# Effects of Explicit Instruction in Nominalisation on ESL Learners' Academic Writing

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## Abstract

Extant research has highlighted the essentiality of grammatical metaphor (GM) as a linguistic resource in academic writing. Drawing on Systemic Functional Linguistics (SFL), this study investigated the relationship between explicit instruction in nominalisation as one type of GM and ESL learners' mastery of this key resource. Adopting a true experimental design, the study involved 38 Filipino professionals in Singapore who needed to pass IELTS for academic or professional purposes. The students in the experimental group received 9.5 hours of explicit instruction in various aspects of nominalisation, whereas those in the control group received the same amount of instruction focusing on error analysis, formality of language, as well as the use of the Academic Word List (AWL) and the British National Corpus. Comparisons between the texts produced by the experimental and the control group in response to timed writing tasks revealed quantitative and qualitative differences in the frequencies of nominalisations employed, the lexical density of texts, and the quality of essay organisation. The findings constitute new evidence of the importance of GM as a powerful linguistic resource for helping learners write texts that are valued in academia.

**Keywords:** grammatical metaphor, nominalisation, academic writing, explicit instruction.

## Resumen

*Los efectos de la instrucción explícita de la nominalización en aprendices de escritura académica en inglés como segunda lengua*

La investigación previa ha subrayado el carácter esencial de la metáfora gramatical como recurso lingüístico en la escritura académica. El presente trabajo adopta el enfoque de la Lingüística sistémico-funcional para investigar acerca de la relación entre la instrucción explícita de la nominalización, entendida como un tipo de metáfora gramatical, y el dominio de este recurso fundamental por parte de los aprendices de inglés como segunda lengua. El estudio cuenta con un diseño experimental y se basa en 38 profesionales filipinos en Singapur que necesitaban aprobar el examen IELTS por razones académicas o profesionales. Los estudiantes del grupo experimental recibieron 9.5 horas de instrucción explícita acerca de varios aspectos de la nominalización, mientras que aquellos que formaban parte del grupo de control recibieron la misma cantidad de horas de instrucción sobre análisis de errores, rasgos lingüísticos de formalidad y el uso de la *Academic Word List* (AWL) y del *British National Corpus*. Al comparar los textos producidos por el grupo experimental con los del grupo de control en tareas de escritura con tiempo limitado, se han puesto de manifiesto diferencias cuantitativas y cualitativas en la frecuencia de las nominalizaciones utilizadas, la densidad léxica de los textos y la calidad de la organización de los ensayos. Los resultados obtenidos ofrecen nuevas evidencias de la importancia de la metáfora gramatical como un recurso lingüístico muy útil para ayudar a los aprendices a escribir textos que vayan a ser valorados positivamente en el mundo académico.

**Palabras clave:** metáfora gramatical, nominalización, escritura académica, instrucción explícita.

# 1. Introduction

Language learners engage in a complex meaning-making process when they write in academic or professional contexts (Halliday, 1989). The complexity of this process stems from the need to transfer meanings from everyday, dynamic, and common-sense renderings to technicalised, static, and specialised representations. Grammatical metaphor (GM) has been identified in the literature as a powerful linguistic resource for facilitating this shift (Halliday, 1998). GM has been extensively investigated (e.g., Schleppegrell, 2004a; Thompson, 2009), and extant empirical studies have involved English-as-L1 students (e.g., Christie, 2002; Christie & Derewianka, 2008; Painter, 2003; Torr & Simpson, 2003; Woodward-Kron, 2008), learners of English as a second language (Chen & Foley, 2004; Mohan & Beckett, 2001; Schleppegrell, 2004a; Wang, 2012), learners of German as a foreign language (Ryshina-Pankova, 2010), and learners of Spanish as a heritage language (Achugar & Colombi, 2008; Colombi, 2006; Velasquez-Mendoza, 2015).

These studies have focused largely on describing GM as a linguistic phenomenon and outlining the ontogenetic progression followed by learners in their language development. Little attention, however, has been given to the effect of explicit instruction in GM on learners' awareness of this language resource and their ability to draw on it in their writing. Thus, it is not clear whether the teaching of GM can facilitate mastery of this resource and contribute to better writing quality. To bridge this lacuna, the present study utilised a true experimental research design to investigate the effect of explicit instruction in nominalisation, a type of GM, on the use of nominalised expressions and the quality of essays modelled on the writing tasks of IELTS. The results of this study are expected to further our understanding of learners' mastery of GM and inform writing instruction in English for academic or professional purposes.

## 1.1. Grammatical metaphor, nominalisation, and academic writing

As learners progress in their language development, they learn to make meanings in increasingly diverse contexts. Effective participation in these communicative contexts requires the ability to construe meaning in ways expected by the relevant discourse communities. One of these discourse communities is the academic community, where learners are expected to master advanced academic literacy and make meanings in highly complex ways. Upon their entry into the academic community, learners typically discover that the informal, interactional register that they are familiar with may not be appropriate in the construal of meanings in formal, academic contexts. Instead, a highly abstract and formal register may be valued and typical of the academic discourse they need to master[1]. Academic writing, for example, has an informationally dense structure that relies heavily on elaborated nominal phrases packed with lexical words and, consequently, contributes to its high lexical density (Biber, 2006; Fang & Schleppegrell, 2008; Fang, Schleppegrell, & Cox, 2006; Halliday, 1989), assumes an authoritative stance (Fang, 2006; Schleppegrell, 2004b), and is organised differently from spoken interaction (Schleppegrell, 2004a).

Given such expectations for academic writing, it is imperative that learners shift from the informal, interactive language of everyday life to a formal, technical and objectified written language. Part of this shift involves moving away from a dynamic representation of experience, that is, the use of verbs to express transitivity processes, to a synoptic interpretation of reality, where processes are objectified by turning verbs into nouns. This transformation

allows the various processes to be described, evaluated, and organised (Halliday, 2004). For this shift to occur, learners need to master the important linguistic resource of grammatical metaphor.

Halliday (1998) describes GM as the "remapping of the semantics onto the lexicogrammar" (p. 192). This remapping refers to the re-configuration of meanings where congruent realisations are recast by means of incongruent or metaphorical realisations. The construct of realisation makes it clear that the relationship between semantics and lexicogrammar is not of a one-to-one nature, but is expressed through a system of diverse options. Congruent realisations are the typical or unmarked ways of expressing our experience of the world, while incongruent renderings are atypical or marked realisations. In congruent realisations, events are expressed through verbs or verbal groups, qualities through adjectives, participants through nouns or nominal groups, and logical relations (i.e., how one event relates to another) through conjunctions. In incongruent renderings, events and qualities are realised by nouns, and logical relationships by verbs or verbal groups, as exemplified below.

As learners move from congruent, common-sense, and dynamic representations to incongruent, abstract, and static ones, a corresponding shift occurs in the two strata of the content plane (i.e., discourse semantics and lexicogrammar). Consider the clause complex below.

> (1) Learners struggle to write academic texts because teachers have avoided explicitly teaching them language in functional ways.

In this congruent rendering, processes are expressed through verbal groups (*struggle to write* and *have avoided*), participants through nominal groups (*learner*, *academic texts*, *teachers*, and *them*), circumstance through adverb and prepositional phrases (*explicitly* and *in functional ways*). The clauses in this clause complex are in a hypotactic relationship linked by the relator (*because*), where one clause is dependent on the other. The congruent rendering in Example 1, however, can be expressed incongruently. In Example 2, the first nominal group (*the teacher's avoidance of explicit teaching of language in functional ways*) is linked to the second nominal group (*learners' struggles in writing academic texts*) by the verbal group (*leads to*), with incongruent construal of the logical relator (*because*).

> (2) Teachers' avoidance of explicit teaching of language in functional ways leads to learners' struggles in writing academic texts.

From the two examples, it is apparent that GM is a powerful linguistic resource enabling the shift from a dynamic to a synoptic representation of meanings. Previous research has pointed to its various roles in helping learners exude authority, achieve impersonality, objectify arguments, use abstract rather than human participants, achieve cohesion and coherence, and condense ideas (Colombi, 2006; Ryshina-Pankova, 2010; Schleppegrell, 2004a, 2006). Adding to this list is what is considered the most important function of GM: integrating information in learners' text coherently and moving their argument forward (Drury, 1991; Ravelli, 1988; Schleppegrell, 2004b; Schleppegrell & Colombi, 2002).

One type of GM is nominalisation. Nominalisation, according to Eggins (1994), is the process of changing entities that are not normally nouns, that is, verbs (e.g., *manage*) and adjectives (e.g., *manageable*), into nouns (e.g., *management*). From the examples presented in the preceding section, the verb *struggle* and the verbal group *have avoided* in Example 1 are transformed into the nouns *struggles* and *avoidance* in Example 2, respectively. Thus, *struggle* and *have avoided* are nominalised, and *struggles* and *avoidance* are nominalisations. Nominalisation as a linguistic means has been chosen for investigation in the present study because it is "the single most powerful resource in creating GM" (Halliday, 2004, p. 656).

There is ample evidence of the importance of using nominalisations in academic writing. Several studies have found a relationship between their use and the quality of student writing (Jones, 1998; Schleppegrell, 2004a, 2004b; To, Lê, & Lê, 2013; Woodward-Kron, 2008). Similarly, researchers have noted that an increase in the use of nominalisation as a type of GM, relative to the genre of the text, correlates with a more advanced command of the target language (Colombi, 2006; Halliday, 1993). In view of these findings, it would be interesting to investigate whether explicit instruction in GM in general and nominalisation in particular can increase learners' appropriate use of these linguistic resources in their academic discourse and, consequently, improve the quality of their academic writing, as reflected in content, organisation, vocabulary, language, and mechanics.

## 1.2. Previous research on grammatical metaphor and nominalisation

As pointed out earlier, there is little empirical research on the effects of instruction in GM and nominalisation. We have been able to locate only two published studies addressing the topic. Wang (2012) conducted a pre-test

post-test quasi-experimental study involving intact classes of Chinese learners of English in China. The experimental group received instruction in nominalisation and basic writing skills for 8 hours over a span of four weeks. The control group only received instruction in basic writing skills during the same period. While the results showed a post-test increase in the nominalisations used by the experimental group, the design of the study was not robust, as it was not clear whether the two groups were comparable prior to the start of the study. Such comparability was critical as intact groups were used in the study. Moreover, for the two treatment conditions to be truly comparable, the control group should have spent the same number of hours learning comparable content. In Wang's study, while the experimental group was taught nominalisation, the control group did not receive an equivalent amount of instruction covering comparable and related content.

A more recent investigation by Nabifar (2016) focused on the effect of explicit teaching of GM on Iranian EFL tertiary learners. The study again involved intact classes of students and thus adopted a quasi-experimental design. While improvement in the use of nominalised expressions and increases in the lexical density of texts written by the experimental group were reported, no effect on the quality of student writing was found. Furthermore, the researcher did not provide representative texts from the students to showcase their mastery and use of nominalisations. Nor was information given about what the explicit instruction consisted of.

While the two studies reviewed above are commendable for their focus on the relationship between explicit teaching of GM and learners' use of this powerful resource, their findings need to be interpreted with caution because of several limitations. One limitation was their use of a quasi-experimental design and consequently the failure to exercise adequate control over potential confounding variables, such as prior differences between the intact groups of students involved. Another limitation was the extent to which GM was taught explicitly. It was not clear whether the instruction for the experimental groups was explicit or how explicit it was. A third limitation concerned the interpretation of the empirical results. An increase in the frequency of nominalisations and lexical density (i.e., the ratio of content words to ranking clauses), for example, cannot be taken simply as indicating better writing quality through, say, improved textual organisation, though there is good reason to expect nominalisations to enhance the cohesion and coherence of a text, and hence its textual organisation, through its impact on thematic progression.

These limitations notwithstanding, there is a good rationale for an empirical focus on the explicit teaching of GM. Although the ontogenetic progression of GM discussed by Halliday (2004) suggests that GM is acquired relatively late, learners may vary in their development due to individual differences in the linguistic resources they have already acquired (Derewianka, 1995). One example of this variability comes from Ezeifeka's (2015) investigation into the research abstracts written by Nigerian tertiary ESL students. Although the participants in the study were university students, they still showed a lack of knowledge about the use of nominalisation in their abstracts, failing to achieve lexical economy, which is a fundamental feature of research abstracts. Explicit instruction in GM would conceivably provide a remedy for the problem. However, Christie (2002, p. 66) has noted that "many English teachers do not believe in the teaching of metalanguage in discussing the kinds of texts to be written, or the linguistic features of these."[2] As a result, critical knowledge about language remains hidden, and access to such knowledge is left as a matter of chance. This does a disservice to the development of advanced literacy, which is

> the capacity to deploy language in ways that abstract away from immediate, lived experience, to build instead truths, abstractions, generalisations, and arguments about areas of life of various kinds. Capacity to handle these things can be taught. Let's teach. (Christie, 2002, p. 66).

In response to Christie's call for action and to address the research gaps identified above, this study set out to answer the following research questions:

1. Does explicit teaching of nominalisation lead to a significant increase in its use in learners' academic writing?

2. Does explicit teaching of nominalisation lead to a significant increase in the lexical density of students' academic writing?

3. Does explicit teaching of nominalisation lead to a significant improvement in the textual organisation of students' academic writing?

## 2. Method

### 2.1. Participants

This study was conducted in Singapore. A combination of convenience and snowball sampling was adopted to recruit participants. Personal acquaintances were invited to participate by email, short messaging service, and word of mouth. They were then asked to recruit colleagues who might be interested in participating in the study. A total of 51 Filipino professionals who were working in Singapore agreed to participate. These Filipino professionals were aged between 25 and 43 at the time of the study. They all had bachelor's degrees from the Philippines and were working in various occupational fields (e.g., Engineering, Information Technology, Building Management, Medical, Sales and Marketing). Their English proficiency ranged from lower to upper intermediate levels. They were all intending to take the International Language Testing System (IELTS) test for either academic or professional purposes.

Random assignment was employed to select 26 of them for the experimental group, and the remaining participants formed the control group. Because of their busy schedules, only 38 participants (21 in the experimental group and 17 in the control group) were able to complete both the pre-test and the post-test. Their pre- and post-test essays constituted the dataset for this study.

### 2.2. The intervention

Both groups of participants received four sessions of instruction spreading across four weeks (see Table 1 for detail). The second author was the instructor for both groups. The first session was the same for the two groups and introduced the structure of the expository essay. For Sessions 2 to 4, the focus of instruction for the experimental group was on nominalisation. Session 2 was intended to raise the participants' awareness of nominalisation by making them compare spoken and written texts and guiding them through an analysis of how an account of an event was typically rendered in speech and how the same event was written up in a science textbook. The goal of the instruction was to contrast the typical use of dynamic verbs and conjunctions in the interactional register with the synoptic, static, and noun-dominated language of academic writing and help the participants note one of the most salient features of written texts, viz. the use of nominalised

expressions. Exercises that required the participants to transform verbs and adjectives in the original sentences to their corresponding noun forms were done in class. They were also asked to practise de-nominalisation and write the congruent forms of nominalised expressions. Session 3 focused on the expansion of head nouns using pre- and post-modifiers to further comment on, evaluate, describe, and categorise the nouns. Such expansion is essential to packing information in noun phrases and contributes to high lexical density. A high-scoring and a low-scoring student essay were shown to the participants, with the pre-modifiers, head nouns, and post-modifiers in them color-coded. The goal was to compare the two essays in terms of their lexical density. Finally, Session 4 centred on how the use of nominalisations can contribute to the cohesion of a text and how to express various logical relationships using verbs/verbal groups instead of conjunctions typical of speech. The participants were taught how the strategic use of anaphoric reconstrual, that is, nominalising a previously construed verb, and the use of deictics (e.g., *this*, *these*) help move their ideas forward in a concise manner.

| Week | Experimental | Control | Duration |
|------|-------------|---------|----------|
| 1 | Structure of the expository essay | Structure of the expository essay | 120 min |
| 2 | Raising awareness of nominalisation Practice in nominalisation & de-nominalisation | Differentiating formal & informal language (contractions, clichés, slang, colloquialism, phrasal verbs) | 150 min |
| 3 | Expanding head nouns with pre-modifiers & post-modifiers | Use of the Academic Word List (AWL) and the British National Corpus | 150 min |
| 4 | Achieving cohesion (anaphoric reconstrual, deictics) Nominalisation of conjunctions Use of relational processes | Error analysis (subject-verb agreement, countable and uncountable nouns, tenses) | 150 min |

Table 1. Instruction for the experimental and the control group.

For the control group, differences between formal and informal language were discussed in the second session. The focus was on avoiding the use of informality markers such as contractions, slang words, colloquialisms, and phrasal verbs. This was to raise learners' awareness of the formality of written language. Session 3 was devoted to familiarising the participants with, and providing opportunities for them to use, Coxhead's (2000) Academic Word List (AWL) and a list of common nouns, verbs, adjectives, and adverbs from the 15,331,668-word academic section of the British National Corpus. Gap-filling exercises were completed with topics that are normally given in

IELTS' writing tests (e.g., diet and health, fuel, crime and punishment, sports, education). Error analysis was the focus of Session 4, which discussed errors in subject-verb agreement, the use of countable versus uncountable nouns, and agreement in the use of tenses.

## 2.3. Pre- and post-test of writing

As mentioned earlier, a pre-test in the form of a timed essay writing task was given to all the participants in Week 1 prior to the intervention. The topic for the essay, taken from IELTS (2013), was: *Every year several languages die out. Some people think that it is not important because life will be easier if there are fewer languages in the world. To what extent do you agree or disagree with this opinion?* The post-test was administered in week 5 after Session 4. The topic for the post-test essay, also taken from IELTS (2007), was: *Today, the high sales of popular consumer goods reflect the power of advertising and not the real needs of the society in which they are sold. To what extent do you agree or disagree?* Both tests were administered in a comfortable room. The participants were given 40 minutes to complete each test. They were given a writing pad and were required to write down their 4-digit unique numerical code for the sake of anonymity. As both writing topics were taken from real IELTS exams, they were expected to be comparable and, consequently, counterbalancing was not used to control for topic-related effects.

The IELTS rubric was not used to mark the pre- and post-test essays because we suspected that the 9-band score range was not sufficiently fine-grained to capture subtle but important improvements in the participants' writing. Instead, the ESL Composition Profile (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981) was used as the rating scale. Though not based specifically on research informed by Systemic Functional Linguistics (SFL), this rubric is one of the best known and widely employed analytic rubrics in ESL. It underwent extensive piloting and revision, leading to its use in numerous tertiary writing programs (Weigle, 2002). The second author and another experienced marker familiar with the rubric double marked all the essays. Before the marking of the essays, a calibration procedure was taken to standardise the two raters' interpretation of the rubric. The two raters then independently marked the essays. A Pearson correlation was run to determine the level of interrater reliability. The obtained Pearson's $r$ was 0.966 for the pre-test and 0.979 for the post-test, which represented excellent interrater reliability. All disagreements were resolved through discussion.

## 2.4. Data analysis

To address the first research question, all nominalisations used in both the pre- and the post-test essays of the experimental and the control group were coded. The key criterion for identifying nominalisations was the presence of stratal tension between the strata of semantics and lexicogrammar in all incongruent expressions (Halliday, 1985, 1998; Halliday & Martin, 1993; Martin, 1992, 1993). Based on the definition of GM in the stratal model (Halliday, 1985, 1998), GM is categorised into experiential and logical metaphors. Experiential metaphors are further categorised into processes as nouns and qualities as nouns; logical metaphors are further divided into causes as verbs, adjectives, prepositions and nouns. In addition, derivation and agnation were considered because they could corroborate the incongruence of a given expression (Ravelli, 1988, 1999). Derivation concerns suffixes that can form incongruent expressions from verbs and adjectives (e.g., *popularity* from *popular* and *perception* from to *perceive*). Agnation refers to the linguistic phenomenon that a given metaphorical expression will have its corresponding congruent form. For example, the incongruent expressions *consumption* and *utilization* can be unpacked to their congruent forms *to consume* and *to utilize*, respectively. In the case of dead and technical metaphors (e.g., *have dinner*, *take a bath*, *relationship*) the resulting nominalisations were not coded due to the loss of stratal tension between the semantics and the lexicogrammar. Incorrect nominalisations (e.g., *belongingness* instead of *belonging*, *the used of* instead of *the use of*) and spelling errors (e.g., *dissimination* instead of *dissemination*) were also excluded from coding. The second author and another coder familiar with SFL independently coded the nominalisations in the participants' essays. The inter-coder reliability was excellent: Pearson's r was 0.969 for the pre-test essays and 0.986 for the post-test ones. The frequency of the coded nominalisations was normalised by 100 words to take into account the varying length of the essays. Independent- and paired-samples *t*-tests were run on the normalised frequencies of nominalisations found in the experimental and the control group's pre- and post-test essays to determine between-group and within-group differences, respectively.

To address the second research question, lexical density (LD) was calculated according to the method used in previous studies (Coffin, Donohue, & North, 2013; Droga & Humphrey, 2002; Halliday, 1989). The number of ranking clauses were counted, with embedded ones being excluded. The total number of content words were then counted. Content words carry

information within a clause and comprise lexical verbs, nouns, adjectives, and adverbs. Grammatical items such as prepositions, conjunctions, auxiliary verbs, modal verbs, pronouns and articles were excluded. The formula for lexical density adopted in this study is: LD = total number of content words/total number of ranking clauses. The second author and a research assistant coded the data independently. Pearson's $r$ values for the coding of ranking clauses, content words, and lexical density in the pre- and post-test essays ranged from 0.969 to 0.998. The results indicated excellent inter-coder reliability. All disagreements were resolved through discussion. Independent- and paired-samples $t$-tests were then conducted on the lexical density of the experimental and the control group's pre- and post-test essays to determine between-group and within-group differences, respectively.

To address the last research question, independent- and paired-samples $t$-tests were run on the writing scores based on Jacobs et al.'s (1981) ESL Composition Profile that were given to the experimental and the control group's pre- and post-test essays to determine between-group and within-group differences, respectively.

# 3. Findings

## 3.1. Effects of explicit instruction on the use of nominalisations

Table 2 presents the mean frequencies of nominalisations for the pre- and post-test by group. Both the experimental and the control group used more nominalisations in the post-test essays than in the pre-test ones. The increase, however, was markedly greater for the experimental group. An independent samples $t$-test on the pre-test frequencies found no significant difference between the experimental group ($M = 2.23$, $SD = 0.88$) and the control group ($M = 3.09$, $SD = 1.82$), $t(36) = -1.910$, $p = 0.064$, $d = 0.64$. For the post-test frequencies, the $t$-test results indicated that the experimental group ($M = 8.28$, $SD = 2.33$) differed significantly from the control group ($M = 6.66$, $SD = 1.53$), $t(36) = 2.462$, $p = 0.019$, $d = 0.84$. The effect size was large, indicating practical significance for the explicit teaching of nominalisation.

| Group | Pre-test | Post-test | Increase |
|---|---|---|---|
| Experimental | 2.23 | 8.28 | 371.3% |
| Control | 3.09 | 6.66 | 215.5% |

Table 2. Frequencies of nominalisations by group and test.

A paired-samples *t*-test found a statistically significant difference between the experimental group's use of nominalisations on the pre-test ($M$ = 2.23, $SD$ = 0.88) and on the post-test ($M$ = 8.28, $SD$ = 2.33), $t(20)$ = -11.889, $p <$ 0.001, $d$ = 2.59. The paired samples *t*-test for the control group also found a significant difference between the pre-test ($M$ = 3.09, $SD$ = 1.82) and the post-test frequencies ($M$ = 6.66, $SD$ = 1.50), $t(16)$ = -6.200, $p < 0.001$, $d$ = 1.88. A comparison of the effect sizes for the two groups indicated that the value for the experimental group was markedly greater.

Excerpts 1 to 4 demonstrate the use of nominalisations by a participant in the experimental group (Learner 0012) and a participant in the control group (Learner 0030). These two participants were chosen because their use of GM was representative of the patterns found in the essays written by the experimental and the control group, respectively. The two excerpts from Learner 0012's essays show an evident increase in the frequencies of nominalisations, from three occurrences in the pre-test essay to six in the post-test one[3]. However, the excerpts from the introductory paragraphs of Learner 0030's pre- and post-test essays show no such increase in the frequencies of nominalisations. In fact, the instances of nominalisations were reduced from four in the pre-test paragraph to only three in the post-test one.

*Excerpt 1 (Learner 0012, pre-test)*

I would agree that life will be easier if there are fewer languages in the world. There will be no barrier in **communication** regardless of which country you come from. **Basing** from my own **experience**, while living here in Singapore, there will be instances wherein I will not understand the people around me because they talk in their own language.

*Excerpt 2 (Learner 0012, post-test)*

The **influence** of **advertising** has been a powerful tool which dictates the **decision making** of many consumers. It is agreed that good **advertising** has a major **impact** in the **saleability** of products.

*Excerpt 3 (Learner 0030, pre-test)*

> In my opinion, I agree that life will be easier if there are fewer languages in the world because it will be easier to communicate and express our **thoughts** and ideas. There times that when we try to translate certain words to another language, the **meaning** or **interpretation** is going to be different, which can result to **misunderstandings**. If people use languages that the other person doesn't understand, it will be hard to put across what we want to mean.

*Excerpt 4 (Learner 0030, post-test)*

> Nowadays, consumers patronize the products that has attractive **advertisements** rather than on what they really need, hence, has resulted to a considerable **increase** in **sales** of these popular commodities. It is agreed that this is seen in society

## 3.2. Effects of explicit instruction on lexical density

Table 3 presents the mean number of content words, ranking clauses, and the resultant mean scores of lexical density by group and test. An independent-samples *t*-test run on the pre-test lexical density scores found no significant difference between the experimental group ($M = 3.18$, $SD = 0.51$) and the control group ($M = 2.86$, $SD = 0.64$), $t(36) = 1.715$, $p = 0.095$, $d = 0.28$. However, the *t*-test run on the post-test lexical density scores revealed that the experimental group ($M = 4.56$, $SD = 0.78$) differed significantly from the control group ($M = 3.75$, $SD = 0.45$), $t(32.731) = 4.007$, $p < 0.001$, $d = 1.317$. The effect size, as indicated by the $d$ value, was very large according to Cohen's (1988) criteria.

| Group | Pre-test | | | Post-test | | |
|---|---|---|---|---|---|---|
| | CW | RC | LD | CW | RC | LD |
| Experimental | 38.42 | 12.19 | 3.18 | 42.03 | 9.59 | 4.56 |
| Control | 35.13 | 12.25 | 2.86 | 42.24 | 11.32 | 3.75 |

Table 3. Frequencies of nominalisations by group and test.

A paired-samples *t*-test found that the experimental group's lexical density increased significantly from the pre-test ($M = 3.18$, $SD = 0.51$) to the post-test ($M = 4.56$, $SD = 0.78$), $t(20) = -8.802$, $p < 0.001$, $d = 1.92$. The control group's lexical density also increased significantly from the pre-test ($M = 2.86$, $SD = 0.64$) to the post-test ($M = 3.75$, $SD = 0.45$), $t(16) = -6.408$, $p < 0.001$, $d = 1.56$. However, the associated effect size was smaller than that of the experimental group. Taken together, these results indicated that the

instruction received by the experimental group was more effective in improving lexical density in academic writing than that received by the control group.

Excerpts 5 to 8 showcase the use of ranking clauses and content words in the pre- and post-test introductory paragraphs written by a participant in the experimental group (Learner 0025) and a participant in the control group (Learner 0047).

> *Excerpt 5 (Learner 0025, pre-test introduction)*
>
> Language is a mean of expressing your emotions, thoughts and ideas into words.|| It plays a big role in our life|| because it represents one's origin, culture, and tradition.|| It can bind a nation|| but it can also divide a nation.||

The paragraph presented above consists of 5 ranking clauses. The first clause complex links the clauses in a hypotactic relation by means of the logical relator, *because*. The second clause complex consists of two paratactic clauses joined by a coordinating conjunction (*but*). The content words include *language, mean, expressing, emotions, thoughts, ideas, words, plays, big, role, represents, origin, culture, tradition, bind, nation, divide,* and *nation.* The resultant lexical density for this paragraph is 3.6 (18/5).

> *Excerpt 6 (Learner 0025, post-test introduction)*
>
> The power of creative and influential advertising is the manifestation of increasing trend of sales for major products rather than the reflection of the true needs of the end customers.|| It is agreed || that most of the sturdy companies focus more on the profit rather than the basic needs of the people.||

The paragraph in Excerpt 6 consists of 3 ranking clauses that contain several nominal groups instead of paratactic and hypotactic clauses. The resultant lexical density for this paragraph is 7.67 (23/3). An increase in lexical density is apparent in the post-test introductory paragraph. This was due to both the increased use of elaborated nominal groups and the reduced number of ranking clauses in the paragraph. Tables 4 and 5 compare Learner 0025's use of nominal groups in the pre- and the post-test introduction.

| Pre-modifier | | | Head | Post-modifier |
|---|---|---|---|---|
| Deictic | Epithet | Classifier | Thing | Qualifier |
| a | | | language | *of expressing your emotions, thoughts and ideas* |
| | | | means | |
| | | | words | |
| a | big | | role | |
| our | | | life | |
| one's | | | origin | |
| | | | culture | |
| | | | tradition | |
| a | | | nation | |

Table 4. Nominal groups in Learner 0025's pre-test introduction.

| Pre-modifier | | | Head | Post-modifier |
|---|---|---|---|---|
| Deictic | Epithet | Classifier | Thing | Qualifier |
| The | | | power | *of creative and influential advertising* |
| The | | | manifestation | *of increasing trend of* |
| | | | | *sales for major markets* |
| The | | | reflection | *of the true needs of the end users* |
| The | basic | | needs | of the people |

Table 5. Nominal groups in Learner 0025's post-test introduction.

Learner 0047's pre-test introductory paragraph in Excerpt 7 includes 6 ranking clauses. The clauses are introduced by *which* or linked by *and*. Such clause chaining is typical of a spoken register. The resultant lexical density for the paragraph is 3.83 (23/6). Similarly, the post-test introductory paragraph reproduced in Excerpt 8 comprises four ranking clauses linked by the subordinating conjunctions, *because* and *while*. The lexical density for this paragraph is 4.25 (17/4). Tables 6 and 7 compare Learner 0047's use of nominal groups in the pre- and the post-test introduction.

*Excerpt 7 (Learner 0047, pre-test introduction)*

Hundred years ago, small communities creates their own languages as their basic form of communication || which they call their own dialects. ||This

forms ||and takes a part of their culture and history || which is being passed on || and inherited by next generations.||

*Excerpt 8 (Learner 0047, post-test introduction)*

Many people believe || that people purchase products because of the great impact of its advertisement rather than because they need them. || While advertisement plays a big role on product sales,|| this may not be the real case.||

| Pre-modifier | | | Head | Post-modifier |
|---|---|---|---|---|
| Deictic | Epithet | Classifier | Thing | Qualifier |
| | small | | communities | |
| their | own | | languages | |
| their | basic | | form | of communication |
| their | own | | dialects | |
| their | | | culture | |
| | | | history | |

Table 6. Nominal groups in Learner 0047's pre-test introduction

| Pre-modifier | | | Head | Post-modifier |
|---|---|---|---|---|
| Deictic | Epithet | Classifier | Thing | Qualifier |
| many | | | people | |
| | | | people | |
| | | | products | |
| the | great | | impact | of its advertisement |
| | | | advertisement | |
| a | big | | role | |
| | | product | sales | |
| the | real | | case | |

Table 7. Nominal groups in Learner 0047's post-test introduction.

## 3.3. Effects of explicit instruction on writing quality

An independent-samples *t*-test run on the pre-test data determined that the difference in overall writing scores between the experimental group *(M =*

69.74, $SD = 9.02$) and the control group ($M = 68.20$, $SD = 5.98$) was not significant, $t(34.786) = 0.627$, $p = 0.535$, $d = 0.205$. The independent-samples $t$-test run on the post-test overall writing scores also failed to find a significant difference between the experimental ($M = 81.81$, $SD = 8.64$) and the control group ($M = 76.94$, $SD = 8.96$), $t(36) = 1.699$, $p = 0.098$, $d = 0.553$.

The ESL Composition Profile used to score the essays in this study comprises five subscales: content, organisation, vocabulary, language, and mechanics. Independent-samples $t$-tests were run to compare the experimental and the control group on the subscale scores for the pre-test and the post-test essays, and only the post-test comparison of the organisation subscale scores yielded a significant difference. Although the experimental group ($M = 14.14$, $SD = 1.96$) did not differ significantly in their organisation scores from the control group ($M = 14.06$, $SD = 1.17$) on the pre-test, $t(36) = 0.155$, $p = 0.877$, $d = 0.051$, a significant post-test difference with a large effect size was found between the experimental group ($M = 17.86$, $SD = 1.48$) and the control group ($M = 16.29$, $SD = 2.38$), $t(25.593) = 2.357$, $p < 0.001$, $d = 0.813$. These results indicated that explicit instruction in nominalisation was effective in improving the organisation of academic writing.

To find out how the use of nominalisations contributed to effective textual organisation, a thematic analysis was conducted on the post-test essays. The analysis was intended to map out the thematic progression (theme-rheme) of the texts. The T-unit was chosen as the basic unit of analysis. A T-unit is a clause complex that contains an independent clause together with all clauses dependent on it (Fries, 1995). The T-unit, rather than the ranking clause, was chosen as the unit of analysis because the thematic development of a dependent clause is normally constrained by the independent clause (Fries & Francis, 1992). Following Halliday (1985), the theme is what the message is about and consists of everything up to and including the first ideational element in a T-unit, while the rest constitutes the rheme.

Table 8 presents the thematic analysis of a representative excerpt of the post-test essay written by Learner 0003 in the experimental group. As can be seen clearly, the nominalisations used in the excerpt contributed to its cohesion. In the first T-unit, the nominal group, *the popularity of the advertisements*, in the rheme employs a nominalisation (i.e., popularity). It is then rendered as *the rise of the internet* in the succeeding theme of the second

T-unit, with the head noun (*rise*) being another nominalisation. *Internet* is thematised in the third T-unit to introduce its effect in the rheme by means of the material process influenced. This process is then picked up in the theme of the succeeding T-unit, where it is reconstrued as participants by the nominalisations *impacts* and *effects*. The material process is reconstrued again as the incongruent expression *influence* in the rheme of the fifth T-unit. Towards the end of the text, the nominal group, *advertisement of your interest*, containing a nominalisation (*advertisements*) in the theme position is elaborated in the rheme. The same theme continues as a deictic (*this*) in the next T-unit. Such anaphoric reconstrual creates cohesion and makes the text hang together well as it unfolds. This contrasts with the excerpt from the post-test essay written by a learner in the control group that is presented in Table 9.

| T-unit | Theme | Rheme |
|---|---|---|
| 1 | *Studies* | *have shown that most buyers purchase products based on **the popularity of the advertisements** rather than the importance it provides to the society.* |
| 2 | *With **the rise of internet** and social media,* | *it can be agreed that advertising has great impact to the choices being made.* |
| 3 | ***Internet*** | *has **influenced** us in so many ways.* |
| 4 | *The **impacts** and **effects** of it* | *can be easily seen on our daily lives.* |
| 5 | *One of these* | *is the buying **influence** to consumers.* |
| 6 | *In one of the studies done by IT experts* | *they found out that google keeps track and records searches of frequently visited sites of the users.* |
| 7 | *As a result of this, **advertisements** of your interest* | *will appear to your future visited sites, especially on your social media accounts.* |
| 8 | ***This*** | *leads to buying what seems to be your want instead of needs.* |

Table 8. Themes/rhemes in an excerpt of Learner 0003's post-test essay.

The excerpt in Table 9 is chosen because it is representative of the essays written by the control group. In this excerpt, there are only four nominalisations (i.e., *attention, thinking, sales* and *return*). Human agents (*advertisers, they*), rather than abstract subjects, are used, and material processes are construed instead of relational ones. The excerpt starts by thematising the circumstantial adjunct, *nowadays*, in the first T-unit. No link is constructed for the causal claim *has resulted to a considerable increase of these popular commodities* in the rheme of the second T-unit. If a nominal group

such as *the consumption of products that have attractive advertisements* were used instead, it would help to establish a cohesive link between the rheme of the first T-unit and the theme of the succeeding T-unit. *Advertisers* is thematised in the fourth T-unit and is picked up as the theme again in the subsequent T-unit by means of *they*. Another human agent (*consumers*) is thematised in the seventh T-unit and rendered as the theme in the following T-unit by *they* again. The immediate shift to the theme *return of investment* makes the text incohesive due to the lack of links that could have been built in through the use of nominalisations.

| T-unit | Theme | Rheme |
|---|---|---|
| 1 | *Nowadays* | *consumers **patronize** the products that has attractive advertisements rather than on what they really need,* |
| 2 | *hence,* | *has resulted to a considerable increase in sales of these popular commodities.* |
| 3 | ***It*** | *is agreed that this is seen in society.* |
| 4 | ***Advertisers*** | ***employ** the popular celebrities to promote their products to catch the attention of the consumers.* |
| 5 | ***They*** | ***release** these ads through the television, newspapers, radios and social media.* |
| 6 | ***It*** | *has been evident that these faces encourage the consumers to buy these products that they represent.* |
| 7 | *In addition, **consumers*** | *buy these goods thinking that they are the trend.* |
| 8 | ***They*** | *see these parcels almost everywhere that they just go and join the bandwagon so not to be left out from the new things.* |
| 9 | *Therefore, **return of investments*** | *may have shown a significant increase.* |
| 10 | *To conclude,* | *the high sales of the popular goods is due to the power of advertising and not the real needs of the society in which they are sold.* |

# 4. Discussion

## 4.1. Effects of explicit instruction on the use of nominalisations

The quantitative results presented in the preceding section revealed that explicit instruction in nominalisation as a type of GM led to a 4-fold increase in the frequency of incongruent/metaphorical expressions in the experimental group's post-test essays. A plausible explanation for this significant increase lies in the experimental group's raised awareness of the registral expectations of an effective expository essay. They were able to acquaint themselves with the kind of meaning construal that is highly valued in academic writing, that is, a strong preference for nouns rather than verbs or adjectives. In an effort to imitate the type of text that is valued in an academic writing context, they employed more nominal groups in their

writing, and more than half (*n* = 12) of them were able to elaborate and expand nominal groups through an extensive use of pre-modifiers and post-modifiers. An awareness of the kind of meaning construal that is valued in academic writing motivated the participants in the experimental group to incorporate nominalisations in their writing, including some infelicitous ones. While these infelicities (e.g., *result to* instead of *result in* for the incongruent rendering of *because*; *basing* for the incongruent rendering of *based)* would need further work, they did evidence the participants' conscious effort to render meanings in incongruent ways.

Interestingly and unexpectedly, the control group also showed an increased, albeit less dramatic, use of nominalisations in their post-test essays. This less marked increase could be attributed to the intervention that they received. Although the group did not receive explicit instruction in nominalisation, they were made to work on the Academic Word list, which contains quite a number of nominalisations.

## 4.2. Effects of explicit instruction on lexical use

The quantitative and qualitative analyses revealed significant differences in the lexical density of the post-test essays written by the experimental and control groups. The greater lexical density found in the experimental group's essays was primarily due to the reduction in the number of ranking clauses they employed and the corresponding increase in the use of elaborated nominal groups. The reduction in the number of ranking clauses indicated the participants' move away from the interactional register that characterizes spoken language to a more formal, authoritative, informationally-dense style that is characteristic of academic writing (Schleppegrell, 2004a). This reduction appeared to stem from the participants' attempt to reason within the clause rather than between the clauses (Halliday, 1998; Hyland, 2009; Martin, 1992; Schleppegrell, 2004a). Such reasoning has been referred to as buried reasoning, where two nominal groups are joined by a relational process, and is accomplished through the use of GM. As demonstrated in the excerpts presented earlier, participants in the experimental group used verbs and prepositional phrases as logical relators to take the place of conjunctions. That is, they used GM and embedding, in contrast to the greater reliance of the control group on clause-chaining, which Schleppegrell (2004a, p. 66) describes as "an emergent organisational structure". This clause-chaining style made the control group's texts appear not well planned or executed. As lexical density is also influenced by the number of content

or lexical words in a clause, the use of elaborated nominal groups with pre-modifiers and post-modifiers in the experimental group's essays packed information within a clause and made it informationally dense.

The observed increase in the post-test essays written by the control group, on the other hand, could be attributed to their work on the Academic Word List as part of the intervention. This list comprises commonly used academic words, which are all content words. It seemed that some of the participants in the control group made an effort to use some of these words on the list they newly learned, which increased the number of content words in their essays, hence, the lexical density.

### 4.3. Effects of explicit instruction in nominalisation on textual organisation

The quantitative and qualitative analyses reported in the Findings section identified a significant difference in the post-test organisation scores between the two groups, although no other significant differences (in overall writing quality, content, vocabulary, and language) were found. The positive effect of the explicit instruction in nominalisation on the organisational structure of the essays could be explained by the cohesion achieved through the experimental group's greater use of nominalisations. A referencing pattern that construed previously deployed congruent expressions as nominalized variants in the succeeding text was evident in the experimental group's post-test essays. The creation of such cohesive links is in line with Ravelli's (1999, p. 136) definition of GM as "an alternative lexico-grammatical realization of a choice in the semantics" and Halliday's (1994) characterisation of GM as an incongruent "co-representational" reference to a semantic element or elements in the preceding text. The use of this strategy helped to construct cohesive thematic progression, for example, by foregrounding abstract terms (often realized by nominalisations) in the theme position and elaborating them in the rheme position, to achieve both cohesion and coherence.

## 5. Conclusion

This study investigated how explicit instruction in nominalisation impacted on the texts written by participants in the experimental group and how these texts differed from those written by their counterparts in the control group.

Notable differences, both quantitative and qualitative, were found between the texts produced by the two groups in terms of the incidence of nominalisations, the lexical density of the texts, and the quality of essay organisation. These significant differences point to the usefulness of the explicit teaching of nominalisation and offer the following implications.

First, it is pedagogically sound to raise learners' awareness of GM as a linguistic resource. Comparison between congruent and incongruent renderings can help sensitize learners to the different ways in which reality is construed and make them understand that different choices result in different meanings. This is critical as novice academic writers need to adopt new patterns of words that are different from those used in everyday interaction. Notably, these choices that are valued in academic writing often involve the use of nominalisations. While the use of nominalisations does lead to more technicality, denser texts and greater cohesion (Liardet, 2013), it is also important to keep in mind that the goal of instruction is not merely to increase the frequency of nominalisations in learners' writing but to enable them to use nominalisations judiciously and acquire an understanding of the diverse functions and roles that nominalisations can serve.

Second, the findings of this study suggest that it is beneficial to teach learners explicitly about the various means of modifying and expanding head nouns. Further description, evaluation, and categorisation of head nouns through the use of pre- and post-modifiers can pack information efficiently in nominal groups and lead to informationally dense texts. Participants in the experimental group could have produced even more content words in their post-test essays if they had been taught about the uses of various pre- and post-modifiers. Third, the explicit teaching of relational processes can facilitate the construction of an objectified and authoritative stance that is essential in expository writing. Linking nominal groups with relational processes leads to unassailable propositions (Halliday, 2004). Such processes can also increase lexical density due to the corresponding reduction in the use of ranking clauses when nominal groups are linked by relational verbs rather than conjunctions.

Finally, concepts such as theme, rheme, and thematic progression can help both teachers and students better understand textual organisation, coherence, and cohesion. They can make explicit what is foregrounded in a clause or a T-unit, and how this chosen focus is carried on to the succeeding sentence or text. As seen in this study, the experimental group's essays were

more coherent and cohesive because abstract entities were thematised through nominalisations and further elaborated in the rheme position. Visual representations of thematic progression (such as Tables 6 and 7) could be exploited as useful tools to help learners understand how their texts unfold and why their texts achieve or fail to achieve cohesion, coherence, and register sophistication.

To conclude, our study has extended previous SFL-informed research on academic discourse by investigating how explicit instruction in GM could enhance learners' academic writing. As such, it is one of the first attempts to produce empirical evidence of the effectiveness of such instruction. Its findings provide a much-needed basis for pedagogical decisions regarding why and how to teach GM in an academic context. This contribution notwithstanding, our study has several limitations. First, our sample of participants was relatively small due to practical constraints, and the results of the statistical analyses could have been affected by the sample size. Future studies should utilize larger samples to obtain more robust statistical results. Second, as only adult learners of English from the Philippines were involved in our study, our findings may not be generalisable to learners speaking other first languages and exposed to different literacy practices. Interested researchers may explore how learners from different cultural and literacy traditions may respond to explicit metalinguistic instruction in GM (Hu, 2011). Third, our study was unable to determine if the observed positive effects of explicit instruction in GM could be sustained over an extended period due to the lack of a delayed post-test. Further research would do well to include such a test to ascertain whether learning gains from such instruction can be maintained. Finally, future research can explore how explicit instruction in GM may be combined synergistically with various approaches to data-driven learning (Sun & Hu, in press) to capitalise on the affordances of new information technologies and large corpora of academic texts.

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## NOTES

[1]  It should be noted that Hyland and Jiang (2017) reported only a small increase of informal features (i.e., first-person pronouns, unattended anaphoric pronouns, and sentence initial conjunctions/conjunctive adverbs) in research articles in hard sciences over a span of 50 years. They also noted an increase in features of relative formality (e.g., proportions of nouns and adjectives to verbs and pronouns) during the same period.

[2] There may be other reasons why teachers do not teach GM explicitly. For example, they may not be aware of GM as a linguistic resource; they may lack preparation to teach GM effectively; they may take other pedagogical approaches to the linguistic phenomenon.

[3] One of the nominalisations found in the post-test essay, *advertising*, differed from the others in that it was provided as part of the writing prompt.