Indonesian EFL Learners' Development of Academic Literacy:

A Study of Grammatical Metaphor

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Declaration

I hereby declare that this thesis is my own work, and that, to the best of my knowledge, it does not contain any unattributed material previously published or written by any other person. I also declare that the work in this thesis has not been previously submitted to any other institution for, or as part of, a degree.

This study was granted approval by Macquarie University Ethics Review Committee (Human Research) (reference: 5201600173) and conducted in accordance with the guidelines stipulated.

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Abstract

This study explores the development of the academic literacy of Indonesian learners of English as a Foreign Language (EFL) by investigating their grammatical metaphor (GM) deployment. The participants of the study are English Department students in The State College for Islamic Studies located in Kediri, East Java, Indonesia. The EFL learners' academic texts were collected cross-sectionally, representing two academic years of undergraduate study: the first and third year. The study uses quantitative and qualitative measurements to analyse the deployment of grammatical metaphor. First, frequency and variation analysis is conducted to reveal the prevalence and variation with which the learners deploy grammatical metaphor. Second, qualitative measures of metaphorical control are employed. Finally, this study analyses the differences in the students' use of GM in their writing across the two years. The findings show that both groups deployed similar types of reconstruals of experiential and logical metaphors. Process to Thing transcategorisation is the largest type of experiential GM reconstrual across the two groups, while Relator to Process is the major logical GM reconstrual in both groups. Third year students surpass the first year group in the frequency and proportion of instances of experiential and logical GM deployment. In terms of metaphorical control, both groups show similar control over experiential and logical GM reconstrual. The findings suggest that a more explicit pedagogy to expose students to GM and more basic lexicogrammar teaching to enable the students to write academically valued texts are warranted.

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<div align="right">Sydney, October 2016</div>

Chapter 1: Introduction

1.1 Introduction

As one of United Nations' (UN) official international languages, along with Arabic, Chinese, French, Russian and Spanish, English has become the dominant global language, in the sense that "it develops a special role that is recognized in every country" (Crystal, 2003, p. 3). A language may take on a "special role" in a country where it is not the first language of the majority of people in two ways: i) becoming the official language of a country (used as a medium of communication in government, the law courts, the media, and the educational system); or ii) without official status, a language can be made a priority in a country's foreign-language teaching (Crystal, 2003, p. 4). With over seventy countries using English as the official language and over a hundred countries teaching English as a foreign language, English has become the dominant global language in this era (Crystal, 2003, p. 3-4).

One of reasons for the globalization of English is its role in academia and professional life. Information and communication technology uses English as the default language in many professional and national contexts. Thousands of professional and academic publications in all subjects are in English. Universities and schools in non-English countries gradually use English as a medium of instruction in various subjects. These situations have led people from various countries seeking a better life to add English to their language repertoire. Academics and students need to understand references to navigate the course of their study and career in English, and to publish articles in prestigious and widely read publications (Hyland, 2006, p. 24). Professionals are required to master English for skill upgrading and expanding their professional reach; not to mention other areas such as entertainment and media, which widely use English. English has become highly demanded in non-English speaking countries.

This trend is also evident in Indonesia. Theoretically, English has been predicted to potentially perform strategic roles in Indonesia in: 1) international communication in all fields; 2) access of scientific knowledge and new technologies; 3) vocabulary development; and 4) expanding people's sociocultural and intellectual views (Dardjowidjojo, 2003; p. 32, Huda, 2000, pp. 65-66; Renandya, 2000, p. 116; Simatupang, 1999, p. 64). In practice, Indonesian policy makers recognize only the first two to be translated into policy (Lauder, 2008, pp. 12-13). One of the areas of implementation of English in enabling access to scientific knowledge and technologies is education. English is taught as a foreign language (EFL) across the country in schools from primary to university levels (Ministry of Education and Culture NO.096/1967).

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Universities offer English study in English departments. Students studying English as their major obviously study English-related subjects, while those who study other majors also have English as a compulsory subject. Many students pursue English courses to support their academic skills. The increasing numbers of English courses – formal and informal – shows the escalating need for English in order to succeed in Indonesian society. School students spend their holidays in English courses. Professionals take English courses in their free time; some even take leave to engage in English courses. Universities also use English as a gatekeeper for students' admission and graduation.

Although academics and professionals need English to support their study and career, the nature of English in these two domains is different. Therefore, there are various types of courses depending on the purpose to be achieved. The term English for Specific Purposes (ESP) has emerged to cover the practice of learning and teaching English for use in specific contexts, with courses such as English for Business and English for Hospitality taught widely. A sub-branch of ESP, English for Academic Purposes (EAP), refers to teaching and learning English for academic-related purposes. EAP in Indonesia is offered both informally, in private tutoring and language centres, and formally in courses managed by universities and schools. The formal tertiary education focusing on English in Indonesian universities commonly falls into one of two departments: English education, or English letters.

The English education department graduate is the main concern in the present study, since there is often a focus on EAP and 'knowledge about language' (KAL) in such departments rather than a focus on the interpretation and appreciation of literature. Students of English educational departments need to become a part of the academic and professional community of English-language teachers by becoming proficient in academic English. English teachers are required to master academic English since they need to teach the language to their students. Although the language to teach in primary school is not academic language in the sense of highly technical, scientific language, academic language mastery is necessary for teachers since they need to develop the students' academic language (e.g. ability to read and write essays and basic scientific explanations) from an early stage.

Reflecting on the importance of academic English in EFL contexts, and especially in Indonesia, this study traces the academic literacy development of Indonesian learners learning English as a Foreign Language (EFL), for academic purposes (EAP). The study focuses on the deployment and development of grammatical metaphor (GM), a key characteristic of academic writing (Halliday, 1993; Ravelli, 2003; Martin, 2007; Martin, 2013).

1.2 Relevant Studies

University students, as members of an academic community, are required to produce writing that is acceptable to the academic community. In higher education, students' ability to produce academic writing reflects the process of learning enacted during their study. Students' academic writing reveals their "understanding of subjects and control of disciplinary literacies", which determine the students' success or failure (Hyland, 2009, p. 123). However, producing such academic texts to meet the criteria of acceptability is not an easy task, since effective academic writing requires advanced literacy skills (Hyland, 2009, p. 123). Students' understanding of their subject matter does not always translate into academic success, as their writing can often "fail to conform to academic expectation" (Schleppegrell, 2001, p. 435). This is especially problematic for English as an Additional Language (EAL) learners, even those who have demonstrated advanced English proficiency (Schleppegrell, 2002, p. 137; Celce-Murcia, 2002, p. 150). Clyne (1987) asserts that academic English writing conventions such as explicitness, making claims, signposting connection, coherence and cohesion are particularly problematic for EAL learners.

One reason for these difficulties is that academic discourse is different from daily social interaction (Candlin & Hyland, 1999; Christie, 2002, p.45: Schleppegrell, 2001, p. 435). With the characteristics of formality, high lexical density, cause and effect networks, and nominalisation (Halliday, 1989; Hyland, 2009 Martin, 1992; Schleppegrell, 2004), academic writing is a challenging skill to attain. These features are typically not gained by the students in their daily social and family lives. Therefore, research into academic discourse, or the language of the academy, which shows the variation of language patterns typically used and acceptable in the academic world, particularly of tertiary institutions (Liardet, 2016, p. 109), becomes essential to the development of academic literacy.

GM is one of the prevalent features of academic writing (Byrnes, 2012; Hyland 2009; Schleppegrell, 2001, 2004). It is a powerful linguistic resource for creating clear text cohesion, highlighting technicality, enabling reasoning within the clause, and reorganizing grammatically intricate structures into lexically dense, static entities (Halliday, 1998; Martin, 1992; Schleppegrell, 2004). Therefore, to investigate the academic literacy of students, the deployment and development of GM in their academic writing is a powerful and appropriate tool.

Studies on GM deployment and development have been carried out in various contexts: English as a first language (Halliday, 1993; Derewianka, 2003; Painter, 2003; Christie and Derewianka, 2008), English as a second language (e.g. Schleppegrell 2001, 2004), English as

a foreign language (e.g. Wang's 2010 and Liardet's 2014 work on Chinese EFL learners); and on other languages (e.g. Colombi's 2002, 2006 and 2009 work on Spanish, Byrnes, Maxim & Norris' 2010, and Ryshina-Pankova's 2010 work on German as an FL). The studies of EFL contexts are most clearly relevant to the present study. However, all the aforementioned studies have relevance to the current study.

EFL writing in Indonesia has also been widely studied, especially for the purpose of improving students' academic skill. Based on the focus of the study, research in this area can be categorised into: writing process, writing product, and genre-based writing (Widiati & Cahyono, 2006). The studies using a writing-as-process approach examine the effectiveness of this approach, especially the various intervention strategies such as conferencing, peer feedback provision, and collaborative work (Sukiyadi, 2005; Antoni & Gunawan, 2004; Munandar, 2004; Alwasilah, 2004; Widiati and Widayati, 1997). Other studies in this strand investigate students' flow of thought during writing (Soedjatmiko & Widiati, 2002), and scaffolding in promoting students' writing skill (Laksmi, 2003). Meanwhile, studies focusing on the writing product examine the effectiveness of instruction in improving students' overall performance in writing (Cahyono, 2000; Cahyono & Mukminatien, 2002). Sukiyadi (2005) investigates the contribution of syntactic knowledge, analytic skill, and paraphrasing skill to the syntactical errors found in university students' compositions. Using Systemic Functional Linguistics (SFL) genre-based pedagogy, Rozimela (2004) found that explicit teaching enabled students to improve their understanding and skills in using aspects of language needed to develop argumentative essays. Similar findings also resulted from Emilia and Hamied's (2015) study on the effectiveness of SFL genre-based pedagogy in improving EFL university students' writing skill. There are other studies investigating various aspects of Indonesian EFL students' writing, such as Purwanti (2015) on self-assessment in writing classes, Khrismawan and Widiati (2013) on students' perceptions about paraphrasing and their cognition processes in paraphrasing, Syafei (2012) on students' opinion and reflection on backwash effects of portfolio assessment in academic writing courses, and Megawati & Anugerahwati (2012) on using comic strips to teach narrative texts.

While studies on students' deployment and development of GM have been conducted in ESL/EFL and in other language contexts in other countries, so far no study has looked at GM development in Indonesian learners or in Indonesian university contexts. Moreover, no study on students' academic writing in Indonesia - as previously mentioned - has investigated students' grammatical metaphor. Therefore, the present study aims to help complete this puzzle by providing one missing piece.

1.3 Context

Education in schools and universities in Indonesia is managed under two ministries: the Ministry of Research, Technology and Higher Degrees, and the Ministry of Religious Affairs. Universities under the Ministry of Research, Technology and Higher Degrees covers students from various sociocultural and religious backgrounds, whereas universities under the Ministry of religious affairs, such as the university where the present study was carried out, covers students from a particular religious background: since Islam is the largest religion in Indonesia in terms of the followers, most universities under this ministry are Islamic universities. However, there are also universities under different religions managed by the ministry. In addition to the students' religious background, state Islamic universities differ from state universities, especially in the curriculum content. While every university is autonomous in designing their own curriculum, the government sets regulations for the universities in general matters, such as through the Indonesian qualification national framework, length of study, credits for each level of tertiary education, and other administrative issues. In Islamic universities, the credits to be taken by students during their academic life broadly comprise two distinct strands: Islamic studies credits, and the discipline credits. The total credits to be taken by an undergraduate student are no less than 144 credits (Ministry of Research, Technology and Higher Degrees Bill no.44 2015). The application of this bill in practice in most universities results in around 144-150 credits. One of the apparent distinctions between state universities and Islamic universities is that, in Islamic universities, Islamic study units occupy a significant number of credits, while in state universities, religious-related units only occupy 2 or 4 credits. The present study was conducted in a state Islamic college in a small town in East Java. The English education department was established in 1999, and now has 150-200 students in each academic year. Most students come from a middle to lower social background, from surrounding towns, and from Islamic schools.

Because a number of units in the curriculum are taken up with religious studies, there is a limited number of credits devoted to English-related units, as compared to similar departments in state universities. This situation requires that the department design and execute the teaching-learning process effectively to yield graduates that meet the requirements of the Indonesian national qualification framework. To address such an issue, the department needs to improve students' academic literacy, and one way to achieve this is by increasing explicit language awareness, which could include teaching the students to effectively use grammatical metaphor in their academic writing. Grammatical metaphor, albeit not the only factor

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determining academically valued texts, has been called 'a linguistic magic' since successful mastery of grammatical metaphor is one of the fastest ways to progress in the written mode (Ravelli, 2003, p. 49). At this time, though, there is no explicit teaching of grammatical metaphor in this context, and there is limited knowledge or understanding of grammatical metaphor among English teachers in Indonesia.

1.4 Research Questions

As mentioned in Section 1.3, the deployment of grammatical metaphor in students' writing can be used as a measure of students' academic literacy, and this study is a first step towards understanding Indonesian tertiary students' linguistic strengths and weaknesses in academic literacy through the identification of GM deployment and development. Therefore, the research questions of this study are:

1. How do Indonesian tertiary EFL learners deploy grammatical metaphor in their academic writing?
2. What developmental pathways of grammatical metaphor are suggested by the data?

1.5 Overview of Thesis

The objective of this thesis is to map the deployment and development of grammatical metaphor in Indonesian EFL learners' writing, for informing curriculum improvement in the future. The remainder of this thesis is structured as follows.

Chapter Two establishes the foundation of the study. This chapter is divided into three sections. The first section delineates the learners' language development giving foundations of ontogenetic language development, leading to the second section on academic language and academic writing. The last section of the chapter outlines theoretical principles of SFL, especially with regard to grammatical metaphor, which is the main focus of the present study.

Chapter Three outlines the methodology employed in carrying out the research. This chapter mainly elucidates the research design, including context and data analysis, and the analytical framework used in conducting the research.

The following chapter, Chapter Four, presents the research findings and discusses the findings within the framework of the study.

The thesis is concluded by Chapter Five. This chapter summarizes the findings, answers the research questions, and considers the limitations and implications of the study.

Chapter 2: Literature Review

2.1 English for Academic Purposes

The use of English in academic contexts and the advancement of education in English speaking countries has increased the need for English for academic purposes mastery. Thousands of students from non-English speaking countries pursue their higher education in English around the world (Hyland, 2006, p. 25). By 2004, over one million students were continuing their education in English outside their home countries (Wars, 2004). The study of English in non-English speaking countries is also widespread, as discussed in Chapter One.

To respond to this phenomenon, a field of study has been established called English for Academic Purposes (EAP). First used by Tim Johns in 1974 (Hyland, 2006, p. 2), EAP is commonly defined as teaching English to assist learners' study or research in English (e.g. Flowerdew and Peacock, 2001, p. 8; Jordan, 1997, p. 1). To help learners from diverse language and cultural backgrounds, EAP "attempts to offer systematic, locally managed, solution-oriented approaches that address the pervasive and endemic challenges posed by academic study to a diverse student body by focusing on student needs and discipline-specific communication skills" (Hyland, 2006, p. 4).

Universities in English speaking countries have developed EAP courses aimed at developing writing skills, including improvement of academic language use (Storch and Tapper, 2009; Cargill, Cadman, & McGowan, 2001; see also list in Melles et al., 2005). As a growing pedagogical practice, EAP courses result in various outcomes. For instance, a study by Shaw and Liu (1998) reports a significant improvement in the formality of language use after an EAP course, but linguistic accuracy and complexity did not undergo significant development. Conversely, a study conducted by Polio, Fleck and Leder (1998) found improvement in linguistic accuracy as a result of an EAP course. In another study, after an EAP course resulting in a significant improvement in text structure and rhetorical quality, fluency, use of academic vocabulary, and linguistic accuracy, Storch and Tamper (2009) concluded that "EAP type courses can have a positive impact on students' writing and that this impact is measurable in quantitative terms" (pp. 217-218).

Variability in learners' literacy skills and in the results of EAP courses has led to studies on students' academic writing. The following sections discuss studies on learner language

development in academic contexts, in an attempt to provide an overview of learners' academic language development.

2.2 Into Academic Discourse

Schooling provides a new context for children's use of language. It requires children to use language differently from their everyday interactional language in the home and neighborhood. Their language capacities are expanded through teaching-learning activities. This process necessitates a continual increase of linguistic capacity and capability to suit the learning steps and load:

> When children learn to read and write, they have to enter a new phase in their language development . . . In the process of becoming literate, they learn to reconstitute language itself into a new, more abstract mode . . . Reconstituting language means reconstituting reality: Children have to reinterpret their experience in the new mode of written language. This is not just a matter of mastering a new medium . . . It is mastering a new form of knowledge: written educational knowledge as against the spoken knowledge of common sense. (Halliday, 1993, p. 109)

This section identifies and discusses academic language from the early years of schooling to university.

2.2.1 Academic Discourse in School

Children entering the school environment can be considered as pedagogic subjects, defined as "persons who both participate in the construction of the discourse and who are shaped by it" (Christie, 1995, p. 221). As pedagogic subjects, children are exposed to language use in the school in two ways: in the regulative register, which exposes them to language related to the goals, purposes and directions of the teaching-learning activities (i.e. directive language telling them what to do and not to do); and the instructional register, which is mainly about the "content" to be taught and learned (Christie, 1995, p. 221). The two registers provide a shift of language experience in the children's life from everyday interactional language into an institutionalized language use setting. The differences between school and home/neighborhood (all are contexts for children's learning) are in the nature of each institutional domain and the kinds of learning they offer (Cloran, 1999, p. 31). As a formal context, schooling requires children to deal with new tasks with specific ways of language use. Schleppegrell (2004, p. 21) identifies three demands made by schools on children, which they must meet to participate in a wide range of schooling tasks and contexts: new language use to meet new tasks and new expectations; new interaction requiring new ways of information presentation; and a new mode of language use, i.e. writing.

These school-language demands contribute to children's development of educational knowledge, which is characterized as 'uncommonsense' in nature, due to its concern with the transmission and development of 'universalistic orders of meaning' independent of space, time and context (Bernstein, 2003b, p. 90; 2003a, p. 151). Thus, this kind of educational knowledge is more abstract, and also more specialized, and is attained through conscious teaching and learning (Painter, 2006, p. 70). Painter contrasts educational knowledge with commonsense knowledge as follows:

Commonsense knowledge	Educational knowledge
Relevant to a specific context	Universalistic in orientation
Based on personal/shared experience	Distant from personal experience
Based on language mediated observation and participation	Based on semiotic representation
Concrete nontechnical meanings	Abstract and technical meanings
Negotiated in spoken language	Constituted in written language
Built up unconsciously	Built up consciously
Built up slowly and gradually	Built up rapidly
Pace of learning at discretion of learner	Pace of learning at discretion of instructor
Built up in piecemeal, fragmented way	Systematically presented, logically sequenced with a topic
Lack of insulation between topic	Disciplinary boundary may be maintained

Figure 2.1: contrast between commonsense and educational knowledge (Painter, 1999, p. 71)

The realisation of the language used in educational contexts follows particular patterns and characteristics that are distinct from everyday social interactional discourse. Schleppegrell (2001, p. 437) defines school language as occurring in an "institutional framework in which children are socialised into ways of formal learning in our society" (Schleppegrell, 2001, p. 437). Learners are required to interact with genres that enable them to efficiently present their views to others (Schleppegrell, 2001). Students who have experience interacting in communicative styles similar to the language of schooling will find it relatively easy to adjust to the language required by the school. Conversely, there are students coming from sociocultural backgrounds in which exposure to such language is limited. They have to focus on increasing their literacy by working out how language contributes to the meaning-making they need in their study (Schleppegrell, 2004, p. 6).

As mentioned by Schleppegrell (2004, p. 21) above, one of the distinguishing characteristics of educational knowledge is its embodiment in a written monologic text, removed from any situational context (Halliday, 1988a, p. 11). This mode of text will be crucial in the academic life of children as they proceed in their education to the tertiary education.

As children move from secondary school to tertiary education, they move to a requirement to use more abstract and technicalized language in tertiary academic writing, which is explored in the following section.

2.2.2 Academic Discourse in Tertiary education

Tertiary education differs from primary and secondary school in terms of the degree of disciplinary specification. This specification is implicated in many ways in facets of academic life, requiring students to adjust to academic conventions in order to understand their disciplines and navigate their learning (Hyland, 2009, viii). This is especially prevalent in the use of language in these academic contexts, where university students are required to communicate using specific language (Colombi and Schleppegrell 2002, p. 7; Biber 2006, p. 10). Research on language use in tertiary education has identified specific linguistic and discursive features that are distinctive from everyday language use. The distinctive features of university language comprise a specific discourse called *academic discourse*. The specific characteristics of this discourse require students to learn the language of the academy simultaneously with learning the content of their disciplines. For instance, the students in the current study are studying English in order to become English teachers. So, they learn the second language simultaneously with the content of the discipline, such as when they learn the content and discourse of Second Language Acquisition, or Sociolinguistics. Mastering academic discourse enables students of tertiary education to disseminate their insight and knowledge in an acceptable way (Christie, 1989; Hyland 2009, p. 2). Academic discourse is also highly regarded in university learning, since most assignments and projects require writing ability in this style.

Hyland (2009, p. 1) defines academic discourse broadly as the ways of thinking and using language in the academy. Furthermore, he identifies the function of academic discourse as enabling efficient communication among academics, representing events, ideas and observations (Hyland, 2009, p. 7). In simple terms, academic discourse is the language of the 'academy', in which various academic genres follow particular linguistic patterns (Gee, 1996; Halliday & Martin 1993; Swales, 1990).

2.2.3 Features of Academic discourse

For its specific features, academic discourse is often contrasted with everyday, social interactions (Christie, 2002, p.45; Schleppegrell, 2001, p. 435; 2004, p.4; Candlin & Hyland, 1999, p.3). It comprises various genres construed from particular linguistic patterns required by the institution (Gee, 1996, p.77; Halliday & Martin, 1993, p.xii; Swales, 1990). One key

feature of academic discourse is lexical density and noun domination, which result from the move from spoken, dynamic realisations towards the static representation of language (Biber, 2006, p.14; Hunston, 2002b, p168; Hyland, 2008, 2009, p.6-7; Ravelli, 1996, p.369). The characteristics of academic discourse include formality, high lexical density, and representing logical cause and effect relations within clauses rather than between clauses (e.g. *Poverty causes homelessness*, rather than *People don't have homes because they are poor*) (Halliday, 1989, p.69-75; Hyland, 2009, p.6; Martin, 1992, p 397; Schleppegrell, 2004, p.4).

Apart from the specific features of the discourse, to be accepted in a wider academic community, academics are required to disseminate their knowledge, often in English (Adam & Artemeva, 2002). Hyland (2009, p. 18) points out that English is the most used language in academic publication around the world (see Chapter One). Therefore, an understanding of and an ability to utilise English in a conventionalized academic way is integral for access to and transmission of knowledge (Liardet, 2013, p. 14) in countries across the world, including Indonesia.

The most important mode of academic discourse is academic writing (Kellog & Raulerson, 2007, p.237). The following section discusses academic writing in more detail.

2.3   Studies of Academic Writing in Tertiary Education

Many studies of academic discourse have utilised corpora, whether those studies are corpus-based, corpus-driven, corpus-assisted, or corpus-informed (these terms are discussed in the following section). As corpora are widely accepted as an important data source to investigate language issues, the present study also utilizes corpus data. This section discusses Corpus Linguistics and its role in academic discourse research, followed by Systemic Functional Linguistics discussion on Foreign academic writing.

2.3.1 Corpus Linguistics on academic writing

Corpus Linguistics (CL, hereafter) is a branch of applied linguistics that focuses upon a set of procedures, or methods, for studying language (McEnery & Hardie, 2012, p.1; Gries, 2009, p.7; Matthiessen, 2009, p. 21). Employing a more detailed definition, Wu (2009, p. 129) states that corpus linguistics is "a methodology for investigating language and language use and obtaining quantitative evidence through large quantities of naturally occurring texts". Lee (2008, p. 87) differs from others in defining CL not as a method but as a methodology as well as an approach to language. He further suggests that the more appropriate term is *corpus-based linguistics*, since the corpus is actually not the focus of the study but only the tool to help do the study, i.e. by using banks of computerized texts and particular computer-related techniques

(Lee, 2008, p. 87).

CL approaches the study of language through the use of corpora. A corpus is a large, principled collection of naturally occurring examples of language stored electronically (McEnery & Hardie, 2012, p. 2, Hunston, 2002a, p. 2), selected and ordered to a set of explicit criteria, including representativeness, balance and sampling (Wu, 2009, p. 129). Corpora provide the basis for empirical research, in which large text archives can be analysed using concordance and frequency analysis. These naturally occurring instances of language can be further investigated to identify how language is used according to specific contexts. For example, CL research into academic discourse identifies key features of texts written for academic purposes.

As a corpus is a collection of naturally occurring language in use, it is the researcher's focus that determines how the corpus is to be analysed. The size of the corpus also relates very much to its purpose. McEnery and Hardie (2012, p. 2) point out that researchers must match their corpus with their research questions to obtain the most significant findings in their research. In corpus-based academic discourse research some areas of investigation that have been studied include the expression of evaluation and stance (e.g. Charles, 2003; Crompton, 1997; Grabe & Kaplan, 1997; Holmes, 1986; Hyland, 1994, 1996a, b; Meyer, 1997; Myers, 1989, 1990; Salager-Meyer, 1994; Silver, 2003; Varttala, 2003); while Hyland focuses on several linguistics features such as hedging devices (Hyland, 1996a, b, 1998), referencing (Hyland, 2002a), addressee features (Hyland, 2001), directives (Hyland, 2002c), and the use of specialized verbs (Hyland, 2002b). Other researchers have investigated special classes of verbs used in academic research articles (e.g. Hunston, 1995; Williams, 1996). Complex types of noun phrase structures typical of academic prose are also one of the research foci in academic discourse (e.g. Halliday, 1988b; Varantola, 1984; Biber & Clark, 2002; Biber et al., 1999). There is a growing body of corpus academic discourse research also investigating other features of academic discourse.

Biber et al. (1999) compare grammatical features in academic prose and in conversation, fiction and newspaper reportage. Biber's (2006) corpus study on the grammatical features that are especially common in academic prose (based on a survey of the *Longman Grammar of Spoken and Written English*) shows that the most distinctive features of academic prose are specific grammatical features associated with a particular set of words, such as extraposed complement clauses controlled by a stance adjective (e.g. *It is possible that. . . , It is important to. . .*) (pp. 15-18).

As noted above, through corpus linguistics, there are several ways of conducting a study,

including: corpus-based, corpus-informed, corpus-driven, and corpus-induced; defined as follows. A corpus-based study typically uses a small set of naturally occurring language data as a source for illustrating, testing or exemplifying a formulation of theories or description (Tognini-Bonelli, 2001, p. 65). Corpus-informed study acts similar to corpus-based study in terms of its function as illustration or examples (Lee, 2008, p. 89). A corpus-driven study is an inductive process, i.e. the corpus itself is the data from which description and formulation of theories are drawn (Tognini-Bonelli, 2001, p. 84). Corpus-induced research is a computational linguistics characterized by its heavy reliance on automatic procedures, which is now known as 'natural language processing' (NLP) (Lee, 2008, p. 92). The present study can be considered corpus-based, due to its relatively small data set (in corpus linguistics terms) and the naturalistic nature of the data (see Chapter Three).

Academic discourse also has been studied from various theoretical perspectives. One of these frameworks is Systemic Functional Linguistics (SFL hereafter). SFL proposes that language is contextually bound, and that contexts are construed in part by the linguistic choices made. In terms of academic discourse, one major goal of SFL research is to describe the characteristics of the discourse. Recognizing the characteristics of the discourse may enable educators foster the learners to achieve the required skills for creating that discourse (Schleppegrell 2004, p. 19). The following section elaborates SFL and its role in academic discourse studies.

2.3.2 SFL on First Language and Second/Foreign Language Academic Writing

Halliday (1993, p.97) suggests that language is a "theory of human experience", in which children learn language as they interact with and through their culture, and that understanding language provides a better picture of how this learning happens. SFL highlights the choices users make as they learn to mean in varying contexts (Halliday 1979, 1993; Martin 1993c).

Systemic Functional Linguistics views knowledge learning as simultaneously occurring with language learning (Schleppegrell 2004, p. 24). This can give us a valuable perspective on children's ontogenetic development of scientific knowledge. Halliday (1993, p.110) emphasises the importance of GM development in children's learning, since during their learning they need to accommodate the construal of increasingly complex meanings. Furthermore, Halliday (1993) describes children's progression in knowledge development as reconstruing 'common sense' knowledge into 'educational' knowledge, and then into specialised and technical knowledge. Halliday's view of the distinctive features of academic discourse as more specialised and formal register choices has been built upon by many scholars

(e.g. Candlin & Hyland, 1999; Parkinson & Musgrave, 2014; Schleppegrell, 2001).

As students develop their language capacity to accommodate academic discourse requirements, they need guidance to show them the ways leading to the accomplishment of advanced literacy skills. This guidance is still necessary even for university students, since the importance of language in all fields of education seems still underestimated. Christie (1985) concludes that language is 'the hidden curriculum' of schooling where many teachers do not give clear instruction in the area of students' language, instead asking students to "use your own language" or "be clear" (Schleppegrell, 2004, p. 2). Schleppegrell (2004, p.3) argues that the inability of teachers to give clear direction is due to their lack of knowledge of grammar, and lack of knowledge that grammatical choices realise meaning of different kinds.

Considering that the various backgrounds of the learners sometimes do not allow them to access and interact with academic discourse, SFL theory provides a means to show the relationship of situational context to linguistic choices (Schleppegrell 2004, p. 19). One major goal of SFL research into students' development of advanced literacy has been to describe the various kinds of academic discourse, identifying the linguistic features of academic genres, and advising on the demands of those features (Christie, 1999b, 2002a; Christie & Martin, 1997; Christie & Misson, 1998; Halliday & Martin, 1993; Hasan & Williams, 1996; Lemke, 1990; Martin & Veel, 1998; Unsworth, 2000). SFL considers language to be a semiotic tool that facilitates learners in seeing the interaction of language and social context in meaning-making. In terms of schooling, the theory can show the roles of language in different contexts, which can enable students to understand the linguistic choices made by speakers and writers (Schleppegrell, 2004, 17-19).

The grammatical analysis in SFL is functional "in the sense that it is designed to account for how the language is used" (Halliday, 1994, p. xii), revealing the basic description of the ways of and the reasons for language variation in relation to both who is using it and the purposes for which it is used (Halliday & Hasan, 1989, p.15-16). Functional analysis can help learners to identify how grammatical structures realise meanings and how the meanings construe various contexts.

SFL academic discourse studies often define academic discourse in terms of its key features, which are formal, lexically dense, and presenting logical connection within the clause rather than between clauses (Halliday, 1989, p.69-75; Hyland, 2009, p.6; Martin, 1992, p 397; Schleppegrell, 2004, p.4). Lexically dense information can be achieved by nominalisation, which is believed as the key feature of academic prose (Biber, 2006; Biber, Conrad, & Reppen, 1998; Biber, Johansson, Leech, Conrad & Finegan, 1999: Charles, 2003; Guillen Galve, 1998;

Hyland, 2004a, 2004b, 2008; Tognini-Bonnelli, 2008), particularly in scientific discourse (Gebhard, Chen, & Britton, 2014; Halliday, 1988b; Lemke, 1988). Some studies in academic discourse using SFL as a framework have shown that, across different subjects, for example mathematics (O'Halloran, 2005), history (Coffin, 1997, 2006) and scientific genres (Unsworth, 2001), "lexicalised and expanded noun phrases... and choosing grammatical features that project authoritative stance" are the most common features (Schleppegrell, 2004, p.71&75). These features of academically valued texts suggest that students need to learn patterns of typical academic writing, for example how to instantiate nominalization, or packing grammatically intricate clauses into more lexically dense information, and how to construe logical relations within the clause.

Producing academic texts to meet the criteria of acceptability in a given academic context cannot be a taken-for-granted proficiency, since it requires advanced literacy skills (Hyland, 2009, p. 123). In her study, Schleppegrell (2001) finds that students' understanding of their subject matter is not always translated into academic success as their writing often "fail[s] to conform to academic expectation" (p. 435). This is especially problematic for English as an Additional Language (EAL = ESL/EFL) learners, even for those who have demonstrated advanced English proficiency (Schleppegrell, 2002, p. 137; Celce-Murcia, 2002, p. 150). Clyne (1987) states that second language students in particular regard English writing conventions such as explicitness, making claims, signposting connection, coherence and cohesion as problematic in academic writing.

In addition, Scarcella (2002) identifies several contributing factors in the development of advanced literacy for ESL students, including their first language literacy skills, students' initial English spoken on school entry, and opportunity to interact with standard English. She suggests that the opportunity to engage in scaffolded instructional activities to foster advanced literacy is the most important factor in succeeding. Other second-language researchers propose more explicit instruction to help learners develop their critical capacities (e.g. Belcher and Braine, 1995, p. xv).

Researchers working from an SFL perspective, such as those cited above, consider that teaching functional grammar will help students understand texts that they are expected to engage with. The ultimate goal is to develop a literacy pedagogy to enable students to access educational discourse that might not be available in their daily life (Colombi & Schleppegrell, 2002, p. 14).

As discussed above, one of important features in academic writing is "lexicalised and expanded noun phrases" and nominalization. These features typically involve GM, which is

considered as 'Halliday's most important concept' for its capability to translate everyday language into academic language (Martin, 2007, p. 51). The next section discusses GM in detail.

2.4 Grammatical Metaphor

The ability to use grammatical metaphor typically develops in children around nine or ten years of age (Derewianka 1995, p.27; Halliday 1993, p.104;), which is in a later stage on the continuum of children's language development (Derewianka, 2003, p. 218). Since grammatical metaphor is considered relevant to literacy development (Torr & Simpson 2003, p. 170), the ability to deploy grammatical metaphor needs to be taught in school subjects to move learners towards their upcoming academic life, since the higher the education level the more GM deployment required (Martin 1990). Halliday (1993, p. 111) considers that "grammatical metaphor is the key for entering into the next level, that of secondary education, and of knowledge that is discipline-based and technical". The following subsections explore GM in detail, beginning from the underlying concepts of GM, the models, the types, the role of GM in fostering students' academic writing, and studies of GM in academic writing.

2.4.1 Definition of Grammatical Metaphor

As GM is a concept in Systemic Functional Linguistics, a review of SFL in general is needed to locate GM in its overall system. SFL views language as a stratified system (graphology, lexico-grammar, and discourse semantics), in which the lower stratum realises the layers above (Martin & Rose 2003, p 4-5, 2008, 21; Halliday & Matthiessen 2004, p.26; Martin 2008, p.30). For example, lexicogrammatical resources realise meanings on the discourse semantic stratum (Martin & Rose 2008, p.9). SFL proposes three metafunctions of language, which are relevant at each stratum. These metafunctions are: the ideational metafunction, which construes human experience (further elaborated into experiential and logical); the interpersonal metafunction, which enacts social relationships; and the textual metafunction, which deals with text organisation (Butt, Fahey, Feez, Spinks & Yallop 2003, p.5-6; Martin & Rose 2003, p.7; Taveniers 2006).
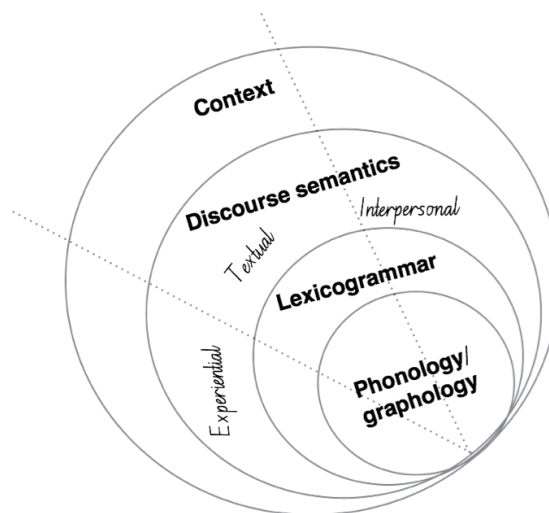
Figure 2.2: Language stratification (adapted from Martin, 1992)

As mentioned above, the re-coding of the lower layer as realization of the upper level is a relationship of *realisation* (Halliday & Matthiessen, 2004, p. 24; Martin, 2008, p. 30; Martin & Rose, 2003, pp. 4-6). "The understanding of the stratified system and patterns of realisation is pivotal to help learners understand unexpected, incongruent 're-mapping' of meaning onto lexico-grammar, or the deployment of grammatical metaphor" (Liardet, 2015, p.30).

The notion of grammatical metaphor was introduced by Halliday in his *Introduction to Functional Grammar* (1985) to refer to a metaphor complementing the commonly known lexical metaphor. The initial types of GM were ideational and interpersonal (Taverniers, 2003, p. 5). Martin (1992, p.416) added the third metaphor in concordance with the metafunction: textual metaphor. The types of GM will be elaborated in the next subsection.

Metaphor, which is typically used to mean lexical metaphor, is the variation in the use of a word to show different meanings, i.e. variation in *meaning:* "a word is said to be used with a transferred meaning" (Halliday, 1985, p 321). Halliday (1994) labels lexical metaphor as a view "from below" i.e., variation of meaning in a given expression (p. 342 - see left side of Figure 2.3), and proposes a view "from above" for GM in order to assign the variation in the realisation of a meaning into different grammatical forms (Halliday, 1994, 342 - see right side of Figure 2.3).

Literal meaning	Metaphorical meaning		Starting point: one meaning
'a moving mass of water'	' a moving mass of feeling or rhetoric'		'many people protested'
Flood			*A large number of protests* — *A flood of protests*
Starting point: one lexeme			Congruent form — Metaphorical form
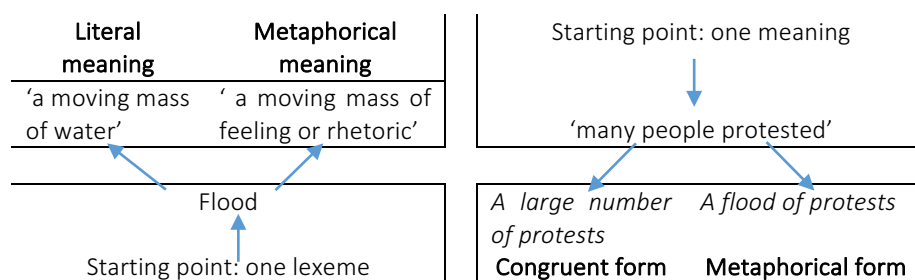
Figure 2.3: Two perspectives on metaphor (after Halliday, 1994/1985, 342)

Halliday argues that the term 'literal', which is normally used in contrast to metaphorical lexis, is "not very appropriate" to label the common wording of an expression, instead proposing the term "congruent" to refer to the less metaphorical expression (1994, p. 342). Grammatical metaphor, which refers to the realisation of a meaning in non-congruent grammar, does not deal with literal meanings, it deals with markedness, i.e. whether an expression is one of the "typical ways of saying things", thus unmarked, non-metaphorical and congruent, or it is a marked expression, thus metaphorical and incongruent (Halliday, 1985, pp. 320-321). However, there are many ways of making meaning, and typicality is not a simple concept (Halliday, 1994, p. 343). An expression can be said to be typical because that is the way people are first exposed to it, or it is the most common way something is said, or there is no other expression to represent it (ibid). However, people can often recognize which forms are marked and unmarked, since all realization of meaning is actually a metaphorical process, and grammatical metaphor takes a *further* transformation in this realization process (ibid).

Grammatical metaphor has been defined variously as "the process whereby meanings are multiply-coded at the level of the grammar" (Martin 1993b, p. 235), "transference of meaning from one kind of element to another kind" (Martin & Rose, 2003, p. 2003), "a process by which two layers of meaning result from grammatical choices" (Schleppegrell 2002, p.125). Furthermore, Schleppegrell explains that,

> congruently, in a clause, *things* are expressed as nouns, *happenings* are expressed as verbs, *circumstances* are expressed as adverbs or prepositional phrases, and relations between elements are expressed as conjunctions. With grammatical metaphor, the choice of elements for these grammatical categories is *incongruent,* as other categories are used. (Schleppegrell, 2002, p. 125)

Halliday (1998) uses 'brake' and 'fail' to illustrate the transformation from congruent into incongruent expression: *the brake failed* → *brake failure*. The changes between the two expressions are in the grammatical categories: *thing + happening* → *thing* (p. 191). GM is important since it enables writers to pack information into nominal groups and to present causal logical relations within a clause (e.g. *heat causes brake failure*; or *a cause of brake failure is*

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heat) rather than between clauses (e.g. *brakes fail because they get too hot*). This results in lexically dense writing, a distinctive characteristic of academic writing.

2.4.2 Types of Grammatical Metaphor

Following Halliday (1985, 1994, 2014), there are two types of grammatical metaphors: Ideational (metaphors of transitivity), and Interpersonal (metaphors of mood and modality). These types of GMs are complementary in creating academically valued texts.

Ideational GM reconstrues action-oriented experiences of reality as abstract entities as if they have institutional relations (Martin & Rose, 2003, p.109-110), and can be sub-divided into experiential and logical metaphor. Experiential metaphor deals with reconstrual of experience by elements of figures (Martin & Rose, 2003, p. 110), while logical metaphor is concerned with reconstruing logical relations between figures within a figure (ibid, p. 148).

Interpersonal GMs are characterized in terms of metaphors of mood and of modality. Halliday defines interpersonal metaphor as expressing modal and mood meaning outside the clause (Teverniers, 2003, pp. 10-11). Metaphors of mood deal with speech function expression (exchange system, i.e., giving or demanding information, good & services) (Halliday, 1994, p. 363). For instance, the metaphorical interrogative *could you close the door?* functions to express the command *close the door*. Metaphors of modality can be expressed by projecting clauses in hypotactic clause complexes (Halliday, 1994, p. 354). For example, a metaphorical expression of *it probably is so* is *I think it is so* (ibid).

As the nature of ideational GM is the reconstrual of knowledge, this kind of metaphor can be expected to dominate academic writing. Therefore, this study will only scrutinize ideational GM.

2.4.3 Models of Ideational Grammatical Metaphor

As mentioned in the previous section, the focus of this study is ideational GM. This section discusses the models of ideational metaphors as proposed by Hao (2015, cf. Devrim, 2015, pp. 2-5). Hao (2015, p. 65) identifies three types of ideational grammatical metaphor: i) variation in grammatical expression (e.g. Ravelli 1985 / 2003) ii) semantic compound or semantic junction (Halliday and Matthiessen, 1999), and iii) stratal tension (Halliday 1988b, 1998; Martin 1992, 1993c; Halliday & Martin, 1993).

i) Ideational GM as a variation in grammatical expression

Ravelli (1985, p.104;) proposes GM as a variation in expression of a meaning, which is shown in the figure below:

s – semantic choice
c – congruent form
m – metaphorical form
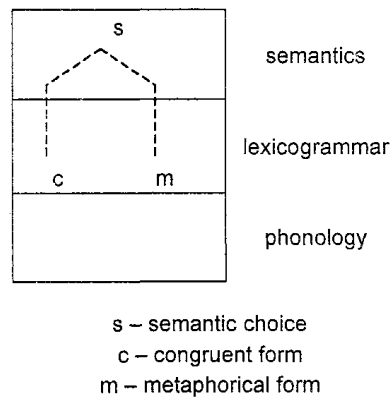
Figure 2.4: Grammatical metaphor interpreted as realisation choice (Ravelli, 1985, p 104)

The figure can be read as, "[...] one choice in the semantics may have two (or more) lexicogrammatical realisations" (1985, p.3) and grammatical metaphor is "an alternative lexico-grammatical realisation of a semantic choice" (1985, p.55). It suggests "that two instances in the lexicogrammar can be seen to be, somehow, semantically equivalent" (Ravelli, 2003, p.41).

ii) Ideational GM as semantic compound or semantic junction

The model is then revised, as Ravelli (1988) argues that there is no such thing as an equal expression for a meaning, since "the grammatical category itself has a feedback effect into the semantics and alternative lexicogrammatical realisations may omit or include different parts of the message" (p. 137). Therefore, she proposes a new model of GM, as "a combination of semantic features". The multiple meaning choices combine together in the semantics, and then the semantic compound gives rise to a metaphorical realization in the lexicogrammar (p. 137).

s – semantic choice
c – congruent form
m – metaphorical form
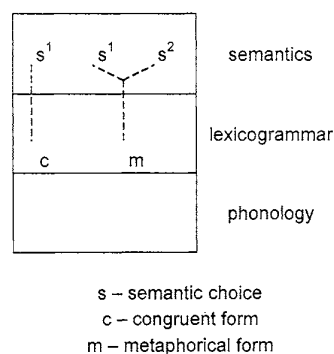
Figure 2.5: Grammatical metaphor interpreted as semantic compound (Ravelli 1985, p 104)

Halliday and Matthiessen (1999, p. 244) further develop the notion of GM as semantic compound into semantic junction. As a semantic model, GM is termed as a semantic junction showing the result of joining semantic categories (Halliday & Matthiessen, 1999). Halliday and Matthiessen (1999, p. 244) suggest that,

It seems to be necessary to identify the types of grammatical metaphor and characterize them explicitly in relation to the semantics as a whole. We therefore

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introduce a general distinction between metaphoric (elements of features) and others. Metaphoric elements, as we said above, are junctional in that they embody a junction of two semantic categories... Junctional elements will always have two categories in their description, e.g. 'process thing', 'circumstantial quality', 'relator process'.

Halliday and Matthiessen (1999) identify GM as resulting from the semantic junction between semantic categories, or intra-stratal tension, rather than a result of inter-stratal tension between discourse semantics and lexicogrammar.

iii) Ideational GM as stratal tension

Apart from semantic junction, Halliday also acknowledges the nature of GM as involving tension between lexicogrammar and discourse semantics strata (also, Halliday & Martin, 1993; Martin 1992, 2008; Taverniers, 2014), as in the following observations:

[...] since the grammar has the power of construing, by the same token (that is, by virtue of being stratified) it can also deconstrue, and reconstrue along different lines. [...] A stratified system has inherent metaphoric power. (Halliday 1998, p.190)

[...] grammatical metaphor [...] is a realignment between a pair of strata: a remapping of the semantics on to the lexicogrammar; [...] there could be no metaphor without stratification, and once the content plane has become stratified, such transformation automatically becomes possible. (Halliday 1998, p.192)

In their approach to describing GM as stratal tension, Halliday and Matthiessen (2014, pp. 712-713) identify the congruent mode of realization of:

- a sequence as a clause nexus
- a figure as a clause.

In metaphorical mode, the realization is remapped 'downwards':

- a sequence is realized by a clause
- a figure is realized by a group
- an element is realized by a word (pp. 712-713).

Furthermore, they argue that ideational metaphor is expansion of the already existing pattern in the congruent mode (p. 713).
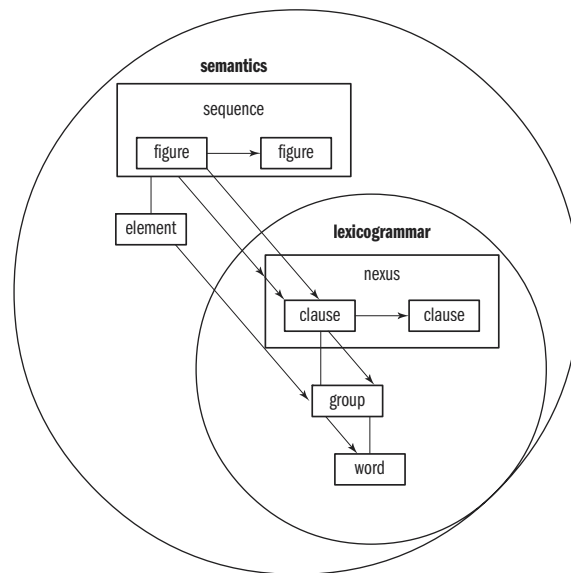
Figure 2.6: congruent mode of realization and metaphorical mode involving 'downgrading' (Halliday and Matthiessen, 2014, p. 719)

Martin (2008, p.803) also emphasizes that the 'realignment' and 'remapping' of the realization relationship between the discourse semantics and lexicogrammar strata is the fundamental basis of meaning potential extension. In the stratal tension model, the meaning-making powerhouse is both strata, since their relationship results in the congruent or incongruent realization (Hao, 2015, p. 71). Martin (2011, p.47), however, conceives of stratal tension differently to Halliday and Matthiessen, and represents stratal tension as shown in Figure 2.5.
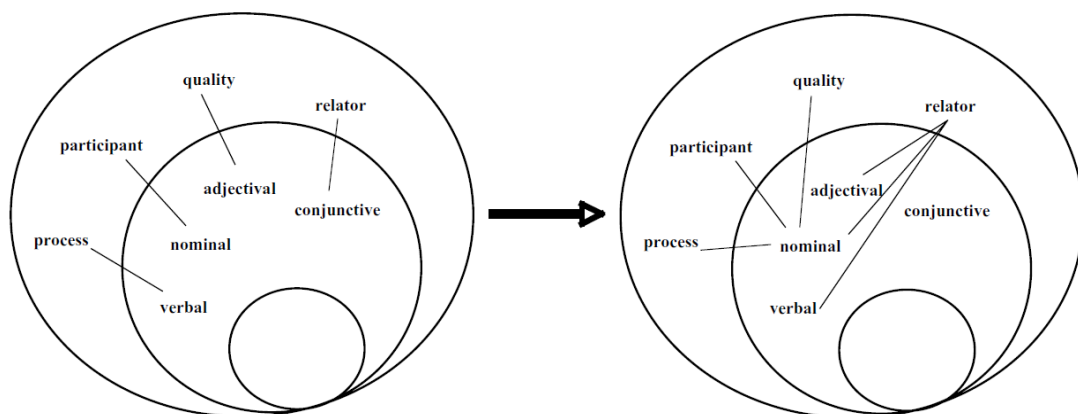
Figure 2.7: Modelling of congruence (left) and grammatical metaphor (right) (Martin, 2011, p. 48)

Hao (2015, p. 72) believes that this model is misleading for its simplification of the grammatical representation, which involves only a sequence of classes. Further Hao explained that Martin and Matruglio (2013) build on this model of GM using discourse semantic labelling (sequence, figure, entity, event, setting) rather than only classes of words. With these labels, the congruent realization of:

- a sequence is a clause complex

- a figure is a clause

- an entity is a participant

- an event is a process

- a setting is a circumstance.

Thus, in Figure 2.6 we can see that entities construed as participants (*wealthy families*, *some families*) are congruent, whereas figures construed as a participant or circumstance are grammatical metaphors (respectively: *the manufacture of garum*, *through the manufacture of garum*). Derewianka (1995) developed a taxonomy of grammatical metaphors where shifts such as event to participant, figure to participant, and many others are classified and exemplified (using different terminology).

discourse semantics	entity	event	[figure]		setting
	Wealthy families	*controlled*	***the manufacture of garum***		*in Pompei*
lexicogrammar	Participant	Process	Participant		Circumstance

discourse semantics	entity	event	quality	[figure]	
	Some families	*became*	*wealthy*	*through **the manufacture of garum***	
lexicogrammar	Participant	Process	Participant	Circumstance	

Figure 2.8: Analysis of grammatical metaphor (Martin & Matruglio, 2013 in Hao 2015, p.72)

As explained above, there are various approaches to GM modelling. In this study, GM is understood from the perspective of the stratal tension model, which forms the basis for the framework of the analysis and the discussion since it accounts for meaning-making in both discourse semantics and lexicogrammar. The specific approach used is a combination of Derewianka's (1995) comprehensive taxonomy of types of GM, combined with Hao's (2015) description of GM and related phenomena in language. These are detailed in Chapter Three, since they constitute the methodology of the present study.

2.4.4. Studies of Grammatical Metaphor in Academic Writing

Halliday views a theory as a means of action (Halliday 1994, xxix), implying that a theory must be purposeful and serving practical application, (Ravelli, 2003, p. 44). As a linguistic notion, grammatical metaphor is believed to be a highly practice driven theory. Martin (1992, p 490) notes that grammatical metaphor is,

> the meta-process behind a text [and that] it is linguistics' most important tool for understanding discourse semantics [...] and for understanding the relationship between texture and context. It is thus the key to understanding text in context - to contextualising the ineffable.

Martin argues that metaphor is central to a theory of language, since the relationship

between metaphor and context allows the understanding of the relationship between language and context. Moreover, grammatical metaphor is believed to be the heart of written language, particularly in the discourses of scientific and academic reasoning (Ravelli, 2003, p. 49).

However, it should be understood that grammatical metaphor alone cannot guarantee a good and academically acceptable written text - other factors are at stake, such as the management of the Theme and Information systems, of interpersonal systems such as appraisal, and also control of lexicogrammatical structures within the clause. Even so, grammatical metaphor is believed to be the key linguistic resource in the creation of academic discourse, since it transforms dynamic, context-dependent texts into static, context-independent (Halliday 1993, p. 111). GM deployment also increases the cohesion of a text (Halliday & Matthiessen, 1999). Liardet (2014, p. 5) considers that GM deployment enhances the value of an academic text, because of the style created by the use of nominalization, and text cohesion. As Halliday and Matthiessen, observe (2014, p. 731),

> What the metaphorical interpretation does is to suggest how an instance in the text may be referred to the system of the language as a whole. It is therefore an important link in the total chain of explanations whereby we relate the text to the system. A text is meaningful because it is an actualization of the potential that constitutes the linguistic system; it is for this reason that the study of discourse ('text linguistics') cannot properly be separated from the study of the grammar that lies behind it.

In relation to this view, the present study uses the deployment of GM in the students' text as instances representing the learners' emerging understanding of how to effectively use the language system of English in the context of academic writing.

2.5 Conclusion

Grammatical metaphor is a powerful linguistic resource, commonly used in academic texts. Thus, it is important to understand the extent to which learners do or do not use GM in their academic writing, and if they do, then how much they have control of it (i.e. how accurately and effectively they use it). If evidence is found that learners are not using GM effectively in their academic writing, it would suggest that an understanding of GM should be integrated into teacher education programs and educational curricula to enable students to write academically valued texts, a skill that is required in their academic life. The development of such advanced literacy cannot be taken for granted, especially in contexts where English is additional language, be it second or foreign language. Thus, a systematic investigation of the use of GM in student writing is warranted. The following chapter outlines the design of the present research into student's use of GM in their writing.

Chapter 3: Methodology

This chapter explains the research design. It describes the approach used in the present study and the procedure of the data collection. The rest of the chapter defines the framework of analysis according to the distinct forms of grammatical metaphor deployed by the Indonesian EFL learners in this study.

3.1 Introduction

This study is an introductory examination of the deployment and development of GM in academic writing by Indonesian university English as foreign language (EFL) students. As discussed in Chapters One and Two, GM has been a key analytical tool in Systemic Functional Linguistics (SFL) research investigating language development. Following studies on the development of GM in university students' academic literacy, this study employs an analytical framework based on SFL.

3.2 Research Design

To obtain multi-level data in a limited time, a cross-sectional approach to the data collection was employed. Cook (1993, p. 34) defines cross-sectional studies (also known as pseudo-longitudinal) as establishing learners' development by comparing successive states of different groups at different levels of learning observed at the same time. This approach has been widely used in measuring learners' language development in various language-related fields, including in the SFL tradition (e.g. Liardet, 2013, 2014). In cross-sectional studies, the researcher collects the data at the same time from different groups of learners at different levels, rather than following one group of learners for a period of time. The learners' development is then determined by comparing the features of language in investigation. This study obtained data from a group of first-year and third-year Indonesian EFL learners in the same university, and compared the deployment of GM in each group. These two years were chosen to contrast their ability at the beginning of the study and just after the mid-point of their study, giving enough time for language development to occur. Using students' writing as the data, this study is a corpus-based research project, in which a relatively small corpus of students' writing was used.

3.2.1 Context

The data was collected from university students in Indonesia. To minimize performance variables, all participants were English majors studying in the same English Education department in the same university, in East Java. The university students participating in this

study were taken randomly from the first year and the third year in the following units: Writing 1 (year 1), and Second Language Acquisition (year 3).

The study was conducted in a state Islamic college in a small town in East Java. The English Education department was established in 1999, and now has 150-200 students in each academic year. Most students come from middle to lower socio-economic backgrounds, live in surrounding towns, and came to university after completing their secondary education in Islamic schools (see following section).

The curriculum of the department follows the Indonesian national qualification framework adapted to the local context. From 160 credits to be taken during the undergraduate degree, 30 credits are devoted for Islamic studies, 14 credits for civics and educational-related credits, 14 for research-related subjects, 8 for community service, 2 for an information technology subject, and 102 for English-related subjects. In the first year of study, the students are enrolled in an English intensive course consisting of an integrated skills unit, some Islamic units, and civic-related units. In the second year, the units offer a focus on discreet English macro-skills (which will be staged during their next four semesters, e.g. Writing 1, 2, 3, and Scientific Writing), and some Islamic studies units. The content units (e.g. English Morphology, English Syntax, SLA, Sociolinguistics, etc.) start to be available in the second year, while research-related units are offered from semester four in the second year.

The limited number of credits devoted to English-related units as compared to similar departments in state universities requires the department to design and execute the teaching-learning process effectively to yield graduates that meet Indonesia's national qualification framework.

3.2.2. Participants

The participants of this research are two groups of Indonesian EFL learners in the department. The participants were enrolled in Writing 1 (25 first-year students, group 1) and Second Language Acquisition (23 third-year students, group 2). Thus, there was a total of 48 students participating in this study. The mother tongue of all participants is Javanese. However, 21.7% (5 persons) and 16% (4 persons) of groups 2 and 1, respectively, also have Bahasa Indonesia as their first language. Bahasa Indonesia is mastered by all the students since it is the national language used in formal institutions, including educational institutions. Since English is a foreign language, but taught nationally, the role of English for both groups are similar, i.e. to be used for educational purposes. They have learnt English for about 6 – 15 years, mostly in schools. Only 8% of the participants (two persons from group 1) use English with their family.

Along with English, Arabic is the other foreign language practiced by the students, both for religious and educational purposes. The other language learnt by 2 of the participants is Japanese. The students mostly come from surrounding towns, with an age range of 18 – 23. Most of the participants are female, with only 4 males out of the total 48 participants.

3.2.3. Ethics Procedures

Before conducting the data collection, ethics approval was granted by the Macquarie University Ethics Committee on 13 April 2016, with reference number 5201600173. The data collection was carried out according to the procedures approved by the ethics committee. Every student provided informed consent.

3.2.4. Data Collection

The data collected for this study involved an elicited production writing sample. The students were asked to write a 300-word essay in response to the same prompt. The prompt focuses on an issue of current interest in Indonesia, providing a field familiar for the students. The prompt is presented as follows:

> Indonesia is well known as one of "the lungs of the world" for its expansive rainforests. The world depends on rainforests for providing healthy air for human consumption. However, deforestation occurs yearly in Indonesia, impacting not only the plants and animals living in the forest but also humans who inhale the smoke produced from the deliberate burning. The timber is being sold and the land is being cleared for mining operations and to provide for large-scale cattle grazing. Environmentally, it is estimated that Indonesia is losing 137 plant, animal and insect species every day due to the deforestation of rainforests. That means Indonesia is losing over 50,000 species every year. Many argue that these environmental impacts are a necessary price of economic and social development as Indonesia becomes more active in the global community.
> Please write a short essay (300 - 500 words) arguing for or against the increased practice of deforestation in relation to necessary economic and social development.

The data collection was conducted in the Writing 1 and Second Language Acquisition classrooms by a colleague in cooperation with the classroom teachers. The data was then scanned by the colleague and sent to the researcher via email, and the hardcopy of the data was sent by post mail. Upon receiving the email, the data was immediately transcribed with word processing software. The identification of the data was established by coding each participant according to the unit they were enrolled in, a three-digit number taken from their student ID, and the final two digits of the year they came to the university: for instance, SLA09313 means, this student is enrolled in SLA unit, their student number is 093 (from 932209313 – the last three digits before 13), and they were enrolled in the university from 2013. This unique number

was used as identification in every occasion of data usage. Full student numbers were not used, names and numbers are separated, and the new numbers and names are not stored together.

3.3 Analytical Framework

As mentioned in Chapter Two, Section 2.5.2, the framework used in this study is grammatical metaphor modelled as stratal tension. To identify the deployment and development of GM, the instances of GM will be examined according to their frequency, variation, and *metaphorical control*. Liardet (2014, p. 311) defines metaphorical control as "the degree of completeness and control over the reconstrual". This tool offers an analysis of intermediacy in the students' development of control of metaphorical reconstrual. The results show instances of intermediacy in order to better understand developmental processes.

The first stage of analysis was a manual, clausal examination of the corpora. This stage identified and compiled ideational GM occurrences, separating the subtypes of experiential and logical GM, and also 'dead' from 'live' metaphor (see discussion below). The second stage involved calculating the frequency of GM instances by identifying how often GMs were deployed. Variation frequencies identify how frequently the different types of reconstrual patterns (e.g. Process as Thing, process as Quality of Thing, etc.) are deployed per level of year. The third stage was the qualitative analysis of the GM instances, which focuses on various degrees of *metaphorical control* to determine the learners' development.

3.3.1. Identifying Ideational Grammatical Metaphor: Experiential and Logical Metaphor

To identify instances of ideational GM, Derewianka's (1995, p.90-95) taxonomy was slightly adapted and applied together with aspects of Hao's (2015, p.73) criteria for identification of GM. Two devices of the identification, transcategorisation and rankshifting, are illustrated below:

[a] congruent: Zaphod was delighted so Trillian celebrated.

[b] metaphorical: grammatical metaphor involving transcategorisation:
Zaphod's delight resulted in Trillian's celebration

[c] metaphorical: grammatical metaphor involving rankshift:
Zaphod's delight resulted in [[Trillian celebrating the day]]. (adapted from Martin, 1992, p. 17)

In this example, the following transcategorisations take place:

[a] the figure *Zaphod was delighted* into [b] the participant *Zaphod's delight*, transforming [a] the Process *delighted* into [b] Thing *delight*

[a] the figure *Trillian celebrated* into [b] the participant *Trillian's celebration*, transforming [a] the Process *celebrated* into [b] Thing *celebration*.

Both *delight* and *celebration* represent real life experience transcategorised into abstraction. They are examples of experiential GM. Logical GM is also shown in the example above. The logical relationship is congruently realized by a conjunction in the clause complex in [a]: the conjunction is *so*, which is transcategorised into the Process *resulted in*. Logical GM is discussed at the end of this section.

GM by transcategorisation occurs when a shift in semantic meaning is reflected at the lexicogrammar level by a shift in word class. However, not all instances of transcategorisation are metaphorical. Hao (2015) gives an example of transcategorisation that does not involve metaphor:

[d]. congruent: the runner [Participant/noun] wins the game.

[e]. congruent: we will run [Process/verb] for thirty minutes.

While *runner* is a form of transcategorisation from *run*, it is not a grammatical metaphor since it is an entity that does not represent any abstraction of Process *run*. In other words, the entity in the discourse semantics and the participant/nominal group in the lexicogrammar have a congruent relationship.

Hao (2015, p. 75) elucidates that transcategorisation, derivation and GM are strongly associated, yet represent different linguistic phenomena. She illustrated the features of each phenomenon, as shown in Table 3.1 (Hao, 2015, p. 75).

linguistic phenomenon	features
derivation	1) change of word class, reflected in morphology; 2) indicator of transcategorisation (e.g. verb *transform* -> noun *transformation;* verb *run* -> noun *runner;* verb *sleep* -> adj. *sleepy*)
transcategorisation	1) change of word class; 2) may or may not involve derivation (e.g. *transform -> transformation; run -> runner*), but not always (e.g. *an excellent cook -> I cook*); 3) may indicate grammatical metaphor (e.g. *transform -> transformation*), but not always (e.g. *run -> runner*);
grammatical metaphor	1) stratal tension between discourse semantics and lexicogrammar (e.g. an discourse semantic event *transform* is mapped onto a Participant in grammar *transformation*); 2) involves transcategorisation, which may or may not involve derivation.

Figure 3.1: derivation, transcategorisation, and grammatical metaphor

The second identifier for instances of GM is rankshifting, particularly the shift of meaning from clause rank to nominal group rank. It can be explained from the example above:

[a] congruent: Zaphod was delighted so Trillian celebrated.

[c] metaphorical: grammatical metaphor involving rankshift:
Zaphod's delight resulted in [[Trillian celebrating the day]]. (adapted from Martin, 1992, p. 17)

In this example, the clause *Trillian celebrated* is rankshifted. While both semantic figures are realized by clauses, the rankshifting has made the embedded clause *[[Trillian celebrating the day]]* a Participant in the ranking clause. In other words, it has been remapped from being a clause figure into a Participant at group rank (Hao, 2015, p. 77). However, just as not all transcategorisation is GM, neither is all rankshifting GM. Consider clauses embedded as Qualifiers in nominal groups, e.g. *the hacker has breached the system [[that has been funded millions of dollars]]* or factive relative clauses, e.g. *The system [[that has been funded millions of dollars]] cannot be compromised*. In these examples, the embedded clauses are not GMs since they do not remap the figure into a Participant at the nominal group rank - the figure remains a figure. Therefore, no stratal tension occurs here.

Logical GM turns the logical relationship typically realized by a Connector (archetypically a conjunction) in a clause complex into a Process or Thing, thus construing the logical relationship *within* a clause instead of as a relation *between* clauses. The analytical framework to identify logical metaphor is illustrated as follows in Table 3.2:

Table 3.1. Reconstrual of Logical grammatical metaphor (Fawcett, 2009)

Example	Relationship	Congruent
I was so ill so I had to turn my paper in late.	Paratactic (between two independent clauses)	
Because I was ill, I had to turn my paper in late.	Hypotactic (between dependent and independent clauses)	
Because of my illness I had to turn my paper in late.	Circumstantiation (within the clause)	
My illness led to the late submission of my paper.	Logical process (within the nucleus of the clause)	
The cause of my late submission was my illness.	Clausal Participant (fully absorbed into the clause as a participant)	Incongruent

The next section expands the GM identification by presenting Derewinka's taxonomy of alive and dead metaphors, incorporated with Hao's approach to identification of GM.

3.3.2. Taxonomy of ideational Grammatical Metaphor

In the process of the evolution of the English language, some metaphorical reconstruals of meaning have become conventionalized to the point where they have arguably lost their stratal tension, leading to the notion of 'dead' metaphor (Halliday, 1998, p.222; Martin, 2008). Derewianka (1995, p.90-95) developed a taxonomy to identify live and dead grammatical metaphors based on works on GM by Halliday (1985), Ravelli (1985), Martin (1992) and Matthiessen (1992). The relevant parts of her taxonomy are set out below in an overarching frame informed by Hao (2015, p.73). Logical metaphors are marked in grey background in the tables; experiential metaphors with plain background. All dead metaphors in the data for this study were experiential.

GM identification: live metaphor
1. Rankshifting
2. Transcategorisation
   a. Shift to Thing

Table 3.2: Shift to Thing

No.	semantic shift	word class shift	example
1.	Quality>quality : Thing	Adjective > noun	unstable > instability
2.	Process > process: Thing "doing" process > doing process: thing	Verb > noun Verb > noun	transform > transformation
	"sensing" process > "sensing" process: thing	Verb > noun	imagine > imagining
	"saying" process > "saying" process: thing	Verb > noun	declare > declaration
	"relating" process > "relating" process: thing	Verb > noun	has > ownership
3.	Phase of process > phase of process: thing	tense > noun	going to > prospect
4.	Conation > conation: thing	phase > noun	try to > attempt
5.	Modality of process > modality of process: thing	Modal > noun	can > possibility; may/must > permission/ necessity
6.	Circumstance > circumstance: thing Minor process > minor process: thing	Adverbial group/prep. Phrase > noun Preposition > noun	'how quickly?' > rate [of growth] with > accompaniment
7.	Process + circumstance >	Verb + adverb / prep.	move in circle >

	process + circumstance: thing	Phrase > noun	revolution
8.	Relator > relator: thing	Conjunction > noun	so > cause, proof

b. Shift to Quality

Table 3.3: Shift to Quality

No.	semantic shift	word class shift	example
1.	thing > thing: class (of things)	noun head > noun premodifier	engine [fails] > engine [failure]
2.	thing > thing: circumstantial quality	noun head > prep. phrase postmodifier	glass [fractures] > [the fracture] of glass
3.	thing > thing: possessor (of thing)	noun head > possessive determiner	government [decided] > government's [decision]
4.	process > process: quality	verb > adjective	[poverty] is increasing > increasing [poverty]
5.	phase of process > phase of process: quality	tense/phase verb (adverb) > adjective	begin > initial
6.	modality/modulation of process > modality of process: quality	modal verb/adverb > adjective	will, always > constant; may, must > permissible, necessary
7.	circumstance > circumstance: quality/class	prepositional phrase/adverb > noun premodifier	[acted] brilliantly > brilliant [acting]; [argued] for a long time > lengthy [argument]; [cracks] on the surface > surface [cracks]
8.	relator > relator: quality	conjunction > adjective	before > previous

c. Shift to Process

Table 3.4: Shift to Process

No.	semantic shift	word class shift	example
1.	circumstance > circumstance: process	be/go + preposition > verb	be about > concern; be instead of > replace; comes after > follows
2.	relator > relator: circumstance	conjunction > verb	and > complement; then > follow; so > lead to;

			by > enable; because > cause; while > overlaps; whereas > contrasts with; like > resembles, etc.
3.	process type A > process type B	verb A > verb B	On the fifth day they **arrived** at the summit > The fifth day **saw** them at the summit
4.	conation > conation: signifying process	phase verb > verb	are able to; can > know how to

d. Shift to Circumstance

Table 3.5: Shift to Circumstance

No.	semantic shift	word class shift	example
1.	Relator > relator: circumstance	Conjunction > prepositional phrase	So > as a result; Because she didn't apply herself > through her lack of application

GM identification: Dead (Derewianka, 1995, p. 119 and Hao, 2015, p.80-81)

1. Figures that have turned into entity and cannot be unpacked into a congruent form. This is especially the case with transcategorisation into Thing, e.g.:

   [f] congruent: The new government does not have popular support.

   [g] metaphorical: The last year of their government was completely disastrous. (taken from Hao, 2015, p. 76)

   The word *government* in [f] has lost its metaphorical meaning since, in the evolution of the language, it has also turned into an entity representing a body of organization, and that is its meaning here. So it is an entity represented grammatically by a Thing. In contrast, *government* can metaphorically realise an event - an act of governing - which is in fact represented by *government* in [g], making it in this instance a grammatical metaphor.

2. Process+range, e.g. dine – have dinner, bathe – take a bath

3. Process+medium, e.g. hug – give a hug, support – lend some support

Derewianka's taxonomy was slightly adapted to identify ideational grammatical metaphors in the learners' texts, and to categorize them as experimental or logical, and as live or dead, in order to document the frequency of and variation between categories in the data. The frequencies and variations were used along with another measurement called metaphorical control analysis.

3.4 Data Analysis

This section discusses the steps in data analysis conducted to answer the research questions, including any measurement taken to solve problems during the analysis.

The first step in data analysis was ensuring the originality of the texts. Since the study aims to investigate students' development, the originality of the data is crucial. To ensure originality, during the data collection process, the collector actively checked any possibilities of cheating by collecting students' mobiles and laptops to avoid internet connection, and preventing any discussion among students during the essay writing. In the analysis, the originality of texts was checked by internet search when any suspicious clauses were identified. It was found that one text was taken from an internet source. This text was excluded from the analysis.

Based on SFL, manual clause division analysis was conducted as the first step in data analysis. Once the clause divisions were established, the grammatical metaphor identification was conducted. To distinguish one instance of GM from another, coloring coding was utilized; the following table is an example:

Table 3.6. data analysis

No.	Clause	Comments
1.	because it is not only for Indonesia, but also for the countries around Indonesia, such as Thailand, Malaysia, etc.	
2.	For the farming sector, it makes huge loses,	TC pro to thing; causality TC relator to pro; TC pro to thing
3.	the farmer gets less money, also for the forest sector and transportation.	TC pro to thing
4.	All of them get many impacts from deforestation.	TC relator to thing
5.	Its make many people afraid because of effect in sirculation air.	TC pro to thing

The color code differs types of GM; orange for GM taken from the prompt, blue for experiential GM, green for logical GM. Any error occurrence was mark by *italics* for misspelling and underlining for wrong form. The right column gives the kinds of reconstrual, such as 'TC pro to thing' meaning transcategorisation from Process to Thing.

In doing the analysis, measurements to tackle problems were established. For instance, there were some ambiguous instances of logical metaphor, such as follows:

[h] because it sometimes brings the impacts in environments and society's life. (SLA11913)
[i] it can make the bad effect in the world. (SLA14113)
[j] For this situations exactly make the influence of economic. (SLA08613)

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[k] and by deforestation will be bring the bad impacts and disadvantages. (SLA11913)
[l] in my opinion, deforestation is very bring the negative effect. (SLA13113)

The question for such problems is whether the causal relationship is of one or two instances? To reveal the relationship, the number of participants in each clause was counted and analysed for their relationship. In the three first clauses it was found that there are at least three participants in each clause (regardless of whether the third participant in each clause was part of the prepositional phrase), i.e. *it*, *impacts*, and *environment* in the first clause*; it*, *effect* and *world* in the second clause, and *this situation*, *influence* and *economic* in the third clause. The relationship of these participants is serial, or can be described as, A→B→C, read as A caused B caused C. Therefore, the causal relationship is two in number in each clause. In the fourth clause, there are three participants, *deforestation*, *impact*, and *disadvantage*, but the relationship is parallel, which means one cause with two results. Therefore, this is one causal relationship. In the last clause, it is clear that the causal relationship is single since there are only two participants.

The analysis occasionally referred to the students' first language to find out any possible translation issue that might affect the word choice or word order. For instance,

[m] Its make many people afraid because of effect in *sirculation* air.

To decide whether *sirculation* (*circulation*) was categorized into transcategorisation from Process to Thing or from Process to Thing to Quality, recalling the first language knowledge was needed. The error in misspelling as well as in the word order was due to the student's first language. The word *circulation* exists in the first language with different spelling, and the nominal group that places the noun head before the qualifier is typical in the student's first language.

Passive construction also often raised problems in the identification process, such as the following:

[n] and also Indonesia is located between two continent and two ocean. (WR118715)
[o] that Indonesia is flanked by them. (WR118715)

In the first sentence, "*located*" was identified as Quality in a relational clause, since it did not make sense to say "*Indonesia is located by someone between two continent and two ocean*". In the second sentence, the preposition by after "*flanked*" made it easier to turn it into the active voice, "*they flank Indonesia*", thus *flanked* was not identified as a GM.

Identifying ideational metaphor was sometimes also complicated by incorrect form elements deployed in students' writing, such as:

[p] Some argue from [[some people say || if we must to explore || and invasion our forest]] (SLA09615)

[q] Indonesia can be dryness because of deforestation. (WR104815)

[r] Because the forest can be balance of the world. (WR104815)

At first sight, *invasion*, *dryness* and *balance* could mislead the analyst. Therefore, identifying the function of each element in a clause is essential in GM identification. In the first clause, *invasion* is coordinated with *must to explore [sic]*, thus it should be in its post-auxillary infinitive form too, i.e. *^MUST invade*. Therefore, invasion in this clause is not a GM since it is a wrong-form word error. In the second clause, instead of using the adjective to express the Quality *dry*, the writer incorrectly used a noun, conventionally representing a Thing, *dryness*. Therefore, *dryness* is not a GM for the same reason. However, in the last clause, *balance* can be Process and Thing. It follows the verb *be*, an error in clause grammar that makes the function of *balance* in this clause ambiguous. However, the preposition phrase *of the world* after *balance*, is a postmodifier of *balance*. Thus, *balance* is a GM, since it has turned a Process into a Thing that can be classified and characterized.

There was also an instance in which decisions on GM identification were inconclusive:

[s] After that the forest became destroy like landslide, burning and many destroy again. (WR105015)

[t] Not only that but also the forest became destroy and clean. (WR105015)

The word *destroy* was used three times in three different ways in this text. While these look like potential GMs in these instances, it is not really possible to determine clearly whether these instances are errors of passive voice, or Process to Quality, or potentially something different. Therefore, they are not counted as GMs.

After the clausal and identification analysis was completed, the frequency and variation analysis was conducted by counting the instances of each type and category of GM. The detailed analysis was further performed to find out any pattern in each category. This resulted in, for instance:

Type of GM → Category of type of GM → Pattern of category of type of GM

Experiential GM → TC Pro > Thing → morphological reconstrual

The result of this analysis was the detailed description of the grammatical deployment of the participants. To describe the *development* of GM deployment ability, the results of the analysis of the students from the first year were compared to the results of their counterparts in the third year. To complement the examination and description of the process of development, metaphorical control analysis was conducted. This analysis observed any intermediacy occurring in the students' texts. The intermediacy could be in the form of an error, such as

misspelling or word order, as exemplified above. Such instances represent a lack of control of GM.

In addition, the identification of intermediacy included any instances where the function of GM to package information was performed by a congruent realization. The following are examples of this kind of instance:

[u] from this phenomenon just bring Indonesia to the brink of huge losses, such as the weakened economic Indonesia, (SLA13113)

[v] This problem is very crucial for every part of this world. (SLA09313)

The nominal groups, *this phenomena* and *this problem*, play an important role in text cohesion: they act as references to an earlier part of the text. The fact that the reference is not only represented by demonstrative pronoun "this" but also by the lexical "phenomenon" and "problem" means that instances such as these are playing a role in the clause similar to the one that a GM often does, i.e. packing dense information into a nominal group. Therefore, this kind of instance was considered as a developmental stage in GM development, and an example of intermediacy.

3.5 Conclusion

Data were collected from two groups of Indonesian EFL learners. Each group represents learners at a different stage of development in their ability to write academic English, in the cross-sectional, pseudo-longitudinal design of this study. Both groups wrote responses to the same prompt, and the texts were analysed for instances of GM, employing a framework of analysis based on Derewianka's (1995) and Hao's (2015) studies of GM. The detailed findings of the study, and how these findings answer the research questions, are elaborated in the next chapter.

Chapter 4: Research Findings and Discussion

4.1. Introduction

This chapter presents the findings of the study. A total of 47 texts from the two student groups (first- and third-year) were examined for ideational grammatical metaphor instances. To answer the first question of the study, the instances of ideational grammatical metaphor were classified to identify the way the students deployed grammatical metaphor in their texts. These instances were further analysed for grammatical control to show any intermediacy in the deployment of grammatical metaphor. The result of the analysis was then compared between the first-year group and the third-year group to reveal developmental patterns.

The total number of texts analysed was 47, comprising 10214 words (1st year group = 5001 words or 49% of the total; 3rd year group = 5213 words or 51%). The proportion of the ideational GM deployment can be seen in Table 4.1.

Table 4.1. Total ideational grammatical metaphor deployment

No.	Types of Ideational Metaphor	Status	Frequency	Total frequency	Percentage	
1	Experiential Metaphor	live	183	296	45%	73%
		dead	113		28%	
2	Logical Metaphor	live	108	108	27%	27%
		dead	0		0	
Total			405		100%	

The table shows experiential GM with 73% or 296 instances as the largest category in the students' writing. This proportion comprises 45% of the absolute total or 183 live GM, and 28% of the absolute total or 113 dead GM. Logical GM account for 27% of the absolute total or 108 instances of live GM, without any dead metaphor. The elaboration of the findings is organized based on the type of ideational GM and the level of the student groups. The first explanation is of the experiential GM deployment of both groups, followed by an explanation of the logical GM deployment.

4.2. Deployment of experiential GM

As shown above, experiential GM in both groups accounts for more than twice as many instances as logical GM. Table 4.2 shows the proportion of experiential GM in each group of students.

Table 4.2. Total Experiential Grammatical Metaphor

Year	Grammatical Metaphor	Status	Frequency	Total frequency	Percentage	
1	Experiential Metaphor	live	72	109	24%	37%
		dead	37		12%	
3	Experiential Metaphor	live	111	187	38%	63%
		dead	76		26%	
Total			296		100%	

The table shows that the third year students deploy far more instances of experiential GM compared to their first year counterparts. From a total of 296 total instances, 187 or 63% were deployed by the third year students, and 109 instances or 37% by the first year students. These totals show the higher frequency of use of experiential metaphor by the third year group, especially considering the fact that the total words written by the two groups was almost equal (see section 4.1 above). The following sections elaborates in more detail the experiential GM deployment in the first and third year and compares the frequency, variation and intermediacy between these groups.

4.2.1 First year experiential GM deployment

The total texts analysed from first year students was 25, with total words 5001 and average words per texts 200. A detailed description of all texts and all types of GM is provided in Appendix A. Table 4.3 provides an overview of all ideational grammatical metaphor deployment in the first year students' writing. There was an average of 5.9 instances of ideational GM per text. There were two texts with nil instances of GM; meaning that they had neither experiential nor logical GM occurrences. However, these two texts did deploy GM taken from the prompt. This section elaborates the category of experiential GM (shaded in the table).

Table 4.3. The proportion of ideational grammatical metaphor in the first year students' writing

No.	Types of Ideational Grammatical Metaphor	Status	Frequency	Total frequency	Percentage	
1	Experiential Metaphor	live	72	109	50%	75%
		dead	37		25%	
2	Logical Metaphor	live	36	36	25%	25%
		dead	0		0	
Total			148		100%	

The table shows that, from the total 148 instances, experiential metaphor accounts for 75% or 109 instances (comprising 50% or 72 instances of live metaphor and 25% or 37

instances of dead experiential metaphor). Four texts were found without experiential GM. There was an average of 4.4 instances per text of experiential GM in the first year group.

The experiential GMs were further analysed by category of reconstrual, as elucidated in the following paragraphs. Table 4.4 shows the categories of GM across the first year students' texts with frequencies.

Table 4.4. Kinds of reconstrual of experiential GM in the first year students' texts

No.	GM Instances	Status	Freq.	Total Frequency	%	
1	Transcategorisation from Process to Thing	Live	47	82	43.1%	75.2%
		Dead	35		32.1%	
2	Transcategorisation from Quality to Thing	Live	10	12	9.2%	11.0%
		Dead	2		1.8%	
3	Transcategorisation from Process to Quality	Live	6	6	5.5%	5.5%
4	Transcategorisation from Thing to Quality	Live	6	6	5.5%	5.5%
5	Transcategorisation from Preposition to Process	Live	2	2	1.8%	1.8%
6	Transcategorisation from Thing to Process	Live	1	1	0.9%	0.9%
Total			109		100%	

Table 4.4 shows that the largest proportion of experiential GMs come in the category of transcategorisation from Process to Thing (75.2% or 82 instances), including live (43.1% or 47 instances) and dead (32.1% or 35 instances) metaphors. The second largest category is transcategorisation from Quality to Thing (11% or 12 instances) including live (9.2% or 10 instances) and dead (1.8% or 2 instances) GMs. These two categories made up over 86% of the total instances of experiential metaphor in the first year group. The remaining categories did not have any instances of dead GM. Detailed elaboration of each category is presented in the remainder of this section.

1) Transcategorisation: Process to Thing

The category of Process to Thing, as the largest category of instances in the first year students' texts, can be further examined based on five patterns of reconstrual elucidated as follows:

1. Morphological reconstrual by typical suffix addition –ion, for instance: *infiltration* and *respiration*,
2. Phenomenon reconstrual, for instance: *modernization* and *biodiversity*,
3. Present participle reconstrual, for instance: *thinking*, and *keeping*,
4. Homonym reconstrual, for instance: and *decrease*,

5. Irregular reconstrual for instance: *choice* and *advice*.

The first pattern is the 'typical' pattern in nominalization reconstrual, i.e., by adding the nominal suffix –ion to the process. The following are examples:

so it is not water infritation.(WR119615)

So, our respiration wouldn't get fresh air. (Wr117715)

To show the remapping of the discourse semantics onto the lexical grammar, the clauses were turned into a congruent form;

the water cannot *infiltrate* the land, and

we would not *respire* fresh air.

In the first clause, the Process *infiltrate* was reconstrued into the Thing *infiltration* (misspelled *infritation)* opening possibilities for the nominal form to be expanded, evaluated or commented on. In this case, *infritation* as a noun has been classified by *water* making it denser in meaning. While *water infiltration* can be understood as an abstraction of a process, the congruent form *water infiltrates* needs more elements to make it make sense.

In the second example, the Process *respire* has turned into the Thing *respiration*. *Respiration* was then pre-modified by the determiner *our* to form a nominal group showing an ownership relation and functioning as a clause participant. As a participant, *our respiration* was enabled to function as an actor, entering into a set of relations with other elements in the clause which would not have been possible if it had been construed congruently. The misspelling of *infiltration* as *infritation* shows the student's lack of control over the reconstrual. However, the student's ability to pack and characterize the abstraction (*water infiltration*) shows their developing ability to use the meaning potential of the nominal group in an English clause.

The second pattern in the category Process to Thing is nominalization of phenomena. Examples include:

because all of thing became modernitation of technology and other. (WR103615)

Moreover, Indonesia can lost its biodiversity. (Wr101115)

Congruent realizations of these clauses are problematic to provide due to errors in the original texts, but possibilities include:

Technology and other have been modernized in all areas of life,

Indonesia can lose its *biology which is diverse.*

In the first clause, the word *modernization* has packed the phenomenon *technology and other have been modernized* into a nominal group, allowing it to be classified and characterized, making it even more lexically dense. The preposition group *of technology and other* functions as a post-modifier. The misspelled *modernitation* might be traced back to the lack of

knowledge of the relationship between sound and graphology of the word. The second reconstrual of *biodiversity* to mean *the biology is diverse* has pressed the clausal meaning into a Thing pre-modified by the determiner *its* to show possession.

The third pattern in the Process to Thing category is reconstrual to present participle. Examples include:

They are can't had clear thinking (WR108215)

How important keeping forest (WR119315)

Congruent agnates of these clauses can be:

they cannot *think* clearly,

we must *keep* our forest because it is important to do so.

In the first clause, the reconstrual of *think* was by turning it into its present participle *thinking*. In the example above, *thinking* is classified with *clear*. Thus, while, the word order of the incongruent realization is similar to its congruent counterpart, the experiential GM opens potential for *thinking* to be classified and characterized. In the second example, it is assumed that the writer omitted the relational process in the clause by error. This is common in the writing of Indonesian EFL learners, since in their first language, relational processes are not a compulsory element for inclusion in a clause. The reconstrual from *keep* to *keeping*, opens the potential of packing complex meaning into a dense nominal group, and to become the Carrier of the Attribute *how important*.

The fourth pattern in the Process to Thing category is homonym reconstrual.

The bad impact is like *increase* of air pollution, *decrease* of animal and plant species (WR112015)

The *advantages* from forest in Indonesia not only for plant, animal and insect but also for us.
(WR107215)

In the clauses above, the congruent and the incongruent word forms involve no change, i.e., *increase*, *decrease* and *advantage*. The congruent realizations could be:

The bad impacts of deforestation *increases* air pollution and *decreases* animal and plant species,

Indonesian forest *advantages* plant, animal, insect, and also human.

The reconstrual into GMs in the first example, turns a clause complex into a clause. In the second example, the Process *advantage* was turned into the Thing *advantages* allowing it to be pluralized and characterized by pre- and post-modifiers, i.e., determiner *the* and prepositional group *from forest in Indonesia*. Thus, a teacher could work with this learner to further develop this nominal group and even consider using it to structure (a part of) the text: for example, *the economic advantages from forests in Indonesia* ... , *the social advantages from forests in Indonesia* ... , *the environmental advantages from forests in Indonesia* ... , a possibility opened up by the learner's developing ability to use experiential GM.

The last pattern in the Process to Thing category is irregular reconstrual shown as follows:

> but there is another *choise*.(WR112015)
>
> we must give an *advice* (WR107215)

The reconstrual of the Processes *choose* and *advise* into their abstractions *choice* and *advice* did not follow typical morphological addition as in pattern one; they are irregular. Congruent realizations of these clauses could be:

> but we should *choose* another way,
>
> we must *advise* them.

The reconstrual of *choose* and *advise* into *choice* and *advice* has turned these Processes into abstractions. However, in these clauses, the writers did not modify the GMs. Also, in remapping the Processes into Things, the writers showed a lack of metaphorical control by writing *choise* instead of *choice*, and *an advice* instead of *advice* respectively.

Thus, the data in the first category - Process to Thing - shows five patterns of reconstrual as listed and exemplified above.

All experiential GM instances in the first year group's texts that fall into the Process to Thing category represent one of these five patterns. However, the patterns differ in terms of their frequency. The typical nominalization with suffix –ion occurs more frequently than the other patterns, followed by homonym, phenomenon, present participle and the least frequently used is irregular reconstrual.

In general, students' use of experiential GM in this category involves many errors in grammatical formation and spelling. As first year students, they appear to be in a phase of developing control over various aspects of English lexicogrammar. The lack of metaphorical control of the students in this category involves: i) misspelling, such as *infritation, modernitation,* and *choise* which might due to their lack of familiarity with the words, so they rely on the sound of the words, ii) wrong word form, for example *argue* or *arguing* for *argument*, iii) co-text (words surrounding the GM) intermediacy, such as *very reduction*. These findings are discussed in more depth at the end of section 4.1.2 in relation to the findings of the third year group.

2) Transcategorisation: Quality to Thing

The next category in experiential grammatical metaphor is transcategorisation from Quality to Thing. Table 4.4 above shows that there are 12 instances (11%) in this category across the first year students' texts. There are three patterns found in this category:

1. Morphological reconstrual by typical suffix addition, such as *directness*, and *extinction*,

2. Concept reconstrual, the only instance is *self-awareness*,

3. Homonym reconstrual, only one occurrence, *endemic*.

The first pattern is typical transformation from Quality to Thing by addition of a suffix such as *–ness* in *directness*, *-ion* in *extinction*, *-ance* in *importance*, *-y* in *healthy*, and *–ity* in *activity*. Examples of this pattern include:

> so we have to keep our forest for life directness. (WR118215)
>
> It is can be cause extinction animals. (WR119615)
>
> Besides, people in Indonesia should know the important of forest. (WR101115)

In the examples above, the reconstruals of Quality to Thing are *direct* to *directness*, *extinct* to *extinction*, *important* to *importance (*realized erroneously as *important)*. These clauses could be construed in congruent form as:

> we have to keep our forest for *direct* life (sustainable life),
>
> it can lead to *extinct* animals, and
>
> forests are *important* and Indonesian people should know that.

In the first clause, the writer seems to transfer lexically from their first language, where, *directness* may literally mean *sustainability*. This might due to the writer's inability to recall the vocabulary, or to the vocabulary not existing in their language repertoire. However, the writer has shown some degree of metaphorical control by placing the Thing in the right slot and expanding the meaning by a classifier, also appropriately placed. The second example shows the writer's lack of control over the nominal group formation; *extinction animals* to mean *extinction of animals*, or *animal extinction*. This might also be due to transfer from their first language where the typical nominal group structure is to have the head before the classifier. Nevertheless, the writer has successfully transformed *extinct* to *extinction* and specified the meaning with *animal* in spite of the structural error in the nominal group. The last example shows the writer's lack of control over the reconstrual of the Quality *important* to the Thing *importance*, spelt incorrectly as *important*. However, the writer has used the correct word order in the nominal group with premodifier and postmodifier, albeit with incomplete transformation of the head.

The second pattern is reconstrual of a concept into a compound noun. There was only one instance of this pattern.

> Every person also have to have self-awareness (WR116615)

A congruent agnate of the clause could be:

> every person has to *be aware of their own self*.

It would be instructive to know whether this learner transformed the congruent meaning or whether they learned the metaphorical realization as a vocabulary item.

The third pattern of this category is homonym reconstrual in which the Quality has the same spelling and pronunciation as the Thing:

> so Indonesia will lost its plant, animal, especially for the endemic. (WR101115)

This is the only instance of homonym reconstrual across the first year texts in this category. This clause can be unpacked into a congruent form as:

> so, Indonesia will lose its plants and animals, especially *endemic* plants and animals.

The use of *endemic* as Thing has enabled the writer to specify the information without repetition, and also to classify plants and animals into the type of *endemics*, an important strategy particularly in scientific writing. The lack of pluralization here shows that the learner's relative lack of lexical knowledge and/or grammatical control also impacts on their control of GM.

As shown above, students' deployment of experiential GM from in this category includes many instances of lack of control in the metaphorical reconstrual. The lack of metaphorical control in this category consists of: i) wrong word choice, such as *directness* to mean *sustainability*; ii) nominal group formation, for instance *extinction animal* to mean *animal extinction*; iii) incomplete morphological reconstrual, for example *important* to mean *importance*; iv) pluralization, as in *endemic* for *endemics*.

3) Transcategorisation: Process to Quality

The next category in experiential GM is transcategorisation from Process to Quality with 6 instances (5.5%). There are two patterns in this category:

1. Present participle reconstrual, such as *falling water* and *very damaging*,

2. Past participle reconstrual, such as *threatened* and *disappointed*.

The first pattern is the formation of Quality using present participle, for example:

> so there are not place to intercept and retain falling water. (WR107215)
>
> and it is very damage for human life. (WR102215)

The clauses can be unpacked into congruent forms as:

> water *falls* from the sky and there are no places to intercept and retain it
>
> it really *damages* human life.

The transformation of Process to Quality creates the potential to classify or characterize a Thing in terms of a Process, to use a Process in a comparative or superlative grammatical structure, and to give a sense of 'ongoing-ness' and/or 'active-ness' within the nominal group. In the first clause above, the GM acts as a classifier to the Thing and at the same time it shows an ongoing activity. The reconstrual of the clause using this GM has packed dense information in a nominal group compared to a clause in its congruent realization. The second clause shows the writer's

lack of control over the transformation to *damaging*. However, *very* before *damaging* has shown writer's awareness that they are construing a Quality in the lexicogrammar of the clause.

The second pattern in the category of Process to Quality is past participle reconstrual, exemplified as follows:

> and every year so many people feel *threatened* with their stupid action and damaging the environment. (WR108215)
>
> I as an indonesian people really disappointed with them. (WR108215)

The clauses can be expressed in congruent forms as:

> Their stupid action and damaging of the environment *threaten* so many people every year, and
>
> They *disappoint* me as an Indonesian.

The word *threatened* has encountered two transformations: threat (*n*) > threaten (*v*) > threatened (*adj*.). The use of *threatened* and *disappointed* in both clauses represent typical use of the past participle to show someone's feelings. While this resembles passive voice, they are analysed here as Quality with two grammatical justifications: i) the verb *feel* can be used in both clauses, and is used in one; ii) the preposition phrases *with their stupid action ...* and *with them* postmodify *threatened* and *disappointed* respectively, consistent with the structure of attributive relative clauses but different from the typical *by + Agent* structure used in passive voice. Also, in the second example, the student has omitted the verb, which is a common error of Indonesian EFL learners writing relational process clauses (see earlier discussion in this section under the Process to Thing category), while in the same example, they have modified the quality with the intensifier *really*. These examples show a student with emerging control of the ability to transform Process to Quality using past participle.

Thus, the transcategorisation from Process to Quality from the first year student texts follow two patterns as shown above. The students showed different degrees of control in both patterns in the category of Process to Quality.

4) Transcategorisation: Thing to Quality

The fourth category of experiential GM in the data of the first-year group is transcategorisation from Thing to Quality. There were only 6 instances (5.5%) of this category with only one pattern, i.e., morphological suffix reconstrual. The following are examples of this pattern:

> so all of providing *healthy* air are stop. (WR105015)
>
> maybe that is make *condition* change become expensive.(WR103615)

In these clauses, Things: *health* and *condition* are reconstrued into *healthy*, and *condition* (should be *conditional*). Each was (or should have been) modified with a suffix (–y or –al), forming a Quality which enables them to classify the noun being modified. Congruent realization of these clauses could be:

> so all providers of air *-that contributes to health-* stop
>
> maybe it makes changes *-that depend on condition-* expensive.

The reconstrual of Thing into Quality allows information that would be congruently realized by embedded clauses to be packed into a single word. The students' degree of control of this category is mixed.

5)   Transcategorisation: Preposition to Process

The fifth category is the transcategorisation from Preposition to Process. Even though this category does not exist in the frameworks on which this study drew, there were two instances in which the students use preposition as process.

> Of course, I againts about deforestation in indonesia. (WR108215)
>
> I against about the increased practice of deforestation. (WR105015)

Preposition *against* in these clauses were used as Process, which can be construed as:

> I *oppose* deforestation in Indonesia,
>
> I *oppose* the increased practice of deforestation.

The use of preposition instead of Process in these clauses is clearly an error in standard English. However, they are classified as grammatical metaphor since there is stratal tension between the discourse semantics and the lexicogrammar, and even though erroneous they demonstrate the developing ability of the learners.

6)   Transcategorisation: Thing to Process

The last category in experiential GM is Thing to Process, with only one instance as follows:

> but we must plant again as like reforestation. (WR119315)

In this clause, the Thing *plant* was reconstrued as the Process *plant*. The congruent realization of the clause can be:

> but we must grow *plants* again like reforestation.

The use of the Thing *plant* as Process merges the Process and the Goal (*grow plants*) into a Process (*plant*). In this single instance of this category, the reconstrual was carried out completely which shows good control on the part of the learner.

Overall, the students in the first year group employ six kinds of transcategorisation in experiential grammatical metaphor: Process > Thing; Quality > Thing; Process > Quality; Thing > Quality; Preposition > Process; Thing > Process. The most common reconstrual was Process > Thing with more than three quarters of the instances. Generally, the students were able to employ this linguistic resource with some degree of metaphorical control.

The notion of metaphorical control is intended to capture the degree of 'completeness' in learners' control of grammatical metaphor reconstrual - how accurately and effectively do they use GM? Lack of metaphorical control results in intermediacy in the process of reconstrual and

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shows areas for improvement which teachers are able to work on with the learner. In the first year student group, the areas of intermediacy can be listed as follows:

1. Misspelling, for example, *infritation* for *infiltration*, *modernitation* for *modernization*, and *choise* for *choice*.

2. Incomplete word formation, for example, *argue* or *arguing* for *argument*, *important* for *importance*, *condition* for *conditional*, *damage* for *damaging*.

3. Word order in nominal groups, for example, *extinction animals* for *animal extinction*,

4. Incomplete nominal group formation, for example *balancing….* For *balancing nature*.

5. Word choice, for example, *directness* for *sustainability*,

6. Co-text intermediacy, for example, *very reduction*.

Having identified the categories of experiential GM, the patterns by which each category have been expressed, and the areas of intermediacy for the first year group, we now turn to the data on experiential GM of the third year group.

4.2.2 Third year experiential GM deployment

The total number of texts analysed in this group was 22, with a total of 5213 words and an average number of 226.65 words per text. Appendix A, B, C gives a table with a complete breakdown of all texts and all GM types for the third year student texts. A less detailed overview of the GM deployment of the third year students is shown in Table 4.5.

Table 4.5. The proportion of Ideational GM in the third year students' writing

No.	Types of Ideational Metaphor	Status	Frequency	Total frequency	Percentage	
1	Experiential Metaphor	live	111	187	43%	72%
		dead	76		29%	
2	Logical Metaphor	live	72	72	28%	28%
		dead	0		0	
Total			259		100%	

The table shows the instances of types of ideational GM across the 22 third-year students' texts. Experiential metaphor is more commonly used in the student texts than logical metaphor, at 187 out of 259 instances (72%). Each metaphor type is further subcategorized into live and dead metaphor, and in the experiential category these sub-types comprise 111 (43%) and 76 (29%) instances respectively. There are 72 instances of logical metaphors, or 28% of the total number of metaphors identified. There are no instances of dead metaphor in the logical GM category. While more than half of the GM instances are experiential, not all texts contain

this type of GM: two texts deploy nil experiential GM, and two others deploy only one instance each. Similarly, dead experiential metaphor is not found in every text; four of the texts contain no dead metaphor. In contrast, logical GM was found in all texts. The average use of GM in each text is 11.5 instances.

In terms of words, third year students (22 participants) wrote more words compared to their first students (25 participants) counterparts: 5213 compared to 5001 or 226.65 words per text compared to 200 words per text. The deployment of ideational GM in the two groups shows significant differences. Ideational GM instances in third year outnumbered those in the first year at 254 compared to 148 instances. However, the proportion between the experiential and logical GM in the two groups is similar, i.e., 71% as compared to 74% for experiential and 28% as compared to 26% for logical GM in the third and first year respectively. Overall, the third year students deploy almost twice as much ideational GM than the first year at 11.5 compared to 5.9 ideational GM instances in each text. The following paragraphs discuss experiential GM in the third year students' texts compared to the instances of experiential GM in the first year texts.

Table 4.6 shows the distribution of each category of experiential GM, and examples from the data are given for every category in the following discussion. Experiential GMs reconstrue students' experience in incongruent ways. The metaphors are reconstrued through transcategorisation and rankshifting. Table 4.6. shows categories of experiential GM with their frequencies across the texts.

Table 4.6. Kinds of reconstrual of experiential GM in the third year students' writing

No.	GM Instances	Status	Freq.	Total Frequency	%	
1	Transcategorisation from Process to Thing	Live	68	140	36.4%	74.9%
		Dead	72		38.5%	
2	Transcategorisation from Quality to Thing	Live	12	16	6.4%	8.6%
		Dead	4		2.1%	
3	Transcategorisation from Process to Quality	Live	14	14	7.5%	7.5%
4	Transcategorisation from Thing to Quality	Live	12	12	6.4%	6.4%
5	Transcategorisation from Quality to Process	Live	3	3	1.6%	1.6%
6	Transcategorisation from Thing to Genitive	Live	1	1	0.5%	0.5%
7	Rankshifting	Live	1	1	0.5%	0.5%
Total			187		100%	

Table 4.6 shows the categories in experiential GM of the third year group's texts. There are seven categories of reconstrual: six transcategorisations and one of rankshifting. The table also shows that the most frequent transcategorisation used by students in their writing is the shift from Process to Thing, representing almost three quarters of the total experiential GMs at 74.9% or 140 out of 187 instances. As can be seen from the table, the instances of dead metaphor only occur in two kinds of transcategorisation: Process to Thing and Quality to Thing, the same pattern of live/dead metaphors also occurred in the first year group's texts. In the first year students' writing, the ratio of Process to Thing reconstrual slightly exceeded that of the third year's by 75.2% to 74.9% (Table 4.7 below), but the third year's texts have more instances by 68 to 47 for live GM and 72 to 35 for dead GM.

Comparing the third year group's to the first year group's texts, the categories in both groups are similar. Both have four identical transcategorisation categories, i.e., Process to Thing, Quality to Thing, Process to Quality, and Thing to Quality. However, they differ in two transcategorisation reconstruals, i.e., Preposition to Process and Thing to Process in the first year data compared to Thing to Possessor and Quality to Process in the third year texts. Rankshifting was the other reconstrual present in the third year group's texts but not in the first year's. The comparison of experiential GM reconstrual is illustrated in Table 4.7 below.

Table 4.7. Comparison of Experiential GM reconstrual in the third year (left) and first year (right) texts

No.	GM Instances	Freq.	%	No.	GM Instances	Freq.	%
1	Transcategorisation from Process to Thing	140	74.9%%	1	Transcategorisation from Process to Thing	82	75.2%
2	Transcategorisation from Quality to Thing	16	8.6%%	2	Transcategorisation from Quality to Thing	12	11.0%
3	Transcategorisation from Process to Quality	14	7.5%%	3	Transcategorisation from Process to Quality	6	5.5%
4	Transcategorisation from Thing to Quality	12	6.4%%	4	Transcategorisation from Thing to Quality	6	5.5%
5	Transcategorisation from Quality to Process	3	1.6%%	5	Preposition to Process	2	1.8%
6	Transcategorisation from Thing toGenitive	1	0.5%%	6	Thing to Process	1	0.9%
7	Rankshifting	1	0.5%%				
Total		187	100%	Total		109	100%

1) Transcategorisation: Process to Thing

In the first category, Process to Thing, there are six patterns of reconstrual, whereas in the corresponding category in the first year group's data there are five patterns. The six patterns in this category in the third year data are:

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1. Morphological reconstrual by typical noun suffix addition such as –ion and –ment, for example: *improvement*, and *contribution,*

2. Phenomenon reconstrual, for example: *globalization* or *global warming*,

3. Homonym reconstrual, for example: *damage* and *attempt*,

4. Present participle reconstrual, for example: *balancing* and *seeing*,

5. Irregular reconstrual, for example: *choice* and *loss* and

6. Conation reconstrual, and there is only one instance of this: *effort*.

The first set of examples show 'typical' cases of nominalisation where Processes are construed as Things.

This is the most bad improvement for the environment. (SLA19313)
because it's needed for our contribution in global society/community. (SLA09613)

These examples can be construed congruently as follows:

deforestation does not improve the environment at all

we contribute to the global society through the environment.

These agnations are only one possible congruent re-wording. The students were able to reconstrue the processes *improve* and *contribute* into nominal groups *the most bad improvement for the environment* and *our contribution in global society/community*, remapping the Processes into a Participant in a relational clause in the first example and a Circumstance in a receptive clause in the second. By turning Processes into Things, students were then able to evaluate or modify the meaning of the words. For example, in the first clause, *improvement* was evaluated by the superlative *most bad* which shows the writer's view towards the phenomenon under discussion. At the same time the writer was also enabled to pair the word choice *improvement* which is typically used to describe progression in a positive direction with the epithet *most bad* that shows a contrast in evaluation. The use of *improvement* as a participant has opened the potential of packing meanings densely describing a phenomenon with writer's evaluation and rhetorical style. However, the contrastive evaluative meanings do not appear to be used for rhetorical effect, and further, the use of the attribute *most bad* instead of *worst* shows an intermediacy in the learner's vocabulary and/or control of word derivations.

In comparison with the first year group's data, the third year's typical morphological reconstrual is greater in terms of frequency and variation. For variation, the third year's texts have more variation in the suffixes used; *-ion*, as in *contribution*, *-ment* as in *improvement*, *-y* as in *activities*, *-ance* as in *performance*. On the other hand, the first year students only employed one suffix, i.e., *-ion* as in *population, pollution,* and *respiration*. In terms of

intermediacy, while the third year students' main problem is in word choice in the co-text, the first year's main problem in this pattern is misspelling.

The second pattern in this category is Phenomenon reconstrual rather than morphological reconstruals from Processes as shown in the first pattern.

but also we can feel impact from it as global warming and soon. (SLA11112)
to able defending from this globalization. (SLA10313)

These clauses can be construed congruently as:

Because of deforestation, we can also feel that *our world is getting warmer* and soon,

to be able to defend [something] from *the process of cultures, societies and economies becoming more global.*

The unpacking in this pattern cannot be represented only by turning the GM into its process word class. The GM has turned a phenomenon with participants and a process into a single nominal group, thus the congruent realizations are in the form of clauses or other nominal groups. In each case, the GM embodies a number of reconstruals of a base concept: warm (adj) > warm (v) > warming (gerund), and globe (n) > global (adj) > globalize (v) > globalization (n). The reconstrual of *the process of world getting warmer* into *global warming* and *the process of cultures, societies and economies becoming more global* (one of many possible construals of 'globalization') into *globalization* open possibilities to expand the clause-level meanings by evaluation or modification through the use of pre-modifiers in the nominal group, e.g., *increasing global warming*, *continuous globalization*. In these instances, the students do not attach any modifiers to the GM, but the writers were able to pack a complex meaning into a nominal group with the potential to be evaluated and expanded in a more detailed manner, giving both learner and teacher something to work on in developing the sophistication of the writing, beyond the correction of errors.

Comparing the first and third year groups, the third year students used this pattern less: three times compared to nine times by the first year. However, the third year group demonstrates a higher degree of metaphorical control since their expressions are largely accurate, while in the first year data, misspelling still occurred.

The third pattern in the Process to Thing category, homonym reconstrual, does not involve any change in the word form, but the meaning is different.

because without rainforest, our country will get a lot of damage such as flood, etc. (SLA09213)
Whether they explain about the increase or the good impact about this deforestation.(SLA10213)

These clauses can be expressed congruently as follows:

the absence of rainforest will *damage* our country with flood etc.

they explain that deforestation has *increased* the economy and other aspects in Indonesia.

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In these examples, the GM and the congruent form have the same word form, *damage* and *increase*. The reconstrual of the Processes into Thing enables the writers to comment, evaluate or expand the potential meaning as discussed above. In the first example, the writer comments on the nominalised word *damage* by quantifying the amount of damage using *a lot of* and exemplifying the event of damage with *flood*, thus construing *flood* as a type in the category *damage*, both grammatically and conceptually. Without grammatical metaphor, the creation of such taxonomies is much more difficult to do, and perhaps impossible to do concisely.

The first year data in this pattern showed less variation than the third year data, with only four words use: *advantage*, *decrease*, *increase* and *inflict*. The third year students deploy more variation in this pattern such as, *slide, decrease, greet, damage, act, ravage, advantage, disadvantage, benefit, attempt*, and *increase*. In terms of grammatical control, both groups showed adequate control in this pattern reconstrual.

The fourth pattern found in the data is grammatical metaphor resulting from present participle construction:

> to build the balancing of our natural resources. (SLA11413)
> which is bad for their lung, their seeing even, (SLA10213)

In these instances, the Processes *balance* and *see* were reconstrued as Things by attaching suffix –ing. The determiner *the* and *their* preceded *balancing* and *seeing* in the clauses, showing the 'Thing-ness' of the words. These examples can be unpacked into:

> to build a system / a measurement in order to *balance* our natural resources
>
> which is bad for their lung, and as a result they even may not be able to *see* anymore.

The use of *balancing* and *seeing* in the clauses has enabled the writer to premodify these words with determiners and postmodify one of them with a prepositional phrase. The nominal groups, i.e., *the balancing of our natural resources* and *their seeing* each unite two grammatically intricate finite clauses (see the possible reconstruals above) into a single clause. This allows, for instance, the notion of 'balance' to be construed as a concept rather than a process.

Nevertheless, we can still find intermediacy in the co-text (the words surrounding GM) by the use of the word *even* as an adjunct after the nominal group *their seeing*, which is a pattern more typical of informal, spoken registers than of academic writing. Compared to the same pattern in the first year, this group shows a different kind of intermediacy to the first year group. In the third year group, the intermediacy occurs in co-text word choice; in the first year the intermediacy occurs in the omission of the relational process in the clause.

The fifth pattern found in the data in category Process to Thing is irregular reconstrual from Process to Thing. Examples follow:

> ... deforestations are good choice (SLA09213)
> For the farming sector, it makes huge loses (SLA12613)

These clauses show the example of a shift into Thing with irregular change from the Process; *choose* to *choice* and *lose* to *loss*. The example can be construed into congruent forms as:

> someone *chooses* deforestation and that is good,

> The farming sector *loses* a lot because of deforestation.

The GM of Process *choose* into *choice* allows the writer to qualify the Thing: *good choice*. The nominal group functions as an Attribute in a relational clause. This attribution has packed information that there are other possible options, again allowing for a taxonomy of choice in terms of how deforestation is conceptualised and related to other possibilities. Further, it does not specify who did the choosing, or who else might do it in the future. In this way, using GM provides possibilities for meaning that a congruent construal cannot do in the same way.

The second example has turned the Process *lose* into *lose* (a mis-spelling of *loss*) allowing the writer to quantify the process (incorrectly pluralized as 'loses' by the writer). The writer also qualifies the noun with *huge*. Thus, the use of *huge loses* [sic] in the causal clause allows the writer to quantify and qualify the process of 'losing' by construing it as a Thing, in a way that would not be possible if it were construed congruently as a verb. The incorrect word formation from Process *lose* to Thing *lose* with pluralization –s shows that this student does not yet have control of this word formation. The similar sound of different derivatives of words, or a lack of familiarity or knowledge of vocabulary may result in student difficulties in identifying appropriate words in contexts such as this. The same intermediacy, misspelling, occurred in this pattern in the first year students' texts, but without pluralization.

The last pattern shows an instance of Process to Thing that does not immediately look like GM. There is only one instance of this pattern in the third year learners' data, whereas in the first year data, this pattern did not exist.

> In some people's opinion, this kind of efforts [[to develop economic and social development]] are worst (SLA09213)

The use of "effort" can be agnated to a congruent form, 'to try' (Conation to Thing):

> People try to increase economic and social development, but it is the worst.

The transformation of meaning from *to try* to *effort* has transformed an aspect of the process into a participant with the potential to be expanded (*to develop economic and social development*), commented on (by *some people*) and evaluated (as *worst*). In the example, *effort* has been pre-modified by determiner *this kind of* to imply that there are many activities in deforestation, again allowing for the construction of a taxonomy of kinds of effort. This would not be possible if it were construed congruently as 'try'.

The discussion above represents all the patterns of reconstrual by third year students from the first category of Process > Thing. As is the case in the first year texts, the first pattern has by far more instances than the other patterns.

Comparing the third year's to the first year's patterns in the Process to Thing category, both groups have the same patterns from number one to five. The difference is that the third year group has one more pattern, i.e., conation reconstrual. However, variations within each pattern demonstrates different levels of attainment between the two groups. In the first pattern for example, while both groups employ the same strategy of nominalization by suffix, the third year group uses a number of nominal suffixes but the first year only use one. In other patterns, third year students also present more variations and more frequency in the use of GM. The exception is in the use of phenomenon reconstrual, in which the first year students show slightly more variation and more frequency.

In terms of metaphorical control, the third year students seemed to have better control. The intermediacy in the third year texts involve: co-text (e.g. the use of *most bad* rather than *worst*, the use of a casual register - *even*) and misspelling (*lose* for *loss*). Whereas in the first year group texts intermediacy involves misspelling (*infritation*, *modernitation*, *choise*), wrong word forms (*argue*, *arguing*, *argumentation* for *argument*), and co-text (*very reduction*). The fact that the third year has more instances of GM in this category with less intermediacy shows that they have better control compared to their first year counterparts.

The deployment of live and dead GM in the Process to Thing category of both groups also differs in the proportion of use. In the third year group, dead metaphors were used more frequently than live GM. Conversely, the first year students used more live GM than dead, as can be seen from the table below.

Table 4.8. Comparison of the use of live and dead metaphor in Process to Thing experiential GM

Third year Experiential GM Process to Thing			First year Experiential GM Process to Thing		
Status	instances	percentage	Status	instances	percentage
Live	68	49%	Live	47	57%
Dead	72	51%	Dead	35	43%
Total	140	100%	Total	82	100%

2) Transcategorisation Quality to Thing

The second category of transcategorisation is Quality to Thing. There are 16 instances (8.6%, including 14 live and 2 dead metaphors) in this category, which has three patterns:

1. Morphological reconstrual: e.g. *possibility*, *vacancy*, *performance*,
2. Phenomenon reconstrual, with only one instance: *joblessness*,
3. Irregular reconstrual, also with only one instance: *heat*

The first pattern is the addition of the morphological suffix –y or -ity:

> see what the best possibility about [[what they have done for this country]]. (SLA10213)
> Certainly Indonesia will provide many vacancy job ,(SLA10413)
> Beside the advantages of rainforest in keeping the natural stability, we have to keep our identity (SLA10913)

In these clauses, the Qualities *possible*, *vacant* and *stable* were turned into the Things *possibility*, *vacancy* and *stability* by adding the suffix –y or -ity. The congruent version of the clauses could be:

> see what are *the* best *possible things* about … ,
>
> Certainly Indonesia will provide many *vacant positions for our workforce*,
>
> Beside the advantages of rainforests in keeping *our nature stable*,…

The reconstrual of *the best possible thing* into *the best possibility*, *vacant position* to *vacancy job* [sic], and *keeping our nature stable* to *the natural stability* has packed information concisely. It also opens the potential for these Qualities, now Things, to be classified (e.g. *part-time job vacancies*, *new job vacancies*, *natural stability*, *economic stability*) and characterized (e.g. *best possibility*, *most likely possibility*). The intermediacy in this pattern was found not in the GM formation but in the nominal group formation; *many vacancy job* should be *many job vacancies*. Comparing these data with the same category from the first year group, they share same intermediacy in the lack control of nominal group formation. However, the first year group also have intermediacy in word choice (*directness* for *sustainability*) and incomplete reconstrual (*important* for *importance*). This suggests that the third year group may have a better control in this pattern, though the number of instances is small.

The second pattern in this category is phenomenon reconstrual. There is only one instance, i.e.,

> to minimalis Joblessness in Indonesia well. (SLA10413)

Joblessness comes from *job (n) > jobless (adj.) > joblessness (n)*. A congruent realization might be:

> to make *fewer people not have jobs* in Indonesia well.

The student showed a good control in the use of this pattern in this single instance, though there was a misspelling in the co-text. The first year students demonstrated a similar degree of control using this pattern.

The last pattern of this category is irregular reconstrual. There is also only one instance:

> and making the *heat* of Indonesia state (SLA13113)

The clause can be construed congruently as:

> and making Indonesia *hot*.

The remapping of *hot* into *heat* has turned the Quality into an abstraction specified by the determiner *the* and the prepositional phrase *of Indonesia state*. This has reconstrued heat from being a quality of Indonesia, to being a possession of it. The first year group did not employ this pattern.

In summary, the transcategorisation of Quality to Thing in the third year group consists of three patterns. The first year group also has three patterns in this category, but the third pattern of each group is different. The first year group has morphological, phenomenon and homonymy reconstruals; the third year group has irregular reconstrual but not homonymy reconstrual. In terms of metaphorical control, the third year students showed better control as explained in preceding paragraphs though the numbers were relatively small in this category.

3) Transcategorisation: Thing to Quality

The third category of experiential GM is transcategorisation from Thing to Quality. It accounts for 14 of 188 instances (7.5%). There are three patterns in this category.

The first pattern is present participle reconstrual. In this pattern, the Process becomes Quality by attaching the suffix –ing and functioned as a classifier of the thing in the nominal group. Examples include:

> which will lead to *increasing* numbers of Indonesia state debt to other developed countries. (SLA13113)
> They never thing for other *living* in this world. (SLA13813)

Possible congruent forms are:

> which will cause the Indonesian state debt to *increase*,
> They never think for other things that *live* in this world.

In these clauses, the processes *increase* and *live* turned into *increasing* and *living*, classifying the thing they precede. The Quality *increasing* re-packages the meaning of the Process into an ongoing Quality of the state debt. *Living* simplifies the structure of the clause, yet the thing to be modified is absent. This, combined with other errors in the clause (e.g. *thing for* instead of *think about*) shows a lack of control in nominal group formation involving GM as the classifier. On the other hand, the intermediacy found in the first year group in this pattern was incomplete reconstrual from the process *damage* to the quality *damaging*.

The second pattern in this category is past participle reconstrual. It turns the Process into a Quality by attaching –ed, and functions as a classifier to the thing it precedes. The instances from the data are:

> … such as the weakened economic Indonesia, (SLA13113)
> … from the reduced animal species in each years, not just animal but also plants.(SLA13113)

In these clauses the Processes *weaken* and *reduce* were turned into *weakened* and *reduced* to function as Quality. The first GM has a number of transformations: *weak* (*adj*) > *weaken* (*v*) > *weakened* (*adj*). The two clauses in this pattern could be construed congruently as:

> … X *weakens* the Indonesian economy,
>
> … yearly, the number of animal species *reduces* ….

The past participle Quality construes a state of completeness that cannot delivered by its congruent form. The *weakened economy* means the economy was influenced by X and made weak. And *the reduced animal species* means the number of species is already reduced. The metaphorical control of the students evident in this pattern is in the co-text (*economic* for *economy*; *the reduced animal species* for *the reduced number of animal species*). The first year's deployment of this pattern showed no intermediacy.

The third pattern in this category is the morphological reconstrual, with only one instance in the data.

> to make Indonesia more progressive and compete. (SLA10413)

The complex Process *progress and compete* is expressed as a complex Quality *progressive and compete* [sic] by adding the suffix –ive. The congruent form could be:

> To make Indonesia *progress and compete*.

The Quality *progressive and competitive* shows intermediacy in the learner's control of GM in their lack of control of the morphological formation (*compete* for *competitive*).

Compared to the first year data, the third year data has more variation in the patterns of GM reconstrual in the Process to Quality category. While in the first year texts there were two patterns, present and past participle, in the third year texts a third pattern, morphological reconstrual, was identified along with the two participle patterns. However, the intermediacy

in the third year group seemed more severe compared to the first year. The third year intermediacy includes nominal group formation, co-text intermediacy, and morphological formation. Whereas in the first year group with fewer patterns, the intermediacy involves only morphological formation.

4). Transcategorisation: Thing to Quality

The fourth category in experiential GM in the third year student texts is transcategorisation from Thing to Quality, which is comprised of 12 instances, or 6.4% of all experiential GM. There are three patterns in this category:

1. Morphological –ion reconstrual, for example, *permission* letter, *respiration* infection,
2. Morphological –al reconstrual, for example, in the *regional* and *national* scale,
3. Homonym reconstrual, for example, *big air supply company*, *the forest sector*.

The first pattern is the morphological –*ion* reconstrual. This pattern has typically Process as the root of the GM, but then after being transformed into a Thing, they are again transformed to function as Qualifier of another Thing. Examples include:

> that build have *permission* letter (SLA10413)
> its make *respiration* infection (SLA09113)

Permission and *respiration* came from *permit (v) > permission (n)* and *respire (v) > respiration (n)*, and then keep the same form but function to premodify a Thing in a nominal group (typically as classifier); in these examples *letter* and *infection* respectively. These GMs could be construed congruently as:

> letter that contains permission from the government to build,
>
> infection that attacks the respiration system.

These reconstruals have construed the information in a way that is valued in academic writing, where nouns are commonly used as classifiers in nominal groups to create taxonomies, as discussed a number of times already in this section. No intermediacy was found in the words nor the nominal groups in the instances of this pattern.

The second pattern in this category is the morphological –al reconstrual. This pattern differs from the first pattern in that the root of this pattern is a Thing which then turned into a Quality by the suffix -al. The following are examples:

> In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation. (SLA12613)

Regional and *national* in the clause above were reconstrued from *region (n) > regional (adj)* and *nation (n) > national (adj)*, turning the meaning from Thing into classifier. The congruent agnation of the above clause can be:

> In the *region* and the *nation*, the effect of …

The reconstrual of *the region > regional* and *the nation > national* abstracts these notions away from specific places to using them to define a scale. This is a more abstract and a more general conceptualization. The writer has also controlled the used of this pattern well. Compared to the first year group, the third year group seems to have better control of this pattern, since in the first year group there was an intermediacy in the construction from *condition > conditional*. The number of instances is small, however.

The last pattern in this category is homonym reconstrual, meaning that the Thing and the Quality are the same word. The following are examples from the third year texts:

we can lost the big air *supply* company.(SLA09613)
the farmer gets less money, also for the *forest* sector and transportation. (SLA12613)

The congruent version can be:

we could lose the company that provides the large air *supply*.

…, also for industry related to *forests* and…

The words *supply* and *forest* are nouns functioning as Quality to classify the Thing they precede. They are actually (part of) classifiers in nominal groups; *the big air <u>supply</u> company* and *the <u>forest</u> sector*. The use of *supply* and *forest* in the nominal group has enabled the group to pack meanings densely. These nominal groups, while not complex, do include a number of functional elements, yet they were accuate and the learner control of these GMs was generally good. This pattern was not found in the data of the first year group.

Comparing this category to the same category in the data of the first year group, the third year group has more variation i.e., the third pattern. The third year group also showed a better control over reconstrual since with more variation, there was overall less intermediacy compared to the first year group.

5). Transcategorisation: Quality to Process.

The fifth category of experiential GM in the third year group's data is transcategorisation from Quality to Process. This category accounts for 3 instances (1.6%) in the third year texts. There is only one pattern in this category, and all the instances follow:

to *minimalis* Joblessness in Indonesia well. (SLA10413)
The government should *minimize* building the industry. (SLA13813)
the goverment can *maximize* the facility or the space. (SLA13913)

All instances in this category dealt with quantifying Qualities construed as Processes, which also changes a static notion (e.g. *minimal*) to a dynamic one (e.g. *minimize*). Possible congruent forms of the clauses include:

to decrease the number of jobless people in Indonesia to a *minimal* amount,

the government should reduce the building industry to its *minimal* possible size,

the government can provide *maximal* facilities or spaces.

The transformation from the Qualities *minimal* and *maximal* to the Processes *minimalis* [sic], *minimize*, and *maximize* has opened the potential of these Qualities to carry tense and aspect. As a process in a clause is the heart of the clause, the transformation has placed the quality as the central element in the action construed in the clause. In the second and third examples, *minimize* and *maximize* are modalized, construing the Qualities as actions with obligation and ability assigned to clause Subjects, and giving the Qualities interpersonal meanings not possible if construed congruently. In this category, intermediacy is observed in word formation *minimalis* [sic] which means *minimize*. The two instances without intermediacy were both written by the same student. This pattern did not exist in the first year group.

6) Transcategorisation: Thing to Genitive

The sixth and final category of transcategorisation in the third year group is from Thing to Genitive. There is only one instance of this category:

> Because the smoke from the forest burning disturbs the *people's* activities, (SLA12213)

People in this clause has been turned from Thing into genitive determiner. This could be construed congruently as:

> Because the smoke from the forest burning disturbs active *people.*

The transformation of the Thing into Genitive here construes people in a possessive role, and makes the object of the verb their activities rather than the people themselves. The writer demonstrates good control over the reconstrual as well as the co-text surrounding the GM. This category did not exist in the first year group texts.

7) Rankshifting

The last category of reconstrual in experiential GM in the third year group is rankshifting. There is only one instance of GM by rankshifting, as follows:

> [[Knowing about the benefits of rainforests]] is important, especially for Indonesian [[that have a large of rainforests.]] (SLA11413)

The rankshifting in the clause is *knowing about the benefit of rainforests*. This clause was rankshifted and functions as a participant in another clause as shown above. This could be construed congruently as:

> *Indonesian should know about the benefits of rainforests* because they are important.

By shifting the rank from clause into a non-finite clause functioning as a participant, the entire clause can be evaluated by the attribute *important* in the ranking clause in a grammatically dense manner. The writer expressed this reconstrual accurately, with grammar errors coming only in a Circumstance at the end of the ranking clause.

Overall, the students in third year employ six kinds of transcategorisation and one instance of rankshifting in their use of experiential grammatical metaphor: Process > Thing;

Quality > Thing; Process > Quality; Thing > Quality; Quality > Process; Thing > Possession. The most common reconstrual was Proccess > Thing with almost three quarters of the total instances in the data of this group. Generally, the students were able to employ this linguistic resources with some degree of metaphorical control, though like the first-year group they also displayed issues in this area. The areas of intermediacy for the third-year group can be listed as follows:

1. Co-text intermediacy, for example *their seeing <u>even</u>*,
2. Wrong word formation, for example *argue* for *argument*, *lose* for *loss*
3. Misspelling, for example *Sirculation air,*
4. Word order in nominal group, for example *many vacancy job*,
5. Incomplete nominal group formation, for example *all living _____ in this world*,
6. Incomplete word formation, for example *compete for competitive*.

4.2.3 Experiential GM deployment: Conclusion

In general, the first and third year students' deployment of GM includes many errors in grammatical formation and spelling. They are in the process of developing their control of GM as well as other aspects of English grammar. The detailed errors can be seen in Appendix A, B and C. Some errors such as *sirculation air* (which should be *air circulation*) can be explained by transfer from the first language: for the same nominal group, Bahasa Indonesia -the students' first language- has the head of the group first followed by modifiers, as discussed earlier.

Overall, a range of strategies is used by the students to map meanings onto incongruent grammatical structures. At the same time, there is a general lack of sophistication in the construction of nominal groups and in the word choices of the students, as shown in the error types for both groups of students, found in the GMs and in the text surrounding the GM instances. To overcome such errors and enable the students to write academically valued texts, explicit instruction on the deployment of grammatical metaphor is required. The students should also be made explicitly aware of their weaknesses. While these learners have problems in their writing as discussed above, the data also show that they are beginning to develop their ability to use GM. This is something that teachers can build on with these students if the teachers themselves are aware of GM, and its importance in academic writing.

4.3 Deployment of logical GM

Logical GM accounts for 112 of 409 instances of GM (32%) across 47 student texts. There are no instances of dead logical metaphor in the data. Table 4.9 shows the number of instances of logical metaphor in the first-year and third-year groups.

Table 4.9. Total logical GM

Year	Grammatical Metaphor	Frequency	Percentage
1	Logical metaphor	36	32%
3	Logical metaphor	76	68%
Total		112	100%

The table shows that there are more than twice as many logical metaphors in the data of the third year group than in those of the first year group. In relation to the deployment in each text, there is an average of 3.5 instances of logical GM per text in the third year group, and 1.4 per text in the first year. The following sections discuss the findings on logical GM in depth.

4.3.1 First year logical GM deployment

In the first year student texts, logical metaphor accounts for 25% of the total number of instances of ideational GM, or 1.4 instances per text. Instances of experiential GM exceeded instances of logical GM in the first year group by almost three times. Further, ten of the 25 first-year texts had no logical metaphor. Table 4.10 shows the proportion of logical metaphor against total ideational GM in the first year student texts.

Table 4.10. The proportion of logical GM in the first year students' GM

No.	Types of Ideational Grammatical Metaphor	Status	Frequency	Total frequency	Percentage	
1	Experiential Metaphor	live	72	109	50%	75%
		dead	37		25%	
2	Logical Metaphor	live	36	36	25%	25%
		dead	0		0	
Total			148		100%	

The 36 instances of logical GM in the first year group's data were categorized based on the type of reconstrual. There are only two kinds of reconstrual in logical GM in these data as shown in Table 4.11.

Table 4.11. Kinds of reconstrual of logical GM in the first year students' texts

No.	GM Instances	Frequency	%
1	Transcategorisation from Process to Thing	9	25%
2	Transcategorisation from Relator to Process	27	75%
Total		36	100%

These two categories are related, and this can be illustrated by considering the transcategorisation of a Relator to Process to Thing in the following constructed example:

> The world is warming *because* people cut down forests.
>
> Cutting down forests *causes* the world to warm. [Relator to Process]
>
> The *cause* of global warming is deforestation. [Process to Thing]

The following sections discuss the deployment of logical GM according to the category of reconstrual.

1) Transcategorisation: Process to Thing

The first category of logical GM in the first year texts is transcategorisation from Process to Thing with 9 instances of the total of 36 (25%). There are two words that were used in all instances; *effect* and *result*. The following are examples from the texts:

> and the result of deforestation also make some disasters. (WR117715)
>
> Forest can decrease the negativ effect from mining operations. (WR118315)

The causal relation can be traced by unpacking the meaning of the clauses. *Result* shows a causal relationship between deforestation and some disaster, *effect* shows a causal relation of mining operation with something negative. Possible congruent forms could include:

> deforestation *results* in something that leads to some disasters.
>
> Forests can decrease the negative things *affected* by mining operations.

The transformation of the Processes *result* and *affect* to Things *result* and *effect*, has enabled complex chains of causation to be packed into single clauses by reconstruing one of the relations into a nominal group: deforestation *result*s in something = the *result* of deforestation; the negative things *are affected* by mining operations = the negative *effect* from mining operation. Once the Process is transformed into a Thing, the potential of the nominal group to allow pre- and post-modification as discussed and exemplified in earlier sections can expand the possibilities for meaning of logical relations, and complex relations can be construed in a single clause. In this category of reconstrual, students typically showed good metaphorical control.

2) Transcategorisation: Relator to Process

This category contributes 27 of the total 36 instances (75%). There are four words used by students in this category. They are: *make (19 instances), cause (6), change (1)* and *occur (1).* Examples include the following:

> Forest can *make* minimal polution. (WR118315)
> also can *change* the climate and season. (WR112015)
> it can *cause* global warming. (WR120015)

These processes construe causal relations, usually between two participants in the clause. A possible congruent form of each example is as follows:

> Forests absorb CO2, *so* they decrease pollution
>
> *because* deforestation occurs in many areas, the climate and season change
>
> *because* deforestation happens in many part of the world, the world becomes hotter.

In clause one, the relator *so* coordinates two independent clauses, and the GM construes this logical relation with the verb *make* within the clause. In clauses two and three, the relator *because* is construed using logical GM, with the verbs *change* and *cause* respectively.

Problems with the students' control of this category of logical metaphor mainly not in the use of the processes, but more in the co-text surrounding the metaphors. Exceptions to this include the following examples:

> because it can *make* disaster cause from that situation. (WR101615)
> there are probably can *make* a many disaster. (WR101615)

In the first example, the writer combined three modes of causal relations within two clauses: *because* (typically in hypotactic clause), *make*, and *cause*. The overuse of this causal relationship results in ambiguity, causing confusion between what is cause and what is result. In the second example, the intermediacy occurs in the structure of the verbal group which also has an adverb after the initial Finite, *are probably can make*, and also in the nominal group after *make*: *a many disaster*. The writer uses two finites in the verbal group (*are* and *can*), and contradictory quantifying determiners in the nominal group (*a* and *many*). These errors, together with the better control evident in other instances, suggest that the first-year students are in the process of developing control over the formation of logical GM formation and appropriate co-text.

In general, the first year students show a good control over logical GM reconstrual, and this is probably related to the possibility of using causal verbs in straightforward grammatical structures. Intermediacy was found in the overuse of relational meanings in some clauses and in the co-text surrounding logical metaphors.

4.3.2 Third year logical GM deployment

As mentioned before, there are 22 texts in the third year group. Table 4.12 shows the proportion of ideational GMs within all GMs in this group. There is an average of 3.3 instances of logical GM per text in the third-year group, more than twice the average of the first-year group. The following section discusses in detail the use of logical GM in the third-year group's data.

Table 4.12. The proportion of logical GM in the third year students' texts

No.	Types of Ideational Metaphor	Status	Freq.	Total frequency	Percentage	
1	Experiential Metaphor	live	112	188	43%	72%
		dead	76		29%	
2	Logical Metaphor	live	72	72	28%	28%
		dead	0		0	
Total			260		100%	

There are 72 instances of logical GM, and three categories of reconstrual. Table 4.13 shows these categories and their frequency.

Table 4.13. Kinds of reconstrual of logical GM in the third year students' texts

No.	GM Instances	Frequency	%
1	Transcategorisation from Relator to Process	41	59.2%
2	Transcategorisation from Process to Thing	26	34.2%
3	Transcategorisation from Relator to Thing	5	6.6%
Total		72	100%

The table shows that transcategorisation from Relator to Process is the largest category of logical GM reconstrual in the third year group, with more than half of the total instances. The subsequent paragraphs discuss each category of reconstrual and exemplify the deployment of logical GM in the students texts.

1) Transcategorisation: Relator to Process

This category has 41 instances of logical GM from the total of 72 (59.2%). The reconstrual from Relator to Process can be recognised by identifying the causal relations represented by the processes. There are seven verbs/phrasal verbs deployed by students in this category, i.e., *make (24 instances), cause (7), bring (5), impact (2), depend on (1), lead to (1), and proof [sic](1)*. This displays greater diversity than the corresponding category of the first year group. *Make* and *cause* are the processes used by both groups. Following are examples from the data:

It makes many animals and insects do not have habitation for life. (SLA08913)
For this situations exactly make the influence of economic (SLA08613)
Deforestation also cause many disease. (SLA11513)
In my opinion, deforestation is very bring the negative effect, (SLA13113)
The increased practice of deforestation will impact the natural stability (SLA10913)
and eVery permission letter have to pay taxs depend on agrement. (SLA10413)
It proofs with the flood in many places, (SLA10913)
which will lead to increasing numbers of Indonesia state debt to other developed countries. (SLA13113)

All the processes in the clauses above construe causal relationships between elements within clauses. They could be expressed congruently as follows:

Because of [something], many animals and insects…

Because this situation occurred, the economy was affected,

Because people clear the forests, there are many diseases,

…, *because* people clear the forests, there are negative effects,

People keep clearing the forest, *so* nature becomes unstable,

The different parties agreed, *so* every permission letter includes tax,

Because people clear the forests,, floods occur in many places,

Because of [something], the Indonesian state debt increases.

These examples show a variety of lexical choices on the part of the students, and a mixed degree of metaphorical control on the part of the students. While they can construe causal relationships using processes, there are a number of grammatical problems evident. However, there are intermediacies in the co-text surrounding the logical GM. The following are examples of intermediacies found in the data,

In my opinion, deforestation is very bring the negative effect, (SLA13113)
the deforestation more bring disadvantages than the advantages. (SLA13113)

The intensifier *very* could not modify *bring* and *more* should be placed after *bring*. Other structures that are evidently problematic include:

A makes B verb

subject-verb agreement (e.g. *deforestation cause* ...)

tense / verbal group formation (e.g. *deforestation is very bring* ...)

formation and use of dependent, non-finite clauses (e.g. *depend on* vs *depending on*).

This shows that the third-year students have difficulties in the construction of English clauses, and these errors might indicate a higher willingness on the part of this group to attempt language structures 'outside their comfort zone' than that of the first-year group.

2) Transcategorisation: Process to Thing

This category consists of 26 instances or 34.2% of the total logical GMs in the third year group. There are only two words found in this category: *effect* and *influence*. The first year group also used only two words in this category, *effect* and *result*. The following are examples from the texts:

> For this situations exactly make the influence of economic (SLA08613)
> And the effect of economic just for the people [[who look for plants and animals in the flores]] (SLA14113)

The causal relations in the above clauses is represented by the Things *influence* and *effect*. In the data, *effect* and *influence* usually appear with the determiner *the* and the premodifier *positive* or *negative*. In the first clause, exemplified here, there is more than one causal relationship, since both *make* and *influence* are used in this clause (see discussion of previous category). Overall, the data of third year students show a relatively good control over this category of reconstrual, though there are often problems in the co-text. The first-year group also showed a relatively good control over this category, and it could be once again due to the possibility of construing the meaning using relatively straightforward clause structures in this category.

3). Transcategorisation: Relator to Thing

This category represents the least common strategy of this group, and was not found in the data of the first year group. There were five instances in this category (6.6% of the total). There is only one word used in this category, *reason*.

> For these reason, we do not allow to destroy it. (SLA13813)
> I do not know what is the specific reason of Indonesia's goverment. (SLA10213)

The clauses can be agnated into their congruent form as:

> *Because* forests benefit human and environment, we are not allowed to destroy it,

> The Indonesian government made a decision *because* something that is unknown to me happened.

The transformation of the Relator *because* and its subsequent clause to the Thing *reason* enables the writer to pack dense meaning into a clause, sometimes specified elsewhere in the text (as in the first example) and sometimes unspecified (as in the second). The reconstrual into a Thing again allows for meaning expansion by modifiers (e.g. description: *specific reason*; textual specification: *these reason [sic]*). In the examples above, reason is modified by determiner *these* and *the* and quantifier *specific*. In terms of intermediacy, the meaning of instances in this category is generally clear but grammar errors as found in other categories remain relatively common.

4.3.3 Logical GM deployment: Conclusion

Generally, the first and third year students' deployment of logical GM includes errors, especially in words surrounding the GM. The intermediacy shows their state of developing control over GM reconstrual and especially other aspects of English grammar, and while the third year group appear to be more willing to attempt a greater variety of structures and lexical items than the first year group, their control over the resources at their disposal does not appear to have improved noticeably.

Students have shown a range of strategies in their use of logical GM, albeit in relatively simple clauses in most of the texts. Kinds of intermediacy in the learners' ability to use logical GMs include: overuse of causal signifiers, errors in the structure of verbal groups, and a range of errors in co-text intermediacy.

4.4 Ideational GM Development

The findings of this study have provided a detailed description of students' deployment of ideational GM. The development of the ability of Indonesian EFL learners to use ideational GM is now discussed based on the frequency and proportion of instances in the data of the two groups, and on their metaphorical control.

4.4.1 Experiential GM development

The development of learners' use of experiential GM, based on the findings of this cross-sectional study, can be summarized in Figure 4.1 (P : Process, T: Thing, Q: Quality, Gen: Genitive, Prep: Preposition, RS: Rankshifting).
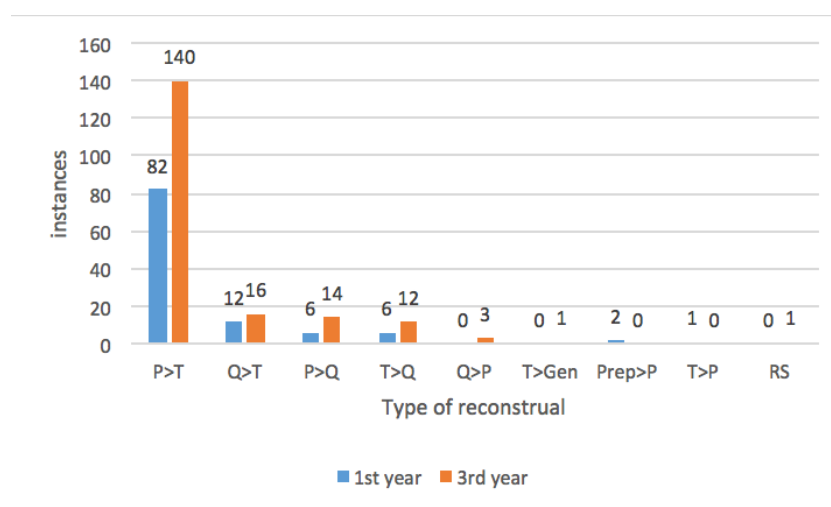
Figure 4.1 development of experiential GM deployment

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Recalling that both groups responded to the same prompt, and that the number of words written by both groups was similar, the figure shows the largest increase in use of experiential GM was in Process to Thing reconstrual. There were also small increases in Process to Quality and Thing to Quality reconstruals, though the overall number of instances in these categories was too small to make any firm conclusions. The other categories, also small in number, showed little difference between the two groups. The large number of Process to Thing reconstruals and the overall increase in number of total instances of experiential GM between the two groups suggests that there is a real difference between the two groups, and that the third year group use more experiential GM in their writing.

However, in terms of the categories of GM metaphor, there was very little difference between the two groups, with the four categories shared between the two groups capturing almost all instances (288 of the total of 296) and the proportion of instances in each category staying remarkably similar between the two groups (see Table 4.7, p.50 and Figure 4.1, p.69).

The categories had patterns of reconstrual, however, the number of patterns in categories other than Process to Thing was small. The large number of instances in the Process to Thing category may be responsible for the larger number of patterns within this category. These patterns can be seen in the Figure 4.2 (MR: Morphological reconstrual, HR: Hyponym, PR: Phenomenon, PPR: Present Participle, IR: Irregular, CR: Conation).
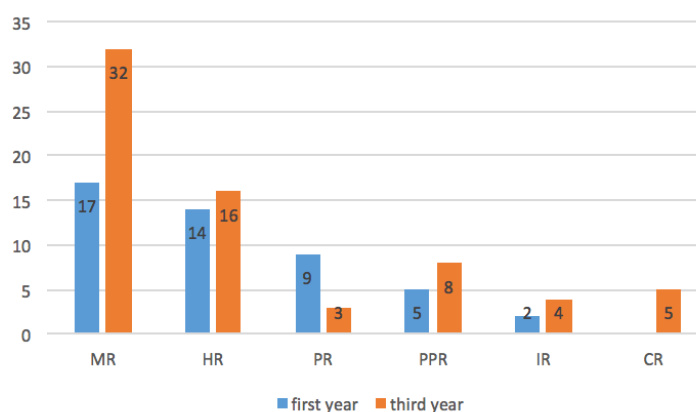
Figure 4.2 Patterns of reconstrual in the Process to Thing category

Figure 4.2 shows the pattern with the most instances in each year, and with the greatest difference between the first and third years is Morphological Reconstrual. Third year students also had more variation in morphological reconstrual by deploying several suffixes in the formation of GM, whereas the first year students used only one suffix. Third year students have more patterns and more instances in every kind of pattern except for Phenomenon Reconstrual, where first year students have three times more instance than third year students, a finding

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worthy of investigation in future studies even though the total number of instances in this pattern is relatively small.

The large number of instances in the Process to Thing category also raises the issue of the metaphorical control of the students. The categories of intermediacy explored were: misspelling (e.g. *modernitation*, *sirculation*), wrong form (e.g. *condition* for *conditional*), word order in nominal group (e.g. *many vacancy job*), incomplete nominal group (e.g. *living___ in the world*), and word choice (e.g. *directness* for *sustainability*). Two categories of intermediacy were not of metaphor, but they have direct impact on the successful expression of the metaphor: co-text (for elements modifying the metaphor, such as *very* in *very reduction* and *most bad* in *most bad improvement*), and the absence of relational processes (which makes the metaphor look like the process of the clause, such as *how important [is] keeping forest*). Error identification and categorisation is always problematic, as errors can often fall into more than one category, and in this study errors not directly playing a role in the construal of GM were not dealt with. Overall, the third year group had more instances of intermediacy, while the first year group had a greater range of categories of intermediacy, but overall the numbers were small. The data do not suggest, though, that the third year group had significantly stronger metaphorical control than the first year group. The next section discusses the findings regarding logical metaphor.

4.4.2 Logical GM development

The development of logical GM can be summarized in Figure 4.3 (P: Process, T: Thing, R: Relator),
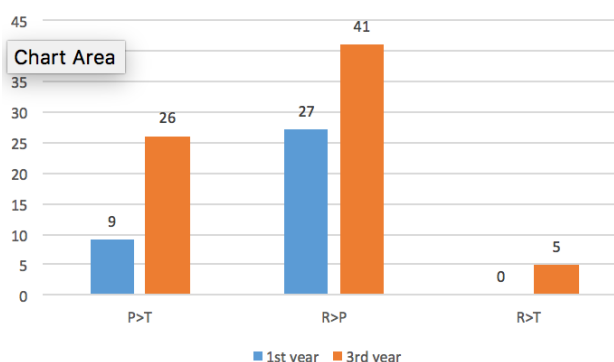
Figure 4.3 development of logical GM deployment

The figure indicates that the third year students had more instances and variations of logical metaphor. In each category, the third year students surpass the first year students in terms of number of instances of logical GM, by threefold in the Process to Thing category, and by

almost double in the Relator to Process category. In the Relator to Thing category, there were only five instances and the first year did not have any instances. The third year students tended to employ a wider variety of lexis than the first years, especially but not only in the category of Relator to Process.

The findings indicated that both groups had better control over logical GM than experiential GM.

4.4.3 Ideational GM development: Conclusion

The data show that the first-year and third-year students' deployment of both experiential and logical GM was similar in a number of ways. The distribution of categories and the proportion of instances in categories, and also in patterns within categories remains similar, and the degree of metaphorical control also appeared similar between the two groups. However, there was some indication that the third year group used a greater variety of patterns (e.g. more suffix endings in the Morphological Reconstrual pattern), and a greater variety of lexis (e.g. in the Relator to Process category), and may have had some degree of better metaphorical control.

Overall though, there appears to be no clear 'pattern of development' nor any increasing 'pattern of metaphorical control' apparent between the two groups. The main positive finding appears to be the much greater number of instances in the third year data, and the main negative finding perhaps the large number of errors in both data sets which limits the effectiveness of many instances of GM.

Thus the educational program should be aware of the importance of GM and the possible increasing potential of the students to use it, and work on ways to maximize it. On the other hand, teachers should also be aware of the importance of GM for the students. Thus, it is not only learners that need instruction, but teacher education programs should also include instruction about language that goes beyond grammar structures and errors to an understanding of how important discursive aspects of language such as GM function in valued written texts. Further, pedagogical approaches where the structured presentation and explanation of such knowledge about language (KAL) is incorporated should also be made available to language teachers.

Chapter 5: Conclusion

5.1 Introduction

This thesis has looked at the deployment and development of ideational grammatical metaphor in Indonesian EFL learners' academic writing. Using SFL as the main theoretical framework, this study has identified the linguistic resources used by the students to construe GM, and the differences and similarities between first-year and third-year students in their use of GM.

This chapter firstly reviews the findings of this study. The subsequent section provides answers to the research questions. The following section considers the potential implications of this study. Description of the limitations of the study and possible areas for further study are then presented before the conclusion.

5.2 Summary of Findings

The research findings can be summarized as follows:

1) The deployment of experiential and logical GMs

The students in both the first-year and third-year groups employ a range of categories of GM in their texts. However, the GM deployment in the first and third year was similar in many ways.

In terms of experiential GM, the students in the first year employed six categories of transcategorisation, while the third year students also deployed six categories of transcategorisation, and rankshift. The first four categories were the same between the two groups, and the proportion of instances in each of these four categories was very similar, and constituted the vast majority of all instances (over 97% in both cases).

The category of transcategorisation from Process to Thing was by far the largest in both groups, and within this category each group displayed a number of patterns of reconstrual. Both groups had the following patterns in the Process to Thing category: Morphological Reconstrual, Homonymy Reconstrual, Present Participle Reconstrual, Phenomenon Reconstrual, Irregular Reconstrual, and Conation Reconstrual. Again, the similarities were more striking than the differences between the two groups, though the third-year group used a greater variety of suffixes to form nouns.

There was less variation in logical GMs. There were only three categories of logical GM across the data; Relator to Process, Process to Thing and Relator to Thing, with the last category only found in the third year texts. The third-year group used a greater variety of lexis

to express causal relations within clauses.

The metaphorical control over the reconstrual of experiential GMs of both groups also showed similar tendencies. Types of intermediacy resulting from a lack of control were similar in both groups: misspelling, wrong word form/incomplete word formation, word order in nominal groups, incomplete nominal group, word choice, co-text intermediacy and word choice, with the last type found only in the first-year group. In the logical GMs, students in the third-year group showed slightly better metaphorical control. The outstanding feature of indeterminacy across all texts, however, was not the lack of metaphorical control *per se*, but the lack of grammatical control more generally across the texts.

2) The development of ideational metaphors

There was little indication of development of GM from first to third year, though there were some minor indications (e.g. in suffix usage and lexis). There was a much larger number of instances of GM in the third-year data, including in logical metaphor. It is possible that the third-year students are developing more sophisticated understandings of phenomena and argumentation in their tertiary education, but that their English-language ability is not keeping pace with their expanding knowledge, leading to a greater use of GM in their texts (e.g. construing Processes as Things, construing logical relations as Processes) but not a greater sophistication in their ability to express themselves accurately and effectively in English.

5.3 Answering the research questions

This section restates the research questions and provides answers based on the results of the study:

1. How do Indonesian tertiary EFL learners deploy grammatical metaphor in their academic writing?

The deployment of ideational GMs in this context was studied primarily following the taxonomy of GM developed by Derewianka (1995). The students deploy widely-used GM categories, i.e., Process to Thing in experiential GMs and Relator to Process in logical GMs.

In experiential GM, apart from the Process to Thing category, students also use other categories with less frequency. They are Process to Quality; Quality to Thing; Thing to Quality; Quality to Process; Thing to Genitive; Preposition to Process; Thing to Process, and Rankshifting. More delicate patterns of reconstrual were found in each category. In experiential GM, such patterns were mostly found in the Process to Thing category. In this category, the patterns are:

a. Morphological reconstrual, in which GMs were reconstrued by adding nominal suffix

such as –ion, -ment, -y, -ance; thus transformed Process into Thing such as, *contribute* to *contribution*, or *improve* to *improvement*.

b. Homonymy reconstrual, for example *inflict*, *ravage*, *attempt*,

c. Phenomenon reconstrual for example *globalization* or *modernisation*,

d. Present participle reconstrual, for example *balancing* and *seeing*,

e. Irregular reconstrual, for example *choice* and *loss* and

f. Conation reconstrual, and there is only one instance of this: *effort*.

In other categories of reconstrual of experiential GMs, students also deployed more delicate patterns.

In logical GMs, students use categories other than Relator to Process which has been discussed above. They are Process to Thing and Relator to Thing. More detailed patterns also occurred in these categories. However the patterns in logical GM categoriess tend to be characterized by the wording used to represent each reconstrual. The most typically used lexis to show causal relationships in logical GMs is *make* and *cause*, followed by *bring*, *lead to*, *depend on* and *proof [sic]* (for Relator to Process); *effect*, *influence* and *result* (for Process to Thing); and *reason* (for Relator to Thing).

2. What developmental pathways of grammatical metaphor are suggested by the data?

The comparison between the first- and third-year groups showed a relatively similar use of categories of GM, and also a relatively high degree of similarity in terms of metaphorical control and intermediacy. Although there was an increase in the frequency of instances from the first- to the third-year group, it mostly happened in one experiential category (Process to Thing), and two logical categories (Process to Thing, Relator to Process). The degree of metaphorical control also remains similar across the first and the third year students, with a high number of errors in the texts generally, irrespective of GM.

However, a minor change was apparent in the categories third-year students deployed i.e., in the categories of Quality to Process, Thing to Genitive and Rankshifting (in experiential GM), and Relator to Thing (in Logical GM). These categories were used by the third year students only. However, these categories account for less than 5% of all instances. Therefore, there was a development but it was in a considerably small number of instances.

5.4 Implications

The results of this study provide important information for pedagogical practice in the place where it was conducted, as well as for other parties as discussed below.

1) The university

The findings of this study are particularly important to the university where this research was carried out. The characteristics of the students' deployment and development of GM as found in study should be taken as crucial input for the future improvement of the teaching of academic English writing in this university. The findings also suggest an improvement in the teacher awareness of and ability to use GM, since the teachers play an important role in the students' development and in modelling the kind of language expected of students. The teachers need professional development in this area for their career as well as for their students. Explicit teaching that provides students with recognition of their weaknesses and which fosters the learning of academically valued language such as GM is highly recommended.

However, GM does not exist in isolation. The findings of this study suggest that these learners have a range of areas that need improvement, including at the lexicogrammar level. In addition, something that was not explored in this study was the relation between GM and larger patterns of discourse such as periodicity and genre (e.g. Martin and Rose, 2003). The current, exploratory study has been limited by the scope of a master degree thesis. However, in the context of Indonesia where SFL approaches to genre are guiding the national English curriculum, a PhD-scale study of GM in relation to genre, discourse, and lexicogrammar and the teaching and learning of English in this context could contribute much to this group of learners, and their teachers.

2) The Ministry of Research and Higher Education and Ministry of Religious Affairs

As this study was conducted in a university under the Ministry of Religious Affairs, the findings are likely to be of relevance to other universities under the same Ministry, and in similar social circumstances due to probable similarities in the curriculum and in the challenges faced by teachers and learners. The limited number of English-related subjects in this kind of university compared to the other state university system (see Chapter 1) requires an especially effective approach in the teaching-learning process. In addition, the findings may also be of importance to universities under the Ministry of Research and Higher Education, since every university needs effective teaching and learning processes, and GM is an important factor in academic writing in all contexts.

3) EAP practice

To the wider practices of English for Academic Purposes, these findings outline the characteristics of a specific EFL context, and the deployment and development of ideational GM in this context. The fact that the instances of GM increase, but there is little evidence of

significant, qualitative change of learners' use of GM suggests that the prevailing pedagogical approach (which has not been explored in this thesis due to limitations in the scope of the study) is not effective in developing learners' ability to use GM. It also suggests that there is an opportunity in this context to conduct research at this time, given the changes in the teaching of English in Indonesian schools and the fact that in coming years, students more familiar with concepts such as genre and potentially GM will be entering universities. If an effective approach to tertiary education based on SFL principles and incorporating explicit teaching of GM can be developed based on research, this could be of value to the teaching of EAP in similar contexts beyond Indonesian universities.

5.5 Limitations and areas for further study

This project has been limited to the study of ideational GM as a key linguistic resource in the meaning making process in academically valued texts. This is due to the limited time and the depth of the study conducted. Other linguistic resources for improving students' academic writing should be incorporated into this kind of study in the future to add to the perspectives from which the research is carried out. These could include other kinds of GM, genre, periodicity, logogenetic development, and control of lexicogrammatical features in the clause.

The cross-sectional data collection used in this study could be supplemented by future studies with longitudinal data collection in order to conduct a more delicate examination of personal as well as group development, to provide more accurate information for improvement.

Further studies that intervene in the current pedagogical practice in the context, based on the information provided by research findings such as those presented here may open opportunities for different methodologies to be trialed, and for their effectiveness for learners and for teachers to be determined. A PhD-scope research study based on the current findings could explore such a pedagogical intervention.

6.6 Conclusion

This study has shown that, in the context where it was conducted, the development of the learners' academic writing was very limited as measured in this study. English as a foreign language is highly valued in Indonesian society and internationally. Nevertheless, the interaction with and access to academic English in this context for students is very limited. The participants in this study can be considered as disadvantaged English learners, since, apart from the fact that the language is foreign, demographically they are also primarily from a social class that has difficulties in accessing English due to their remote living areas and their socio-economic backgrounds. Therefore, one important response to this situation is to equip the

teachers with linguistic knowledge and understanding of pedagogical practices that can provide the learners with explicit Knowledge About Language as a baseline for more advanced English literacy development, including systematic and explicit teaching of grammatical metaphor and its important role in effective academic writing.

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Appendices

Appendix A

Experiential GM

1 Instances of Transcategorisation : Pro > Thing

No.	Year	Student ID	Instances	Notes
1	3	SLA08613	Its make many people afraid because of effect in sirculation air.	misspelling/ word order
2	3	SLA08614	The land will be bad because of slide or deforestation.	
3	3	SLA08615	For the situation make decrease of income in our country.	
4	3	SLA09113	its make respiration infection .	
5	3	SLA09113	Indonesia has ravage high greet every years,	
6	3	SLA09413	to satisfy growing demand for food production and other activities [[related to economic development.]]	
7	3	SLA09413	[[that the deforestation have a negative impact, for example susceptible to slide , floods and etc.]]	
8	3	SLA09213	In some people's opinion, this kind of efforts [[to develop economic and social development]] are worst,	
9	3	SLA09213	Not at all sectors are agree with this decision [[to burn the forest,]]	
10	3	SLA09213	although they said [[that burn the forest is the best choice || to make a new industry.]]	
11	3	SLA09213	According to Industrian, deforestations are good choice	
12	3	SLA09213	this efforts are strangely worst	
13	3	SLA09313	that caused by the destruction of environment.	
14	3	SLA09313	to solve about the destruction of environment and losing species animal by make a concervation .	
15	3	SLA09313	The bigger income for Indonesia, can helps the way of conducting a infrastructure build for Indonesia .	
16	3	SLA09313	also minimize the reforestation by a real act .	
17	3	SLA09613	Deforestation in Indonesia for now like a big invasion.	
18	3	SLA09613	Some argue from some people say [[if we must to explore || and invasion our forest]]	Wrong form
19	3	SLA09613	because it's needed for our contribution in global society/community.	
20	3	SLA09613	That argue has a correctly argue	wrong form
21	3	SLA09613	That argue has a correctly argue	wrong form
22	3	SLA09313	also minimize the reforestation by a real act .	
23	3	SLA09613	to keep the circulation of life still on the right track.	

24	3	SLA10213	which is bad for their lung, their seeing even,	adverb misplacement / word order
25	3	SLA10213	Whether they explain about the increase or the good impact about this deforestation.	
26	3	SLA10213	The goverment Like doing manipulation to the public,	
27	3	SLA10213	However, their thinking (The goverment) the way [[they solve this problem,]] still bad,	
28	3	SLA10313	to able defending from this globalization.	
29	3	SLA10413	From the Statement AboVe most of argumentation say disagree with,	wrong form-argument
30	3	SLA10413	and most or argumentation say agree also.	wrong form-argument
31	3	SLA10413	and eVery permission letter have to pay taxs depend on *agrement*.	
32	3	SLA10413	not only that but also Indonesia will have great, social relation	
33	3	SLA10413	Because with this way the society and government will have good relation	
34	3	SLA10913	that nowadays it still being a strong discussion in government.	
35	3	SLA10913	that can be very useful to increase the economic development such as the production of wood, plants, animal, and so on.	
36	3	SLA10913	Beside the advantages of rainforest in keeping the natural stability, we have to keep our identity	
37	3	SLA11112	but also we can feel impact from it as global warming and soon.	
38	3	SLA11413	[[Knowing about the benefits of rainforests]] is important, especially for Indonesian [[that have a large of rainforests.]]	
39	3	SLA11413	Hence, all of us need an attempt	
40	3	SLA11413	to understand [[that the utilization of rainforests have to conduct in the right way.]]	
41	3	SLA11413	to build the balancing of our natural resources.	
42	3	SLA11413	As in the statement above, that many argues [[that those environmental impacts are the necessary price of economic aspect and to increase Indonesia's performance in global community.]]	
43	3	SLA11413	So, in my opinion, I consider [[that knowing about the benefit of rainforests also have to balance with knowing to keep and preserve it.]]	
44	3	SLA11513	And addition , it for necessary price of economic and social development in the country, especially Indonesia.	
45	3	SLA11913	Because the development in economic and social side can be reached by another effort, [[such us highlighting Indonesian culture || and even exporting the plants from Indonesia to another countries in the world.]]	
46	3	SLA11913	Indonesian government has to be thankful for this achievement	
47	3	SLA11913	While in economic development, the government can increase the farming and what in the sea,	
48	3	SLA11913	Indonesia can export the production,	

No.	Year	ID	GM Instances	Notes
49	3	SLA11913	Because by keeping and increasing the farming and sea,	
50	3	SLA11913	and by deforestation will be bring the bad impact and disadvantages.	
51	3	SLA11913	And development in social and economic side can be reached by another effort	
52	3	SLA12013	weather on the other hand there are some positive effect from others people but the deforestation bigger than the advantages of deforestation.	
53	3	SLA12013	to develop their effort.	
54	3	SLA12213	Because the smoke from the forest burning disturbs the people's activities,	
55	3	SLA12213	there are many airports [[which have to cancel the flying || because the smoke was too bold,]]	
56	3	SLA12613	So, many people don't understand about the disadvantages of deforestation.	
57	3	SLA12613	The disadvantages of deforestation is very complex,	
58	3	SLA12613	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	
59	3	SLA12613	the farmer gets less money, also for the forest sector and transportation.	
60	3	SLA13113	from this phenomenon just bring Indonesia to the brink of huge losses, such as the weakened economic Indonesia,	wrong form
61	3	SLA13813	the government and minister start to introduced [[how the important forest our living in Elementary school.]]	
62	3	SLA13813	The government should punish the deforestation without permissions,	
63	3	SLA13813	Because the impact will destroy all living in this world.	incomplete NG
64	3	SLA13913	which cause the *polution* of the air not only in Indonesia,	
65	3	SLA13913	The increasing of deforestation in Indonesia is losing over 50.000 species every year.	gerundive nominalisation
66	3	SLA13913	This is the most bad improvement for the environment.	co-text, most bad
67	3	SLA10913	In Indonesia, the increased number of deforestation made some ravages in environment.	
68	3	SLA12613	For the farming sector, it makes huge loses,	wrong word. Lose vs loss

No.	Year	ID	GM Instances	Notes
1	1	WR107515	The advantages from forest in Indonesia not only for plant, animal and insect but also for us.	
2	1	wr108215	it make me frustration	
3	1	wr108215	They are can't had clear thinking,	

4	1	wr112015	The bad impact is like increase of air pollution , decrease of animal and plant species	
5	1	wr112015	The bad impact is like increase of air pollution , decrease of animal and plant species	
6	1	wr112015	The bad impact is like increase of air pollution , decrease of animal and plant species	
7	1	wr112015	but there is another choise.	misspell
8	1	wr116615	We also need the animal for balancing.	incomplete NG
9	1	wr116615	For adding education about it.	
10	1	wr117615	I think I am disagree about your arguing.	wrong form
11	1	wr117615	So I am disagree about your arguing	wrong form
12	1	wr117715	I disagree with this argue,	wrong form
13	1	wr117715	So that, our forest will be decrease time by time.	
14	1	wr117715	So, our respiration wouldn't get fresh air	
15	1	wr117715	and imagine, that the forest is decrease.	
16	1	wr118215	In this situation human is inflict a financial loss by them self.	
17	1	wr118215	In this situation human is inflict a financial loss by them self.	
18	1	wr118215	however, forest has so many benefit for human	
19	1	wr118315	Forest can make minimal polution.	
20	1	wr118315	because can decrease pollution from mining operations, and factory also.	
21	1	wr119315	How important keeping forest.	
22	1	wr119315	So many population there,	
23	1	wr119315	but no plants can filter the population.	
24	1	wr119315	but we must plant again as like reforestation.	
25	1	wr119615	So it is very reduction.	co-text
26	1	wr119615	so it is not water infritation.	misspell
27	1	wr119615	Deforestation very disadvantages,	co-text
28	1	wr120015	it can cause global warming.	
29	1	wr120015	that, lately global warming has become the no 1 disaster in the world.	
30	1	wr120015	how about global warming?	
31	1	wr106615	also give them place [[to cut tree but not exploitation]].	
32	1	wr106615	Beside that the government have to give punishment for exploitation of rainforest.	

No.	Year	Student ID	Instances	Notes
33	1	wr104815	Because there is deforestation of the forest can be global warming.	
34	1	wr104815	However, the forest so easy to fired due to happen of the global warming.	
35	1	wr104815	However, the solution are we must to keep the plants and planting of the new plants.	
36	1	wr104815	Because the forests can be balance of the world.	
37	1	wr101115	There will be so many risk [[will be had.]]	
38	1	wr101115	Moreover, Indonesia can lost its biodiversity.	
39	1	wr101115	From the explanation above, human should know [[that forest is very essential.]]	
40	1	wr101615	But it can advantage for rich person	
41	1	wr101615	and don't need to buy timber [[that usually they use for cooking]]	
42	1	wr101615	and it disadvantage for human	
43	1	wr101615	Not just animal, human also feel disadvantage	
44	1	wr102115	Forest is very important, for breathing, for life and for all aspects.	
45	1	wr103615	maybe that is make condition change become expensive.	
46	1	wr103615	because all of thing became *modernitation* of technology and other.	misspell
47	1	wr104115	Global warming in any where.	

2 Instances of Tarancategorisation : Process > Quality

No.	Year	Student ID	Instances	Notes
1	3	SLA09413	to satisfy growing demand for food production and other activities [[related to economic development.]]	
2	3	SLA09413	that Indonesia is development country.	wrong form
3	3	SLA10313	As developing country, Indonesia has to follow	
4	3	SLA10413	to make indonesia more progressive and compete.	wrong form
5	3	SLA13113	start from the reduced animal species in each years, not just animal but also plants.	
6	3	SLA13113	from this phenomenon just bring Indonesia to the brink of huge losses, such as the weakened economic Indonesia,	word order in NG
7	3	SLA13113	which will lead to increasing numbers of Indonesia state debt to other developed countries.	
8	3	SLA13113	which will lead to increasing numbers of Indonesia state debt to other developed countries.	
9	3	SLA13813	They never thing for other living in this world.	incomplete NG

No.	Year	ID	Instances	Notes
10	3	SLA13813	From the all event, we should realize [[how the important forest for our living necessary.]]	
11	3	SLA11413	In the other hand, Indonesia also has to save and preserve the rainforests for continuing.	incomplete NG
12	3	SLA12613	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	
13	3	SLA12613	For the farming sector, it makes huge loses,	
14	3	SLA13113	Back to the disadvantages of social problem, are the smoke [[that spread throughout the region and even to neighboring countries]]	

No.	Year	ID	GM Instances	Notes
1	1	wr108215	and every year so many people feel threatened with their stupid action and damaging the environment.	
2	1	wr108215	I as an indonesian people really disappointed with them	
3	1	wr108215	but I'm just student college [[who want to help the people surrounding forest like a riau Sumatra, Indonesia]].	
4	1	wr120015	and also Indonesia is located between two continent and two ocean.	
5	1	wr102215	and it is very damage for human life.	wrong form,
6	1	WR107215	so there are not place to intercept and retain falling water.	

3   Instances of Tarancategorisation : Quality > Thing

No.	Year	Student ID	Instances	Notes
1	3	SLA10413	and this is, one of Vigour of indonesia.	
2	3	SLA11513	In similarity, to solve the negative effect in deforestation,	
3	3	SLA11513	the goverment must do something or responsibility about it.	
4	3	SLA10313	One [[who takes this responsibility]] is Indonesia goverment.	
5	3	SLA13113	and making the heat of Indonesia state	
6	3	SLA10913	The increased practice of deforestation will impact the natural stability	
7	3	SLA10913	Beside the advantages of rainforest in keeping the natural stability, we have to keep our identity	
8	3	SLA09313	For the economic , the deforestation by clearing some land can used for the mining activity and also for planting Kelapa Sawit.	
9	3	SLA11913	and it will give the effect of humans healthy and their productivity.	
10	3	SLA10213	see what the best possibility about [[what they have done for this country]].	
11	3	SLA10413	Certainly Indonesia will provide many vacancy job ,	word order in NG

12	3	SLA10413	to minimalis Joblessness in Indonesia well.	

No.	Year	ID	GM Instances	Notes
1	1	wr116615	Every person also have to have self-awareness	
2	1	wr116615	besides of that, self-awareness from public is important too.	
3	1	wr106615	So human of healthy can be problem.	human health
4	1	wr103615	Maybe that is positive action for a bussiness person.	misspelling
5	1	wr105015	For the second animal and human cannot doing activitis as well.	misspelling
6	1	wr119615	It is can be cause extinction animals.	Nominal group
7	1	wr119615	Just not it, it is also cause extinction other, example plant.	Nominal group
8	1	wr101115	so Indonesia will lost its plant, animal, especially for the endemic.	noun
9	1	wr101115	Besides, people in Indonesia should know the important of forest	noun (wrong form)
10	1	wr118215	so we have to keep our forest for life directness.	

4   Instances of Tarancategorisation : Thing > Quality

No.	Year	ID	Instances	Notes
1	3	SLA10413	that build have permission letter,	
2	3	SLA10413	and eVery permission letter have to pay taxs depend on agrement.	
3	3	SLA09613	to make Indonesia growed in *globalitation* era	misspelling
4	3	SLA11913	and it will give the effect of humans healthy and their productivity.	
5	3	SLA12613	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	
6	3	SLA12613	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	
7	3	SLA09313	And also for the effect from the disaster of smoke [[caused by the delibere burning]], it makes some people in large margin get some respiration ill.	
8	3	SLA12613	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	
9	3	SLA12613	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	
10	3	SLA09613	we can lost the big air supply company	

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No.		ID	Instances	Notes
11	3	SLA12613	the farmer gets less money, also for the <u>forest</u> sector and transportation.	
12	3	SLA09113	its make <u>respiration</u> infection .	

No.		ID	GM Instances	Notes
1	1	wr117715	that these <u>environmental</u> impacts are the necessary price of economic and social development as Indonesia becomes more active in the global community	
2	1	wr118215	In this situation human is inflict a <u>financial</u> <u>loss</u> by them self.	
3	1	wr105015	Plants, animal and human take <u>healthy</u> air from it.	
4	1	wr105015	so all of providing <u>healthy</u> air are stop.	
5	1	wr103615	maybe that is make <u>condition</u> change become expensive.	wrong form
6	1	wr102115	For <u>universal</u> impact such as we lose our forest.	

5 Instances of Tarancategorisation : Quality > Process

No.	Year	ID	Instances	Notes
1	3	SLA10413	to <u>minimalis</u> Joblessness in Indonesia well.	wrong form
2	3	SLA13813	The government should <u>minimize</u> building the industry.	
3	3	SLA13913	The goverment can <u>maximize</u> the facility or the space	

6 Instances of Tarancategorisation : Thing > Possessive

No.	Year	ID	Instances	Notes
1	3	SLA12213	Because the smoke from the forest burning disturbs the <u>people's</u> <u>activities</u>,	

7 Instances of Rankshifting

No.	Year	ID	Instances	Notes
1	3	SLA11413	[[<u>Knowing about the benefits of rainforests</u>]] is important, especially for Indonesian [[that have a large of rainforests.]]	

8. Instances of Transcategorisation: Preposition > Process

No.	Year	ID	GM Instances	Notes
1	1	wr108215	Of course, I againts about deforestation in indonesia.	
2	1	wr105015	I against about the increased practice of deforestation.	error?

9. Instances of Transcategorisation: Thing > Process

No.	Year	ID	GM Instances	Notes
1	1	wr119315	but we must plant again as like reforestation.	

Appendix B

Logical GM

1   Instances of Tarancategorisation : Process > Thing

No.	Year	Student ID	Instances	Notes
1	3	SLA08613	Its make many people afraid because of effect in sirculation air .	
2	3	SLA08613	For this situations exactly make the influence of economic	
3	3	SLA08613	its make effects in sale of land are decrease.	
4	3	SLA08913	They do not think about the effect of deforestation for the world and human.	
5	3	SLA08913	that the increased practice of deforestation has bad effect to necessary economic and social development for our country, especially for our society's life	
6	3	SLA09113	Negative effect about Deforestation one of the is smoke,	
7	3	SLA09113	and deforestation has effect in economic Indonesia,	
8	3	SLA09313	For Indonesia itself, It has some effect, both on social development and the economic.	
9	3	SLA09313	And also for the effect from the disaster of smoke [[caused by the delibere burning]], it makes some people in large margin get some respiration ill.	
10	3	SLA10313	The effect of deforestation in Indonesia and Indonesia's role in global community become a big duty for Indonesia goverment.	
11	3	SLA10313	The fact, [[exploring the Indonesia natural resources]] has two contras effects	
12	3	SLA10313	One is positive effect [[that Indonesia becomes more active in the global community,]]	
13	3	SLA10313	and other is negative effect [[that deforestation Indonesia nature.]]	
14	3	SLA10313	Although, it has some negative effect for our live,	
15	3	SLA11513	Deforestation in Indonesia has negative effect and positive effect.	
16	3	SLA11513	Deforestation in Indonesia has negative effect and positive effect.	
17	3	SLA11513	The negative effect not only the human but also the plant and animal.	
18	3	SLA11513	In similarity, to solve the negative effect in deforestation,	
19	3	SLA11913	and it will give the effect of humans **healthy and their productivity.	
20	3	SLA12013	that many negative effect from deforestation for example flood.	

No.	Year	ID	Instances	Notes
21	3	SLA12013	weather on the other hand there are some positive effect from others people but the deforestation bigger than the advantages of deforestation.	
22	3	SLA12613	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	
23	3	SLA13113	In my opinion, deforestation is very bring the negative effect,	
24	3	SLA13913	From my point of view, the deforestation can not bring good effect for the citizen.	
25	3	SLA14113	And the effect of economic just for the people [[who look for plants and animals in the flores]]	
26	3	SLA14113	it can make the bad effect in the world.	

No.	Year	ID	GM Instances	Notes
1	1	WR107215	many people, plants and animals will feel its effect.	
2	1	WR107215	but after that we will feel its effect.	
3	1	WR107215	it is effect from deforestation.	
4	1	wr117715	and the result of deforestation also make some disasters.	
5	1	wr117715	and the result are overflow, ground slide and so many.	
6	1	wr117715	but think again the long result of this. (Deforestation)	
7	1	wr118315	Indonesia can use the result of the forest, not only use mining result.	
8	1	wr118315	Indonesia can use the result of the forest, not only use mining result.	
9	1	wr118315	Forest can decrease the negativ effect from mining operations.	

2   Instances of Tarancategorisation : Relator > Process

No.	Year	Student ID	Instances	Notes
1	3	SLA08613	Its make many people afraid because of effect in sirculation air .	
2	3	SLA08613	The condition of air make our body unhealthy like as influenza,	
3	3	SLA08613	For this situations exactly make the influence of economic	
4	3	SLA08613	its make effects in sale of land are decrease.	
5	3	SLA08613	For the situation make decrease of income in our country.	
6	3	SLA08913	It makes many animals and insects do not have habitation for life.	
7	3	SLA09113	its make respiration infection .	

8	3	SLA09213	that <u>caused</u> by some people [[who burn the rainforest.]]	
9	3	SLA09213	because it <u>makes</u> the lands being bad.	
10	3	SLA09313	that <u>caused</u> by the destruction of environment.	
11	3	SLA09313	And also for the effect from the disaster of smoke [[<u>caused</u> by the delibere burning]], it makes some people in large margin get some respiration ill.	
12	3	SLA09313	And also for the effect from the disaster of smoke [[caused by the delibere burning]], it <u>makes</u> some people in large margin get some respiration ill.	
13	3	SLA10313	In my opinion. some of Indonesia deforestation is <u>caused</u> [[people does not interest by our Indonesia role (uu).]]	
14	3	SLA10313	So, it <u>makes</u> them brave to do deforestation.	
15	3	SLA10413	and eVery permission letter have to pay taxs <u>depend on</u> agrement.	
16	3	SLA10413	to <u>make</u> indonesia more progressive and compete.	
17	3	SLA10913	In Indonesia, the increased number of deforestation <u>made</u> some ravages in environment.	
18	3	SLA10913	It <u>proofs</u> with the flood in many places,	
19	3	SLA10913	The increased practice of deforestation will <u>impact</u> the natural stability	
20	3	SLA11513	Deforestation also <u>cause</u> many disease.	
21	3	SLA11913	because it sometimes <u>brings</u> the impacts in environments and society's life.	
22	3	SLA11913	and by deforestation will be <u>bring</u> the bad impact and disadvantages.	
23	3	SLA11913	without <u>bring</u> the bad impact in another side.	
24	3	SLA12013	flood will be <u>cause</u> many mosqueito	
25	3	SLA12013	of course it <u>make</u> ill in the environment.	
26	3	SLA12013	it will be <u>make</u> poorer our country,	
27	3	SLA12213	in order to <u>make</u> Indonesia better.	TC relator to pro. The people choose the government to make Indonesia better.
28	3	SLA12613	It <u>makes</u> many impacts for many plants, animals and human [[who breathe in || the smoke produces from the burning.]]	

No.	Year	ID	GM Instances	Notes
29	3	SLA12613	For the farming sector, it makes huge loses,	
30	3	SLA13113	In my opinion, deforestation is very bring the negative effect,	
31	3	SLA13113	and making the heat of Indonesia state	wrong form
32	3	SLA13113	it can makes Indonesia country have a major social problem with the other countries.	
33	3	SLA13113	the deforestation more bring disadvantages than the advantages.	
34	3	SLA13113	which will lead to increasing numbers of Indonesia state debt to other developed countries.	
35	3	SLA13913	which cause the polution of the air not only in Indonesia,	
36	3	SLA13913	It also can make the air pollution	
37	3	SLA13913	which can impact to the healthy of citizen in Indonesia.	
38	3	SLA14113	Because it can make Indonesia doesn't rainforests.	
39	3	SLA14131	SO, make the people of Indonesia difficult [[to look for water]]	
40	3	SLA14113	and make country to be flood.	
41	3	SLA14113	it can make the bad effect in the world.	

No.	Year	ID	GM Instances	Notes
1	1	wr108215	it make me frustration	
2	1	wr112015	it can make bad impact on the next day.	
3	1	wr112015	and also can change the climate and season.	
4	1	wr116915	and make Indonesia active in the global comunity,	
5	1	wr117715	and make the forest bold and also worst.	
6	1	wr117715	and also make the Air more hot.	
7	1	wr117715	and the result of deforestation also make some disasters.	
8	1	wr117715	because can make animals or plants or anything insid the jungle or forest.	
9	1	wr118315	Forest can make minimal polution.	
10	1	wr119615	Just not it, it is also cause extinction other, example plant.	
11	1	wr119615	It is can be cause extinction animals.	
12	1	wr120015	The disaster in Indonesia are mostly caused by human. For example: landslide, flooth, burning rainforest	
13	1	wr120015	it can cause global warming.	
14	1	wr106615	Beside that human of Indonesia faced many diseas cause flood.	
15	1	wr104715	it make many animals and plants died.	

No.	Year	Student ID	Instances	Notes
16	1	wr105015	deforestation occurs so many impact come in the world.	
17	1	wr105015	first can make any species died, like plants, animal and human in the world.	
18	1	wr105015	It can make land lose	
19	1	wr105015	and make burning forest.	
20	1	wr101615	and it can be make animals stay in village or city [[that there are many people live in there]]	
21	1	wr101615	because it can make disaster cause from that situation	
22	1	wr101615	because it can make disaster cause from that situation	
23	1	wr101615	there are probably can make a many disaster	
24	1	wr102215	Deforestation also make the government lose the financial.	
25	1	wr103615	maybe that is make condition change become expensive.	
26	1	wr103615	If we look at from social side, Deforestation make separate with other.	
27	1	wr102115	But in fact it can make this world being worst.	

3 Instances of Tarancategorisation : Relator > Thing

No.	Year	Student ID	Instances	Notes
1	3	SLA12213	Although citizen give reason	
2	3	SLA13813	For these reason, we do not allow to destroy it.	
3	3	SLA13813	The necessary of humans being the reason	
4	3	SLA13813	But, this is can not solved the reason [[why humans deforestation rainforest.]]	
5	3	SLA10213	I do not know what is the specific reason of Indonesia's goverment.	

Appendix C

Dead Metaphor

1 Instances of : Becoming entity with no congruence agnate

No.	Year	Student ID	Instances	Notes
1	3	SLA09113	We as a young generation have to keep safe the environment	E
2	3	SLA09413	to satisfy growing demand for food production and other activities [[related to economic development.]]	E
3	3	SLA09313	Both the government and the people inside Indonesia, have to make a real action for better environment condition.	E
4	3	SLA09613	The number of deforestation in Indonesia include in dangerous level,	E
5	3	SLA09613	The negative impact from deforestation like [[deforestation can broke the life activity between forest environment.]]	E
6	3	SLA10213	The Singapura's Goverment have been offered their helped,	E

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7	3	SLA10213	But, The good thing of country neighbor Singapura have been refuse by the goverment of Indonesia.	E
8	3	SLA10213	I do not know what is the specific reason of Indonesia's goverment.	E
9	3	SLA10213	The goverment Like doing manipulation to the public,	E
10	3	SLA10213	As student I just can enjoying what the goverment role	E
11	3	SLA10213	However, their thinking (The goverment) the way [[they solve this problem,]] still bad,	E
12	3	SLA10313	The effect of deforestation in Indonesia and Indonesia's role in global community become a big duty for Indonesia goverment.	E
13	3	SLA10313	One [[who takes this responsibility]] is Indonesia goverment.	E
14	3	SLA10313	Indonesia goverment can choose some ways to solve it.	E
15	3	SLA10313	Moreover, they also does not follow some role to have promotion.	get a promotion at work?
16	3	SLA10313	Indonesia goverment has to more details to give some promotion in exploring Indonesia nature.	E
17	3	SLA10313	And also, Indonesia goverment has to give punishment to whom [[doesn't do the Indonesia role.]]	E
18	3	SLA10313	but our Indonesia goverment always observe [[how its running.]]	E
19	3	SLA10313	As a conclution ; Indonesia goverment is one of the keys to solve our problem in Indonesia deforestation and Indonesia role in global community	E
20	3	SLA10313	As a conclution ; Indonesia goverment is one of the keys to solve our problem in Indonesia deforestation and Indonesia role in global community	E
21	3	SLA10313	because the good goverment will make a good country [[that sefety and rich.]]	E
22	3	SLA10413	Because with this way the society and government will have good relation	E
23	3	SLA10913	that nowadays it still being a strong discussion in government.	E
24	3	SLA11413	the young generation can not use the rainforests as like us.	E
25	3	SLA11513	the goverment must do something or responsibility about it.	E
26	3	SLA11513	The goverment must choose way to solve it,	E
27	3	SLA11513	So, the goverment must follow the rule (uu)	E
28	3	SLA11913	Indonesian government has to be thankful for this achievement	E
29	3	SLA11913	While in economic development, the government can increase the **farming and what in the sea,	E

30	3	SLA12213	For the government, they need to make the citizen to understand how important the forest for other life, not only for Indonesia but also for every country in this world.	E
31	3	SLA12213	For me, the government must have a strong commitment	E
32	3	SLA12213	The government must do the rule of law in the right way,	E
33	3	SLA12213	The government have to show	E
34	3	SLA12613	As a young generation of Indonesia, we have to save our forests,	E
35	3	SLA13113	the deforestation more bring disadvantages than the advantages.	E
36	3	SLA13113	the deforestation more bring disadvantages than the advantages.	E
37	3	SLA13113	Back to the disadvantages of social problem, are the smoke [[that spread throughout the region and even to neighboring countries]]	E
38	3	SLA13813	The government should punish the deforestation without permissions,	E
39	3	SLA13813	The government should minimize building the industry.	E
40	3	SLA13813	the government will find the better solution for development the social and economic in Indonesia without deforestation rainforest.	E
41	3	SLA13913	some people or [[we can say]] goverment agree to this deforestation.	E
42	3	SLA13913	The goverment can maximize the facility or the space	E
43	3	SLA13913	To increase economic and social goverment need to discuss again to use the things	E

No.	Year	ID	GM Instances	Notes
1	1	WR107515	especially for goverment I meant like president of Indonesia must keep	P>T
2	1	wr108215	the government can make it	P>T
3	1	wr116615	our next generations can enjoy the life	P>T
4	1	wr116915	and benefit just for goverment an company.	P>T
5	1	wr117615	and I think goverment must to stopping deforestation in Indonesia with the give all humans information about Deforestation	P>T
6	1	wr117615	and I think goverment must to stopping deforestation in Indonesia with the give all humans information about Deforestation	P>T
7	1	wr117715	what we provided for our generation	P>T
8	1	wr117715	That rules must made by goverment and they [[who have skill about that]].	P>T
9	1	wr106615	Government of Indonesia must solve this problem.	P>T

10	1	wr106615	Beside that the government have to give punishment for exploitation of rainforest.	P>T
11	1	wr106615	I think the people and government must cooperate	P>T
12	1	wr106615	Indonesia's government must solve this problem faster.	P>T
13	1	wr104715	and it can destroy population of animals.	P>T
14	1	wr104715	the goverment now care to.	P>T
15	1	wr104715	the next our generation can life with happy and peace.	P>T
16	1	wr101115	Government should	P>T
17	1	wr102215	The government should to solve this problem.	P>T
18	1	wr102215	The citizen [[who knows that occur deforestation,]] they must give that information to the government.	P>T
19	1	wr102215	The citizen [[who knows that occur deforestation,]] they must give that information to the government.	P>T
20	1	wr102215	Then , the government must work immediately,	P>T
21	1	wr102215	If the government and the citizen work together,	P>T
22	1	wr103615	From the text above, I think Deforestation is negative action.	P>T
23	1	wr120015	the position of our country is very dangerous	Q>T
24	1	wr116615	Flood is dangerous for human.	Q>T

2   Instances of : Process +Medium

No.	Year	Student ID	Instances	Notes
1	3	SLA09313	it will never give us an advantage ,	E
2	3	SLA10213	want to give a help.	E
3	3	SLA10213	but they not give solution about this deforestation.	E
4	3	SLA10313	And also, Indonesia goverment has to give punishment to whom [[doesn't do the Indonesia role.]]	E
5	3	SLA11413	that the governments give sosialitation to make creative industry.	E
6	3	SLA11913	and it's give the advantages to the farmers and fishermans	E
7	3	SLA12213	that the deforestation [[which they have done]] give many disadvantages.	E
8	3	SLA12213	to give punishment for the people or company [[who destroy the forest.]]	E
9	3	SLA13813	give the big punishment.	E
10	3	SLA13813	They should give the solution too for them.	E
11	3	SLA14113	And the development seldom to give punishment to the people who Deforestation.	E

No.	Year	ID	GM Instances	Notes
1	1	wr116615	and we also have to give understanding as good as possible for people [[who cut the forest illegally]],	P>T

No.	Year	Student ID	Instances	Notes
2	1	wr116615	and also give understanding/education about 'the power of Environment and Nature"	P>T
3	1	wr106615	Beside that the government have to give punishment for exploitation of rainforest.	P>T
4	1	wr119315	The plants can make tackling of flood	P>T
5	1	wr101615	and the land [[that being cleared]] it can we rest to someone or human [[that want to make build , home, factory or others in there]]	P>T
6	1	wr102215	They must give punishment for the subject of deforestation.	P>T
7	1	wr120015	because it can give destruction of environment.	P>T
8	1	WR107215	beside it rainforest is give we many advantage .	P>T
9	1	WR107215	we must give an advice	P>T
10	1	WR107215	because the rainforest give we many advantages for our live.	P>T
11	1	wr105015	So the forest not give many advantages again.	P>T

3 Instances of : Process + Range

No.	Year	Student ID	Instances	Notes
1	3	SLA09213	they also make a deforestation	E
2	3	SLA09313	People outside Indonesia starts to have an activit y	E
3	3	SLA09313	to solve about the destruction of environment and losing species animal by make a concervation .	E
4	3	SLA09313	And also for the effect from the disaster of smoke [[caused by the delibere burning]], it makes some people in large margin get some respiration ill.	E
5	3	SLA11513	to get the best solution or solve the deforestation in Indonesia.	E
6	3	SLA13813	Some of them make movement to Plan In Indonesia	E
7	3	SLA13813	the government will find the better solution for development the social and economic in Indonesia without deforestation rainforest.	E
8	3	SLA14113	So they don't get punishment.	E
9	3	SLA09613	The rainforest had contribution [[to keep stock air in earth for our consumption.]]	E
10	3	SLA09613	because they also have contribution in our life.	E
11	3	SLA09613	The problem is [[what the best ways || to make || Indonesia have contribution in global community without destroy the rainforest of Indonesia.]]	E
12	3	SLA11913	because it's has many advantages for Indonesian people and country,	E
13	3	SLA12613	Deforestation has many relation to some aspects, not only for the environment,	E
14	3	SLA12613	but also it has relation to necessary economic and social development.	E

15	3	SLA09213	because without rainforest, our country will get a lot of damage such as flood, ect.	dead? Cf. previous comment
16	3	SLA09313	Since Indonesia with a large forest has a big influence for everyone in the world,	dead? Cf. previous comment
17	3	SLA09313	Both the government and the people inside Indonesia, have to make a real action for better environment condition.	dead? Cf. previous comment
18	3	SLA10213	to give an appreciation for them.	dead? Cf. previous comment
19	3	SLA10313	Indonesia *goverment* has to more details to give some promotion in exploring Indonesia nature.	Like advertising. Dead?
20	3	SLA11513	With the deforestation in Indonesia, so, this Country has relation with foreign.	dead? Cf. previous comment
21	3	SLA12213	For me, the government must have a strong commitment	dead? Cf. previous comment
22	3	SLA09613	So, we must to find solution	E

No.	Year	ID	GM Instances	Notes
1	1	wr120015	we can take many advantages as like a healthy air, many kinds of animals and plants,	P>T
2	1	wr105015	Cause usually animal and human take many advantages from plants in the forest	P>T

Appendix D

Students' Texts and Clausal Division

Codes of instances
Codes: From the prompt
Experiential GM
Logical GM
Probably GM
Dead GM
Misspelling
<u>Wrong Form</u>

EXAMPLES OF THIRD YEAR TEXTS

Student ID: SLA13813

Forest, the important thing that we should keep it. As we know that forest are the lungs of the world. Everything is this world need air. Human for breathing, animals for breathing and plant for their photosinthesis. For these reason, we do not allow to destroy it.

The necessary of humans being the reason why many deforestation in Indonesia. Humans never feel satisfied with all they have. They never thing for other living in this world. But now, some of people realize the impact of deforestation rainforest. Some of them make movement to Plan In Indonesia we call it "Menanam Seribu Pohon" the government and minister start to introduced how the important forest our living in Elementary school. It is important to make their mainset know early. The government should punish the deforestation without permissions, give the big punishment. So, it will make they afraid to do it again. The government should minimize building the industry. They should give the solution too for them. Form the all event, we should realize how the important forest for our living necessary. God make the forest for us to use, but we should use it with well. Because the impact will destroy all living in this world. That's right that we want development in economic and social, there are the necessary price we should. But, this is can not solved the reason why humans deforestation rainforest. We must remember God not make use to destroy but for keep each other.

I hope the government will find the better solution for development the social and economic in Indonesia without deforestation rainforest. For the best future, we should keep our rainforest start now. Start from us, ourself and for us.

Words: 284

No.	Clause	Comments
1.	Forest, the important thing	
2.	that we should keep it.	
3.	As we know	
4.	that forest are the lungs of the world.	
5.	Everything is this world need air.	
6.	Human for breathing,	
7.	animals for breathing	

8.	and plant for their photosinthesis.	
9.	For these reason, we do not allow to destroy it.	Causality, TC relator to thing
10.	The necessary of humans being the reason	Causality, TC relator to thing TC pro to thing
11.	why many deforestation in Indonesia.	
12.	Humans never feel satisfied with all they have.	
13.	They never thing for other living in this world.	TC pro to quality (wrong grammatical slot – *other living thing*)
14.	But now, some of people realize the impact of deforestation rainforest.	Logical, TC relator to thing Process+range
15.	Some of them make movement to Plan In Indonesia	
16.	we call it "Menanam Seribu Pohon"	
17.	the government and minister start to introduced [[how the important forest our living in Elementary school.]]	TC pro to thing
18	It is important	
19.	to make their mainset know early.	
20.	The government should punish the deforestation without permissions,	TC pro to thing
21.	give the big punishment.	Pro+medium
22.	So, it will make they afraid [[to do it again.]]	Quality to pro
23.	The government should minimize building the industry.	Process + Medium
24.	They should give the solution too for them.	TC pro to quality
25.	From the all event, we should realize [[how the important forest for our living necessary.]]	
26.	God make the forest for us to use,	
27.	but we should use it with well.	TC relator to thing. TC pro to thing
28.	Because the impact will destroy all living in this world.	
29.	That's right	
30.	that we want development in economic and social,	
31.	there are the necessary price we should.	Causality TC relator to thing
32.	But, this is can not solved the reason [[why humans deforestation rainforest.]]	
33.	We must remember	
34.	God not make use to destroy	

35.	but for keep each other.	Solution (entity)
36.	I hope	
37.	the government will find the better solution for development the social and economic in Indonesia without deforestation rainforest.	
38.	For the best future, we should keep our rainforest start now.	
39.	Start from us, ourself and for us.	

Student ID: SLA12613

We know that deforestation occurs yearly in our country. It makes many impacts for many plants, animals and human who breathe in the smoke produces from the burning. Deforestation has many relation to some aspects, not only for the environment, but also it has relation to necessary economic and social development.

The relation between deforestation and the economic and social development is very rarely to be researches. So, many people don't understand about the disadvantages of deforestation. The disadvantages of deforestation is very complex, because it is not only for Indonesia, but also for the countries around Indonesia, such as Thailand, Malaysia, etc. In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation. For the farming sector, it makes huge loses, the farmer gets less money, also for the forest sector and transportation. All of them get many impacts from deforestation.

There are many other impacts, but economics and social is the biggest impacts. As a young generation of Indonesia, we have to save our forests, don't allow people take and destroy our forest.

Words: 192

No.	Clause	Comments
1.	We know	
2.	that deforestation occurs yearly in our country.	
3.	It makes many impacts for many plants, animals and human [[who breathe in || the smoke produces from the burning.]]	TC relator to pro; Tc pro to thing
4.	Deforestation has many relation to some aspects, not only for the environment,	
5.	but also it has relation to necessary economic and social development.	
6.	The relation between deforestation and the economic and social development is very rarely to be researches.	
7.	So, many people don't understand about the disadvantages of deforestation.	
8.	The disadvantages of deforestation is very complex,	
9.		

10.	because it is not only for Indonesia, but also for the countries around Indonesia, such as Thailand, Malaysia, etc.	TC relator to thing; TC relator to thing; TC pro to thing; TC pro to thing
11.	In the regional and national scale, the effect of deforestation has many impacts for economic and social development, such as farming sector, forest sector, healthy sector, and transportation.	TC pro to thing; causality TC relator to pro; TC pro to thing
12.	For the farming sector, it makes huge loses,	TC pro to thing
13.	the farmer gets less money, also for the **forest sector and transportation.	TC reltor to thing
14.	All of them get many impacts from deforestation.	Tc relator to thing
15.	There are many other impacts, but economics and social is the biggest impacts.	
16.	As a young generation of Indonesia, we have to save our forests,	
17.	don't allow people take	
	and destroy our forest.	

Student ID: SLA11913

I argue that is good when Indonesia becomes more active in the global community to make the development in economic and social sides. But, I disagree when economic and social development being the bad impact in environment, such us by deforestation. Because the development in economic and social side can be reached by another effort, such us highlighting Indonesian culture and even exporting the plants from Indonesia to another countries in the world.

Rainforest is very important to keep the human life in environment. For this, human have to keep the rainforest and all inside it from plants, animals, and insects. By keeping rainforest, human will inhale the good and healthy air from the plants and it will give the effect of humans healthy and their productivity. And as Indonesia is well known as one of "the lungs of the world" for the expansive rainforests, Indonesian government has to be thankful for this achievement and keep rainforest more than before, because it is our wealthy. By keeping rainforest, animals, plants and insects, Indonesia also will be known has the good culture and love the world.

Economic and social development has the complex problem because it sometimes brings the impacts in environments and society's life. But, in my opinion, Indonesia can develop the economy and social side by highlighting Indonesian culture such us traditional dances, and Indonesian attitudes that well known as charming, care, and polite people. While in economic development, the government can increase the farming and what in the sea, and can be exported to another countries. Because by keeping and increasing the farming and sea, Indonesia can export the production, and it's give the advantages to the farmers and fishermans and it's also help their economic side.

For this problem, I think Indonesia have to keep rainforest, because it's has many advantages for Indonesian people and country, and by deforestation will be bring the bad impact and disadvantages. And development in social and economic side can be reached by another effort without bring the bad impact in another side.

Words: 341

No.	Clause	Comments
1.	I argue [[that is good || when Indonesia becomes more active in the global community || to make the development in economic and social sides.]]	TC relator to thing
2.	But, I disagree [[when economic and social development being the bad impact in environment, such us by deforestation.]]	TC Conation to thing
3.	Because the development in economic and social side can be reached by another effort, [[such us highlighting Indonesian culture || and even exporting the plants from Indonesia to another countries in the world.]]	
4.	Rainforest is very important	
5.	to keep the human life in environment.	
6.	For this, human have to keep the rainforest and all inside it from plants, animals, and insects.	
7.	By keeping rainforest, human will inhale the good and healthy air from the plants	Nominalization of affect; TC quality to thing (** entity or figure?)
8.	and it will give the effect of humans **healthy and their productivity.	TC pro to thing
9.	And as Indonesia is well known as one of "the lungs of the world" for the expansive rainforests,	
10.	Indonesian government has to be thankful for this achievement	
11.	and keep rainforest more than before,	
12.	because it is our wealthy.	
13.	By keeping rainforest, animals, plants and insects, Indonesia also will be known has the good culture	TC relator to pro. TC relator to thing??
14.	and love the world.	
15.	Economic and social development has the complex problem	
16.	because it sometimes brings the impacts in environments and society's life.	Nominalization of farm activities ?? (** figure or entity)
17.	But, in my opinion, Indonesia can develop the economy and social side	
18.	by highlighting Indonesian culture such us traditional dances, and Indonesian attitudes [[that well known as charming, care, and polite people.]]	Nominalization of farm activities ?? (** entity or figure)
19.	While in economic development, the government can increase the **farming and what in the sea,	TC pro to thing
20.	and can be exported to another countries.	
21.	Because by keeping and increasing the **farming and sea,	

No.	Clause	Comments
22.	Indonesia can export the **production,	It advantages Indonesian's people
23.	and it's give the advantages to the farmers and fishermans	
24.	and it's also help their economic side.	TC relator to pro; TC relator to thing
25.	For this problem, I think Indonesia have to keep rainforest,	TC conation to thing
26.	because it's has many advantages for Indonesian people and country,	TC relator to pro; TC relator to thing
27.	and by deforestation will be bring the bad impact and disadvantages.	
28	And development in social and economic side can be reached by another effort	
29.	without bring the bad impact in another side.	

Student ID: SLA12013

From the issue above, I thing that we are as an Indonesian people more carefull to keep our environment. we know that many negative effect from deforestation for example flood. flood will be cause many mosqueito and than mosqueito will be attack all of human, of course it make ill in the environment. IF there are many people get sick and Plan, animal lose it will be make poorer our country, weather on the other hand there are some positive effect from others people but the deforestation bigger than the advantages of deforestation.

We can develop our economic without doing deforestation. we can develop our agricultural, in our country. government also can give money or material for farmer or poor nitizen to develop their effort. beside that we are as a Indonesian people we have to many consume all of product from our country because it can be help income Indonesian economic. we can decrease use paper and tissue.

Words: 159

No.	Clause	Comments
1.	From the issue above, I thing	
2.	that we are as an Indonesian people more carefull	
3.	to keep our environment.	
4.	we know	
5.	that many negative effect from deforestation for example flood.	Nominalization from affect The use of logical metaphor cause : will be cause
6.	flood will be cause many mosqueito	TC relator to pro
7.	and than mosqueito will be attack all of human,	
8.	of course it make ill in the environment.	TC relator to pro (causation)
9.	IF there are many people get sick	
10.	and Plan, animal lose	

11.	it will be make poorer our country,	TC relator to pro (causation)
12.	weather on the other hand there are some positive effect from others people but the deforestation bigger than the advantages of deforestation.	Nominalization from affect
13.	We can develop our economic	
14.	without doing deforestation.	
15.	we can develop our agricultural, in our country.	
16.	government also can give money or material for farmer or poor nitizen	TC conation to thing try to
17.	to develop their effort.	
18.	beside that we are as a Indonesian people	
19.	we have to many consume all of product from our country	
20.	because it can be help income Indonesian economic.	
21.	we can decrease use paper and tissue.	

Student ID: SLA13113

In my opinion, deforestation is very bring the negative effect, start from the reduced animal species in each years, not just animal but also plants. The plants inside the forest that should be the lungs of the earth suddenly disappeared due the deforestation and making the heat of Indonesia state and has a major impact on the other countries, in fact almost reaching the whole of the world. I think from this phenomenon, it can makes Indonesia country have a major social problem with the other countries. I think also, the deforestation more bring disadvantages than the advantages. On the other side, we can see from this phenomenon just bring Indonesia to the brink of huge losses, such as the weakened economic Indonesia, which will lead to increasing numbers of Indonesia state debt to other developed countries. Back to the disadvantages of social problem, are the smoke that spread throughout the region and even to neighboring countries which disturb the breathing of people.

Words: 163

No.	Clause	Comments
1.	In my opinion, deforestation is very bring the negative effect,	Nominalization of affect
2.	start from the reduced animal species in each years, not just animal but also plants.	TC pro to quality
3.	The plants inside the forest [[that should be the lungs of the earth]] suddenly disappeared due the deforestation	Causality TC relator to process??
4.	and making the heat of Indonesia state	TC quality to thing
5.	and has a major impact on the other countries,	TC relator to thing

6.	in fact almost reaching the whole of the world.	
7.	I think from this phenomenon,	
8.	it can makes Indonesia country have a major social problem with the other countries.	Causality TC relator to process??
9.	I think also,	
10.	the deforestation more bring disadvantages than the advantages.	Causality? TC relator to pro
11.	On the other side, we can see	
12.	from this phenomenon just bring Indonesia to the brink of huge losses, such as the weakened economic Indonesia,	TC pro to thin; TC pro to quality (part of nominal group – Indonesian structured)
13.	which will lead to increasing numbers of Indonesia state debt to other developed countries.	Causality TC relator to pro; TC pro to quality
14.	Back to the disadvantages of social problem, are the smoke [[that spread throughout the region and even to neighboring countries]]	TC thing to quality
15	which disturb the breathing of people.	TC pro to thing

EXAMPLE OF FIRST YEAR TEXTS

Wr104415

I agree with teks above, Deforestation in Indonesia very impacts in relation to necessary economic and social development. The human is feeling the impacts from Deforestation. the all not only impacts from Human, but also the plants and animal living in the forest also felling. Human lived very destrub because the human every day use. We are the necessary expensive price. Every year Indonesia is loosing over 50.000 species. From time by time population of Human will be up but the economic not up. In Indonesia very impacts very fell to the Human. Now we fell the impacts from Deforestation. very important We save the forest. The timber is being sold and the land is being cleared for mining operations and to provide for large-scale cattle grazing.

If Deforestation to be continued, so will very impacts and that is dangerous.

Words: 140

No.	Clause	Comments
1.	I agree with teks above,	
2.	Deforestation in Indonesia very impacts in relation to necessary economic and social development.	
3.	The human is feeling the impacts from Deforestation.	
4.	the all not only impacts from Human, but also the plants and animal living in the forest also felling.	
5.	Human lived very *destrub*	

6.	because the human every day use.	
7.	We are the necessary expensive price.	
8.	Every year Indonesia is loosing over 50.000 species.	
9.	From time by time population of Human will be up	
10.	but the economic not up.	
11.	In Indonesia very impacts very fell to the Human.	
12.	Now we fell the impacts from Deforestation.	
13.	very important We save the forest.	
14.	The timber is being sold	
15.	and the land is being cleared for mining operations	
16.	and to provide for large-scale cattle grazing.	
17.	If Deforestation to be continued,	
18.	so will very impacts	
19.	and that is dangerous.	

Student ID: Wr102215

Deforestation is a big problem that faced by Indonesia country until now. It must be solved, because a forest is very important. A rainforests can keep a lot of water if there are many trees. We can't imagine if in a rainforests there is happened deforestation. When rain's season, will happen flood and it is very damage for human life. People's life will not health, and maybe they can lose their house, and their family. In another side, the subject of deforestation will get many opportunities. They will get a lot of money, and they get another opportunities. They never think about people and the environment around them. They just think their self. They just think about their necessary, without think about an impact. And maybe, they never afraid with laws. Deforestation also make the government lose the financial. This problem should to solve immediately. That because the impact of deforestation not only for the plants but also for animal living in the forest, and humans who life around the forest. The government should to solve this problem. They must give punishment for the subject of deforestation. They must work cooperative with citizen. The citizen who knows that occur deforestation, they must give that information to the government. Then , the government must work immediately, and they should to work professionalism based on the laws. If the government and the citizen work together, maybe that can make this problem clear.

Words: 240

No.	Clause	Comments
1.	Deforestation is a big problem	
2.	that faced by Indonesia country until now.	

3.	It must be solved,	
4.	because a forest is very important.	
5.	A rainforests can keep a lot of water	
6.	if there are many trees.	
7.	We can't imagine	
8.	if in a rainforests there is happened deforestation.	
9.	When rain's season, will happen flood	
10.	and it is very damage for human life.	P>Q damaging
11.	People's life will not health,	
12.	and maybe they can lose their house, and their family.	
13.	In another side, the subject of deforestation will get many opportunities.	
14.	They will get a lot of money,	
15.	and they get another opportunities.	
16.	They never think about people and the environment around them.	
17.	They just think their self.	
18.	They just think about their necessary,	
19.	without think about an impact.	
20.	And maybe, they never afraid with laws.	Causality, TC relator to pro
21.	Deforestation also make the government lose the financial.	
22.	This problem should to solve immediately.	
23.	That because the impact of deforestation not only for the plants but also for animal living in the forest,	
24.	and humans who life around the forest.	
25.	The government should to solve this problem.	TC pro to thing
26.	They must give punishment for the subject of deforestation.	
27.	They must work cooperative with citizen.	TC pro to thing
28.	The citizen [[who knows that occur deforestation,]] they must give that information to the government.	
29.	Then , the government must work immediately,	

No.	Clause	Comments
30.	and they should to work professionalism based on the laws.	
31.	If the government and the citizen work together,	
32.	maybe that can make this problem clear.	

Student ID: Wr102115

From the content of the text, I don't agree with the increased practice of deforestation. As we know that forest is important factor for this world. Especially for this life. Without forest, all of the elements of this world couldn't life. Forest is very important, for breathing, for life and for all aspects. From Forest, we get fresh air, we get meal, we get wood for building house or factory. But, we must realized that today, wherever there are practice deforestation. Practice deforestation bring opportunity for some factories. But not for people who not join.

There are many impact with this situation. Especially For economic and social development aspect. From data, everyday Indonesia losing 137 plant, animal and insect species due to the deforestation. It is bad impact. And it can't make this world be better. But in fact it can make this world being worst. Why? Why it could happen? Surely it is because of deforestation. For universal impact such as we lose our forest. And for specific impact we can't smell fresh air and we can't life. Yes, we can't life without forest. Because forest producing oxygen which we need it so much. So, if forest couldn't produce oxygen again, we can't life.

Indonesia has predicate that Indonesia is "the lung of the world". Because in Indonesia, there are many trees, species in the forest. Surely, it will be very bad because of deforestation.

Words: 236

No.	Clause	Comments
1.	From the content of the text, I don't agree with the increased practice of deforestation.	
2.	As we know	
3.	that forest is important factor for this world.	
4.	Especially for this life.	
5.	Without forest, all of the elements of this world couldn't life.	
6.	Forest is very important, for breathing, for life and for all aspects.	TC pro to thing
7.	From Forest, we get fresh air,	
8.	we get meal,	
9.	we get wood for building house or factory.	
10.	But, we must realized that today,	
11.	wherever there are practice deforestation.	

12.	Practice deforestation bring opportunity for some factories.	
13.	But not for people [[who not join.]]	
14.	There are many impact with this situation.	
15.	Especially For economic and social development aspect.	
16.	From data, everyday Indonesia losing 137 plant, animal and insect species due to the deforestation.	
17.	It is bad impact.	Causality, TC relator to pro
18.	And it can't make this world be better.	
19.	But in fact it can make this world being worst.	
20.	Why?	
21.	Why it could happen?	
22.	Surely it is because of deforestation.	
23.	For universal impact such as we lose our forest.	
24.	And for specific impact we can't smell fresh air	
25.	and we can't life.	
26.	Yes, we can't life without forest.	
27.	Because forest producing oxygen [[which we need it so much.]]	
28.	So, if forest couldn't produce oxygen again,	
29.	we can't life.	
30.	Indonesia has predicate	
31.	that Indonesia is "the lung of the world".	
32.	Because in Indonesia, there are many trees, species in the forest.	
33.	Surely, it will be very bad because of deforestation.	

Student ID: Wr101115

     I don't agree with the increased practice of deforestation. There will be so many risk will be had. Because humans breathe with oxygen, and oxygen is produced from plants, and plants live in forest. Oxygen from nature is pure, clean, so fresh , and free of charge. If there are no forests so there is no more oxygen. In this case, maybe human can buy oxygen. But, the price of oxygen is expensive, that is about 300.000 rupiahs for a day. That means human has to spend about 63.000.000 for a month (for a person). If Indonesia sells timber and clears the land for mining operation and to provide for large scale cattle grazing, maybe Indonesia

can feel the advantages because getting much money, but, it is just for now. And the next 50 years/hundred years, Indonesia will lost the forest.

Forests are the place for human being especially for plants, animals, and the others. Besides, Indonesia has so many endemic plants and animals such as Rafflessia arnoldi, paradise bird, and Sumatra elephant. Unfortunately, Indonesia is losing 137 plant, animal, and insect species. That means Indonesia is losing 50.000 species every year. Can be imagined if the forest is deforestated more, so Indonesia will lost its plant, animal, especially for the endemic. Therefore, the next 50 years or hundreds years later generation will not know and see their endemic plans and animals. Moreover, Indonesia can lost its biodiversity. Not only that, without forests in this world can destroy our earth.

From the explanation above, human should know that forest is very essential. Forest is our life. So, it is our duty to save forest more especially in Indonesia, moreover for the youth of Indonesia. The youth of Indonesia can plant plants around house and sosialize the important of forest and the damage this eart without forest. Besides, people in Indonesia should know the important of forest and decrease the deforestation. Government should

Words: 322

No.	Clause	Comments
1.	I don't agree with the increased practice of deforestation.	
2.	There will be so many risk [[will be had.]]	TC process to thing
3.	Because humans breathe with oxygen,	
4.	and oxygen is produced from plants,	
5.	and plants live in forest.	
6.	Oxygen from nature is pure, clean, so fresh, and free of charge.	
7.	If there are no forests	
8.	so there is no more oxygen.	
9.	In this case, maybe human can buy oxygen.	
10.	But, the price of oxygen is expensive,	
11.	that is about 300.000 rupiahs for a day.	
12.	That means	
13.	human has to spend about 63.000.000 for a month (for a person).	
14.	If Indonesia sells timber	
15.	and clears the land for mining operation	
16.	and to provide for large scale cattle grazing,	
17.	maybe Indonesia can feel the advantages	
18.	because getting much money,	
19.	but, it is just for now.	

20.	And the next 50 years/hundred years, Indonesia will lost the forest.	
21.	Forests are the place for human being especially for plants, animals, and the others.	
22.	Besides, Indonesia has so many endemic plants and animals such as Rafflessia arnoldi, paradise bird, and Sumatra elephant.	
23.	Unfortunately, Indonesia is losing 137 plant, animal, and insect species.	
24.	That means Indonesia is losing 50.000 species every year.	
25.	Can be imagined	
26.	if the forest is deforestated more,	TC quality to thing
27.	so Indonesia will lost its plant, animal, especially for the endemic.	
28.	Therefore, the next 50 years or hundreds years later generation will not know	
29.	and see their endemic plans and animals.	P>T
30.	Moreover, Indonesia can lost its biodiversity.	
31.	Not only that, without forests in this world can destroy our earth.	TC pro to thing
32.	From the explanation above, human should know [[that forest is very essential.]]	
33.	Forest is our life.	
34.	So, it is our duty	
35.	to save forest more especially in Indonesia, moreover for the youth of Indonesia.	
36.	The youth of Indonesia can plant plants around house	Q>T wrong form
37.	and sosialize the important of forest and the damage this eart without forest.	
38.	Besides, people in Indonesia should know the important of forest	
39.	and decrease the deforestation.	
40.	Government should	

Student ID: Wr116615

I disagree, because in Life we need fresh air. we need to alive Peacely. iF deforestation Happen everywhere, so we need prevent it and we also have to give understanding as good as possible for people who cut the forest illegally, and also give understanding/education about 'the power of Environment and Nature" to keep our earth stay stabil. Every person also have to have self-awareness to keep the environment, because not only forest is needed, but also keep the environment in around us is important. We also need the animal for balancing. if the forest is damaged continuously, Many things that will make our environment become negative energy, such as: The plants will be lost little by little, and the animal is also So. As we know, in our heart (the deepest mind), I am sure that, we want our next generations can enjoy the life and can see Many things about animals and plants, etc. For adding education about it. Deforestation also influence air, soil, so on. it is also can make flood happen in rainy season. Flood is dangerous for human. I think, the government need prevent this matter deeply, besides of that, self-awareness from public is important too.

Words: 201

No.	Clause	Comments
1.	I disagree, because in Life we need fresh air.	
2.	we need to alive Peacely.	
3.	iF deforestation Happen everywhere,	
4.	so we need prevent it	
5.	and we also have to give understanding as good as possible for people [[who cut the forest illegally]],	TC pro to thing
6.	and also give understanding/education about 'the power of Environment and Nature"	TC pro to thing
7.	to keep our earth stay stabil.	
8.	Every person also have to have self-awareness	P>T
9.	to keep the environment,	
10.	because not only forest is needed,	
11.	but also keep the environment in around us is important.	
12.	We also need the animal for balancing.	TC pro to thing
13.	if the forest is damaged continuously,	
14.	Many things that will make our environment become negative energy, such as:	
15.	The plants will be lost little by little,	
16.	and the animal is also	
17.	So. As we know,	

18.	in our heart (the deepest mind), I am sure	
19.	that, we want	
20.	our next generations can enjoy the life	
21.	and can see Many things about animals and plants, etc.	TC pro to thing
22.	For adding education about it.	Causality, TC relator to pro
23.	Deforestation also influence air, soil, so on.	idem
24.	it is also can make flood happen in rainy season.	
25.	Flood is dangerous for human.	
26.	I think, the government need prevent this matter deeply,	
27.	besides of that, self-awareness from public is important too.	

From: **Fhs Ethics** fhs.ethics@mq.edu.au
Subject: RE: HS Ethics Application - Approved (5201600173)(Con/Met)
Date: 13 April 2016 at 12:20
To: Dr Cassi Liardet cassi.liardet@mq.edu.au
Cc: Ms Nur Afifi nur.afifi@students.mq.edu.au

Dear Dr Liardet,

Re: "Indonesian EFL learners' development of academic literacy" (5201600173)

Thank you very much for your response. Your response has addressed the issues raised by the Faculty of Human Sciences Human Research Ethics Sub-Committee and approval has been granted, effective 13th April 2016. This email constitutes ethical approval only.

This research meets the requirements of the National Statement on Ethical Conduct in Human Research (2007). The National Statement is available at the following web site:

http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72.pdf.

The following personnel are authorised to conduct this research:

Dr Cassi Liardet
Ms Nur Afifi

Please note the following standard requirements of approval:

1.   The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Human Research (2007).

2.   Approval will be for a period of five (5) years subject to the provision of annual reports.

Progress Report 1 Due: 13th April 2017
Progress Report 2 Due: 13th April 2018
Progress Report 3 Due: 13th April 2019
Progress Report 4 Due: 13th April 2020
Final Report Due: 13th April 2021

NB. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:

http://www.research.mq.edu.au/current_research_staff/human_research_ethics/application_resources

3.   If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Sub-Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).

4.   All amendments to the project must be reviewed and approved by the Sub-Committee before implementation. Please complete and submit a Request for Amendment Form available at the following website:

http://www.research.mq.edu.au/current_research_staff/human_research_ethics/managing_approved_research_projects

5.   Please notify the Sub-Committee immediately in the event of any adverse effects on participants or of any unforeseen events that affect the continued ethical acceptability of the project.

6.   At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University. This information is available at the following websites:

http://www.mq.edu.au/policy

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/
human_research_ethics/policy

If you will be applying for or have applied for internal or external
funding for the above project it is your responsibility to provide the
Macquarie University's Research Grants Management Assistant with a copy of
this email as soon as possible. Internal and External funding agencies will
not be informed that you have approval for your project and funds will not
be released until the Research Grants Management Assistant has received a
copy of this email.

If you need to provide a hard copy letter of approval to an external
organisation as evidence that you have approval, please do not hesitate to
contact the Ethics Secretariat at the address below.

Please retain a copy of this email as this is your official notification of
ethics approval.

Yours sincerely,

Dr Anthony Miller
Chair
Faculty of Human Sciences
Human Research Ethics Sub-Committee

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