training opportunities, to name a few. Second, it highlights the promotional aspects emanating from these alignments. It is for example a prestige for a company to sponsor a distinguished professorship in an equally distinguished university. Such advertising texts, as marketing strategies, often promote these vested interests of corporations.

Recent research has also highlighted the close liaison between universities

and the media (Cunnigham et al, 1997). The establishment of virtual universities demonstrates the new trends in borderless education (*ibid*). So how could the academy benefit from these close affinities? In recent years, there has been a substantial corpus of research on workplace practices undertaken by universities worldwide. The research areas differ from linguistics to sociology, from environmental studies to feminist studies, from health and recreation to occupational health and safety and so on.

The emergence of professional knowledge organizations marked another significant aspect relating to knowledge production in the context of globalization. In a sense, these knowledge-intensive organizations are the opposite of 'labour-intensive' ones (Alvesson, 1995:6, also cf. Barnet, 1994). Their main function is to provide professional business services by marketing their various knowledge-based products. As Tordoir points out, they are

> at the crossroads of three major developments: the increasing role of scientific and professional knowledge in business, the rise of a service economy, and changes in the organization of professional work in industrial companies and in the economy at large, leading towards complex network structures (1995:1).

The cumulative effect of these new ventures is the growth of knowledge-based consultancy services (*ibid*:111-201) on a global scale (also cf. Dawson, 2000). Since 'knowledge workers are understood to be highly qualified individuals' (Alvesson, 1995:7), graduate programs, especially at postgraduate level now offer new courses to meet the industry demands. So, in the context of globalization, industry demands have introduced new dimensions to disciplinary knowledge. What exactly are these industry demands, and how are they met?

Today, employers recruit graduates on the basis of several criteria: 'their knowledge, intellectual ability, ability to work in a modern organization, inter-personal skills and communication' (Ralph, 2002:161). The third criterion deserves elaboration, for it is the macro context within which employees have to be engaged in various discursive practices. First to be noticed is the technological environment which demands not only superior skills in using new technologies of communication but also the ability to keep pace with the new developments in such technologies; second, the cultural diversity that shapes attitudes to work and workers in a modern organization; third, the knowledge of global business operations, and fourth, legal and ethical issues in such practices.