**Writing persuasive texts: Using grammatical metaphors for rhetorical purposes in an educational context**

Vinh Toa\*, Damon Thomasb and Angela Thomasc

abcCollege of Arts, Law and Education, The University of Tasmania, Launceston, Australia

**Author Details:**

\*Corresponding author: ***Author 1***

Name: Dr Vinh To, PhD

Postal Address: School of Education, University of Tasmania

Locked Bag 1307, Newnham, Tasmania 7248, Australia

Email Address: Vinh.To@utas.edu.au

Phone: +61 3 6324 3065

**Bio: Dr Vinh To** is a Lecturer in English Curriculum and Pedagogy at the University of Tasmania, Australia. She has a keen research interest in educational and applied linguistics, systemic functional linguistics, English curriculum and pedagogy, English textbooks, student writing in Australian and Asian contexts. She has published a number of journal articles and book chapters and delivered talks at national and international conferences. Her recent selected publications appear in the *Linguistics and the Human Sciences*, and the *Australian Journal of Language and Literacy*.

***Author 2***

Name: Dr Damon Thomas, PhD

Postal Address: School of Education, University of Tasmania

Locked Bag 1307, Newnham, Tasmania 7248, Australia

Email Address: Damon.P.Thomas@utas.edu.au

Bio: Damon Thomas is a Senior Lecturer in English Education in the College of Arts, Law and Education at the University of Tasmania. His research interests include writing development and pedagogy, social semiotics, theories of persuasive communication, standardised assessment and personalised learning.

***Author 3***

Name: Dr Angela Thomas, PhD

Postal Address: School of Education, University of Tasmania

Locked Bag 1307, Newnham, Tasmania 7248, Australia

Email Address: Angela.Thomas@utas.edu.au

**Bio: Dr Angela Thomas**is a Senior Lecturer in English Education at the University of Tasmania. Her research interests include children’s literature, linguistics, social semiotics, multimodal discourse analysis, critical literacies and the fusion of literature and new media. She is the author of *Youth Online*, co-author of *Children’s literature and computer-based teaching*, and co-editor of *English teaching and new literacies pedagogy: Interpreting and authoring digital multimedia narratives*.

***Abstract***

Martin (1989) described persuasive language as the language of power. When a person can use persuasive language effectively in speech and writing, it increases their ability to participate and access power in democratic societies. Persuasive writing is one of three key text types in the *Australian Curriculum: English*, and language features of persuasive text types are taught across the curriculum. Australian students’ ability to write persuasive texts has been assessed in seven of the past nine years of *National Assessment Program – Literacy and Numeracy* (NAPLAN) testing. One of the language features that is considered important in persuasive writing is grammatical metaphor. This paper employs concepts from systemic functional linguistics (SFL) to examine how ideational grammatical metaphor was used in the 32 highest scoring persuasive texts written by Tasmanian primary and secondary school students for the 2011 NAPLAN test. The results show that high achieving students demonstrated an ability to use ideational metaphor in their persuasive writing from the middle primary school years. This paper aims to provide guidance for Australian primary and secondary school educators by showing how and in what ways high achieving students use grammatical metaphor for persuasive purposes in NAPLAN responses across the tested year levels.

Keywords: grammatical metaphor, ideational metaphor, systemic functional linguistics, persuasive writing, NAPLAN, high achieving students, Australian school context, primary and secondary school years

1. **Introduction**

Effective use of persuasive language can enhance people’s participation and access to power in democratic societies (Martin, 1989). According to Crowhurst (1990), ‘the literate, educated person is expected to be able to articulate a position on important matters so as to persuade colleagues, fellow citizens, governments, and bureaucrats’ (p. 349). This is fundamental to how democracies function and evolve, which may explain why the teaching and learning of persuasive discourse has been described as ‘a democracy sustaining approach to education’ (Hess, 2009, p. 5).

Traditionally, school curricula in western countries (e.g., Australia, the United States, the United Kingdom, New Zealand, Canada and many European countries) have privileged the teaching of narrative genres in primary schools (O’Hallaron, 2014). Martin (1989) and Duke (2000) suggested that this privileging was detrimental to the development of students’ persuasive and factual writing skills. Yet the teaching of persuasive writing has represented a ‘key component of recent curricular reforms in schools and universities throughout the United States and the world’ (Newell et al., 2011). In the United States, the *Common Core State Standards* emphasise the importance and development of argumentative skills across the primary years (National Governors Association Center for Best Practices & Council of Chief State School Offices, 2010). In the United Kingdom, the *National Curriculum in England* (Department for Education, 2013) requires pupils to be taught to articulate and justify answers, arguments and opinions from Year 1. In Australia, persuasive writing also receives much attention in the *Australian Curriculum: English* (AC: E) from Year 1, and in the preparation for the NAPLAN testing program from Year 3, as persuasive writing is one of the two key text types for the annual NAPLAN writing test.

The Australian NAPLAN tests were introduced in 2008 by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA). The tests were designed to assess whether Australian students in Years 3, 5, 7 and 9 were developing the reading, writing, language conventions, and numeracy skills deemed most important to meet the demands of higher education and the workplace (ACARA, 2011b). For the first three years of NAPLAN testing, students were required to write narrative texts; however, the focus shifted to persuasive texts in 2011, which remained the focus in 2012, 2013, 2014, 2015, 2017 and 2018. Though the NAPLAN test shifted focus back to narrative writing in 2016 and 2019, persuasive writing remains one of the two prominent text types in the national writing test, and depending on the approach of their school, many teachers are positioned to teach students about both persuasive and narrative texts in preparation for the test each year.

In line with the AC: E, students are taught about the language features of persuasion in Year 1, while in Year 2 they have opportunities to write simple persuasive texts for the first time. The emphasis on this form of writing increases across the years of schooling, with Year 10 students creating or interpreting persuasive texts for approximately two thirds of their time in English classes, based on the sequence of content in theAC: E (ACARA, 2011a). It should be noted that the most complex persuasive language choices are introduced in the later years of secondary school. For example, content descriptor ACELA1546 for Year 8 and its elaborations indicate that students are required to understand the effect of nominalisation in the writing of persuasive texts by analysing persuasive texts to identify and explain language choices such as nominalisation. Year 10 content descriptor ACELA1570 states that students need to analyse how higher order concepts are developed in complex texts through language features including nominalisation. Its elaborations further state that Year 10 students should consider how nominalisation affects the way in which events are constructed and explained.

Nominalisation, which is the process of turning what are not normally nouns into nouns (Bloor & Bloor, 2000), is the most powerful resource for creating grammatical metaphor (Halliday & Matthiessen, 2014). Grammatical metaphor, specifically ideational grammatical metaphor, is a typical language feature of academic and scientific discourse (Halliday & Martin, 1993a, 1993b) and will be discussed further in the theoretical background section. While a few studies have focused on how high achieving primary and secondary students use evaluative language (Thomas, 2015), nominalisation (Thomas & To, 2016) and one type of grammatical metaphor known as interpersonal metaphor of modality in their persuasive writing (To & Thomas, 2017), at this stage, no research could be identified that sought to determine when and how school students become capable of using ideational grammatical metaphors when writing persuasive texts in a standardised testing context. This paper aims to address this gap.

 Persuasive writing is crucial for academic achievement in secondary school, university acceptance and many professional opportunities (Coffin & Hewings, 2004; Schleppegrell, 2004, 2013). However, a significant decline in NAPLAN writing results for students in every tested year level and every Australian state and territory between 2011 and 2018 (ACARA, 2011c, 2018) highlights that further research about effective language choices made by students across the tested year levels is needed to provide support to teachers and students, although the preliminary NAPLAN results for 2019 showed an improvement (ACRA, 2019). In this paper, we explain the significance of grammatical metaphor for persuasive writing, and use data from the 2011 NAPLAN writing test to demonstrate its use by high achieving primary and secondary school students. The following section provides a theoretical background of grammatical metaphor, and a literature review on the topic of grammatical metaphor in schools.

1. **Theoretical background**

Grammatical metaphor is a linguistic resource that characterises the complexity of written language. It serves a range of important functions in academic, bureaucratic and scientific discourse (Devrim, 2015). There are currently three models of grammatical metaphor in the literature, and each model presents a different definition and different types of grammatical metaphor. As argued by Devrim (2015), any analysis of grammatical metaphor should be clearly based on one of the models to identify instances of this resource in texts appropriately. As stated in the introductory section, the current paper aims to investigate the most common type of grammatical metaphor, known as ideational metaphor involving nominalisation. This kind of metaphor involves the stratal tension between semantics and grammar (Martin, 2008), and thus, the commonly used stratal tension model in the literature will be used as the analytical framework for this paper. The definition and types of grammatical metaphor according to the stratal tension model will be presented in the following sections.

* 1. ***Definition of grammatical metaphor from the stratal tension model***

According to the stratal tension model, grammatical metaphor is “a substitution of one grammatical class, or one grammatical structure by another” (Halliday, 1994, p. 79). Key to this model are two types of realisation relationships between the grammatical and semantic levels of language known as congruent and non-congruent. Halliday (1985, 1994) explains that congruent forms are the natural ways that language encodes an expressed meaning, such as when actions are realised by verbs, and when people, places and things are realised by nouns. However, non-congruent relationships between semantics and grammar also occur in language use, such as when nouns are used to indicate processes (which are naturally realised by verbs) or qualities (which are naturally realised by adjectives) (Banks, 2003). For example, *She is clever* can be expressed by *her cleverness*,or *He sings* can be expressed by *his singing*. In these examples, the quality (i.e., *clever*) and the process (i.e., *sings*) are both expressed by nouns, *cleverness* and *singing*, respectively.

* 1. ***Types of grammatical metaphor from the stratal tension model***

The stratal tension model proposes two main types of grammatical metaphor including ideational metaphor and interpersonal metaphor (Halliday, 1985, 1994). Martin (1992) further classified ideational metaphor into two sub-types consisting of experiential metaphor and logical metaphor. Experiential metaphor is realised by construing processes as things (e.g., *explode* becomes *explosion*) or qualities as things (e.g., *free* becomes *freedom*)*.* Logical metaphor is realised by construing causal relationship by a verb (e.g., *cause, lead to*) instead of a conjunction (i.e., *because*) (Martin, 1992). For example, the two clauses in this complex sentence *Air is polluted because fossil fuels burn* can be expressed by a one-clause sentence *The burning of fossil fuels causes air pollution*. In these examples, the two clauses *air is polluted* and *fossil fuels burn* are transformed into two noun groups *air pollution* and *the burning of fossil fuels* respectively, which are connected by the verb *causes*. These two noun groups use experiential metaphor *pollution* and *burning*, enabling casual relationships within the clause, ‘rather than being restricted to congruent realisations between clauses’ (Christie & Derewianka, 2008, p. 90).

The second type of grammatical metaphor according to Halliday (1985, 1994) is interpersonal metaphor which includes metaphor of mood and metaphor of modality. Interpersonal metaphors of modality are realised when modal meanings are expressed outside the clause, while congruently, modal meanings are conveyed within the clause. For example, to express a high likelihood of being true (e.g. this must be true), modal meanings can be expressed outside the clause (e.g., ***it is certain*** ***that*** this is true). In the same way, interpersonal metaphors of mood are realised when mood meanings are not expressed within the clause. For example, congruently, a command functions as a warning (e.g., *Don’t go there!*). Metaphorically, a statement can be used to give a warning *I wouldn’t go there if I were you*.

Within the scope of this paper, we only focus on how one commonly discussed type of grammatical metaphor, known as experiential metaphor, is used by high achieving school students in their persuasive texts. Thus, the general term ‘grammatical metaphor’ used from now in the paper indicates ideational metaphor (Halliday, 1994) only or experiential metaphor (Martin, 1992) more specifically.

#### *Ideational metaphor, transcategorisation and nominalisation*

* + - 1. Ideational metaphor

Ideational metaphor, which expresses ideational meaning, is mostly characterised through the transitivity system (Halliday & Matthiessen, 2014). Each transitivity system includes three elements: processes, participants and circumstances. The processes tell us what happened in the clause. The participants tell us who and/or what is involved in the processes and the circumstances tell us when, where, why or how something happened.

 For example, in this clause, *He submitted his assignment late*, the process is *submitted* (what happened); the participants are *he* (who) and *his assignment* (what is involved) and the circumstance of manner is *late* (how). When transformations are made between the process and alternations of the participants and circumstance, the above example can be rewritten as

*His late assignment submission.* In this case, the process *submitted* now becomes a participant *submission* and the circumstance of time *late* now becomes a pre-modifying element (describer) of the main noun *submission*. This example shows the transformations between transitivity functions (i.e., between the process, participants and circumstance) within a clause, involving the creation of ideational grammatical metaphor (i.e., *submitted* becomes ‘*submission*). The transformations made between transitivity functions (i.e., between processes, participants and circumstances), like the examples above, is what Halliday means by the term ideational grammatical metaphor (Halliday & Matthiessen, 2014).

Nominalisation is the single most powerful resource for creating ideational grammatical metaphor (Halliday & Matthiessen, 2014, p. 729). Through this device, processes (linguistically realised as verbs) and properties (linguistically realised, in general, as adjectives) are reworded metaphorically as nouns, enabling an information dense discourse. Therefore, instead of functioning in the clause as a process or attribute, they function as a thing in the nominal group (Halliday & Matthiessen, 2014, p. 729). For example, the process *allocate* in the clause *they allocate an extra packer* becomes a thing *allocation* in the nominal group *the* ***allocation*** *of an extra packer* (Halliday & Matthiessen, 2014, p. 729).

* + - 1. Transcategorisation and ideational metaphor

A grammatical feature of everyday language known as transcategorisation is often confused with nominalisation and grammatical metaphor. Transcategorising is the process of transferring one word class to another class by some syntactic and/or morphological means. In English and other Indo-European languages, typically a root can be transcategorised by derivational morphemes (Halliday & Matthiessen, 1999). However, ‘many instances of transcategorisation are often mistaken for grammatical metaphor. Whether an expression is metaphorical or not depends on its context of use. The same word may be an example of transcategorisation in one context and an example of grammatical metaphor in another’ (Derewianka, 2003, p. 190). The word *possessions* in (1) and (2) provides two illustrations.

(1) *She was sent to gaol for the possession of stolen goods.*

(2) *After carrying my possessions for what seemed like an endless trek…*

In (1), the word *possession* can be unpacked in a natural way to become *possessed* as in *She was sent to gaol because she possessed stolen goods.* However, in (2), the word *possessions* cannot be unpacked in a natural way to become a congruent form. Thus, *possessions* in (1) would be described as a grammatical metaphor, while it is an instance of transcategorisation in (2) ([Derewianka, 2003, p. 190](#_ENREF_38)).

* + - 1. Nominalisation and ideational metaphor

Since nominalisation is the process of deriving what is not normally a noun into a noun (Bloor & Bloor, 2000), it is a kind of transcategorisastion involving the transferring of syntactic and morphological means. Recognising the difference between grammatical metaphor involving nominalisation and nominalisation itself is often confusing. Nominalisation and grammatical metaphor are often used interchangeably, but Christie and Derewianka (2008) clarify the distinction between the terms, explaining that nominalisation is a broad term referring to the phenomenon of construing various meanings in nominal form. However, not all nominalisations involve grammatical metaphor. If nominalisation cannot be unpacked to a congruent form, it is not a type of grammatical metaphor.

For instance, o*rganisation* in (3a) below cannot be unpacked to the congruent form, so it is just a verbal nominalisation of the verb *organise*. However, in (3b), *organisation* can be unpacked to the congruent form (as can be seen in (3c)); thus, organisation in (3b) is a grammatical metaphor.

(3) a. *It is a great organisation.*

b. *The success of the party was due to her great organisation.*

c. *The party was a success because she organised things so well.*

A clear distinction between nominalisation and ideational metaphor as mentioned above is crucial in the analysis of the data in this paper and will be further explained in the methodology section.

* 1. ***Grammatical metaphor and persuasive writing in schools***

Grammatical metaphor is a common resource for persuasive writing in secondary schools, tertiary institutions, and the workplace. Halliday (1998) suggested that the use of grammatical metaphor in writing helps to create ‘a form of discourse which is highly explicit in its construction of argument (experimentation, formulation of general principles, logical steps in reasoning, and so on)’ (p. 6). Learning to use grammatical metaphor allows students to build up technicality in different disciplines, and ‘enables the development of argumentation, providing resources for the accumulation, compacting, foregrounding and backgrounding of information and evidence so that the argument can move forward’ (Christie & Derewianka, 2008, p. 24). As grammatical metaphor emerges in young people’s writing, it enables them to construe causal relationships **within clauses**, ‘rather than being restricted to congruent realisations between clauses’ (Christie & Derewianka, 2008, p. 90), as explained and illustrated in the theoretical background section. Another useful example of this is also provided by Derewianka and Jones (2016), who showed how a persuasive claim consisting of four clauses could be reduced to one clause with the use of grammatical metaphor:

 (4) Persuasive claim without grammatical metaphor

*When plastic bags are made // toxic gases and other dangerous substances are released into the air // and these by-products pollute the atmosphere // and ruin water supplies.*

 (5) Persuasive claim with grammatical metaphor

*The production of toxic gases during the manufacture of plastic bags causes air and water pollution.*

The lack of grammatical metaphor in (4) is typical in the kinds of persuasive claims made by novice writers, while the use of grammatical metaphor in (5) ‘increases the density of the text by compacting information’ (Derewianka & Jones, 2012, p. 308), for the purposes of persuasive writing. This use of grammatical metaphor creates a causal relationship between *the production of toxic gases during the manufacture of plastic bags* and *air and water pollution* as things within a clause in (5). Such causal relationship within a clause was not apparent in (4), as the causal relationship in (4) is realised across four clauses. Therefore, the use of two ideational metaphors (*the production of toxic gases during the manufacture of plastic bags* and *air and water pollution)* connected by the verb *causes* is rhetorically powerful in making a clear and concise argument. As explained by Derewianka and Jones, ‘this is an important resource for the kind of reasoning and building of logical relationships that are characteristic of academic writing’ (p. 308). This example highlights how the use of grammatical metaphor is not an optional, stylistic feature of writing; rather, it is ‘fundamental to the very nature of educational processes in the higher levels of schooling … [such as] the reasoning about experience in abstract, logically developed terms’ (Christie & Derewianka, 2008, p. 24).

Christie and Derewianka’s (2008) research was the first to use a systemic functional linguistic framework to describe highly-valued language choices in writing from childhood to adolescence. Their research provides a wealth of information to guide the teaching of language skills for most forms of school writing and across most subject areas, yet the authors only investigated persuasive writing choices in late adolescent history contexts, when grammatical metaphor was an already-established feature of the selected students’ texts. At this stage, while interpersonal metaphor of modality has been studied in primary persuasive texts (To & Thomas, 2017), finding that metaphor of mood was not valued in this context, determining when school students become capable of using ideational metaphor in their persuasive writing across school years has not yet been investigated. This paper investigates how high-achieving primary and secondary school writers used grammatical metaphor to write persuasive texts for the 2011 NAPLAN writing test on the topic: *Is too much money spent on toys and games?* The following section discusses the methodology of the research.

1. **Methodology**
	1. ***Data collection***

As introduced earlier, the NAPLAN writing test is a compulsory national assessment which must be undertaken each year by all Australian students in Years 3, 5, 7 and 9. These tests are assessed by trained, independent markers against a set of marking criteria. They are then stored in an Administration Authority in each Australian state and territory. In Tasmania, all NAPLAN writing tests are stored by the Tasmanian Department of Education. Email communication was established with the Department of Education to gain access to the highest scoring persuasive texts written in 2011, across the four year levels. For the purpose of this paper, 32 persuasive texts (i.e., eight texts per year level) were selected to examine the use of grammatical metaphor in high scoring persuasive texts. These texts were written at the same time, on the same topic, by students across these primary and secondary years. Due to concerns about the privacy of students who wrote these texts, the Department of Education made it a conditional requirement of obtaining the data that only 10% of any one high scoring text could be published at a given time. While it is unfortunate that full transcripts of the chosen texts for the analysis could therefore not be included as appendices with this paper, extracts from the high scoring texts are included to highlight the use of grammatical metaphor in the findings and discussion section.

* 1. ***Data analysis***

As stated in the theoretical foundations section, the stratal tension model is used in this study to identify instances of grammatical metaphor. As not all nominalisation involves grammatical metaphor, a clear distinction between nominalisation and ideational metaphor is important in this study. As stated in the literature review section, if a nominalisation can be unpacked to the congruent form, it is an ideational metaphor; if a nominalisation cannot be unpacked to the congruent alternative, it is a case of transcategorisation ([Christie & Derewianka, 2008](#_ENREF_12)).

Two types of ideational metaphor investigated in this study include *action as noun* and *quality as noun,* which comprises verbal and adjectival nominalised processes respectively. Verbal and adjectival nominalisation can be formed by adding a derivational suffix to a verb or an adjective (e.g., *master/mastery*); or by changing the verb internally (e.g., *to plan/plan*) (Eggins, 2004; Martin, 2008; Thomson & Droga, 2012) (See Figure 1).

(Insert Figure 1 here)

Typical nominal endings for verbs and adjectives were adopted from the classification proposed by Quirk et al., (1972) and Thomson and Droga (2012), which is displayed in Table 1.

(Insert Table 1 here)

* 1. ***Sample analysis***

To illustrate how grammatical metaphor was analysed and coded in this study, a sample high scoring text from the 2013 NAPLAN Persuasive Writing Marking Guide, which is made available for public use, was analysed. Of a total possible score of 48 points, this text was awarded 43, which indicates its high quality. The sample text is provided in Table 2, with ideational metaphors bolded.

(Insert Table 2 here)

In this sample text, eight instances of grammatical metaphor were identified, including: *control, lives, survival, production, deaths, progress* (x2), and *conclusion.* To make comparisons, instances of grammatical metaphor per total words were calculated. This measure is applied to the sample text and all 32 selected texts for this study. The sample text includes 296 words in total.

In the sample text, only ideational metaphors involving the nominalised process as things were used. The number of ideational metaphors used in the text is 8, which accounts for 2.7% of the total words of the sample text. Without the grammatical metaphors presented in the sample text, the clauses could be expressed non-metaphorically. Some examples are presented as follows.

(6) Metaphorical: We should not have the right to take **control** of their **lives.**

Non-metaphorical:We should not have the right to **control** how **they live.**

(7) Metaphorical: Being kept in a cage increases the chance of **survival** and allows **reproduction** to continue.

Non-metaphorical:Being kept in a cage increases the chance for animals **to survive** and **to continue reproducing.**

In this case, the student writer’s use of ideational metaphor, which involved nominalised processes (e.g., *control*, *lives*, *survival*, *reproduction*), increased the technicality and formality of their writing (Derewianka & Jones, 2012). All selected NAPLAN persuasive texts investigated in this study were analysed and organised in the same way as this sample text.

1. **Findings and Discussion**

To begin analysing the high scoring primary and secondary persuasive texts and to make comparisons of grammatical metaphor across grade levels, the average number of words per year level was calculated, with Year 3 students averaging 187 words, Year 5 students averaging 276 words, Year 7 students averaging 344 words, and Year 9 students averaging 427 words. It was expected that the average number of words would increase in accordance with year levels. This finding was crucial for determining the percentage of different types of grammatical metaphor used by students in each year level.

* 1. ***Quantitative analysis of ideational metaphor***
		1. *Percentage of grammatical metaphor across year levels.*

As indicated in Figure 2, the results of the analysis showed that, generally, the average use of ideational metaphor increased gradually in accordance with the year level from low to high.

(InsertFigure 2)

Specifically, the average percentages of ideational metaphor per text were 1.05% in Year 3, 1.52% in Year 5 (1.44 times higher than Year 3), 2.01% in Year 7 (1.91 times higher than Year 3), and 2.51% in Year 9 (2.39 times higher than Year 3). The analysis indicated that all 32 high scoring primary and secondary persuasive texts used ideational metaphor, and half of the chosen texts at each year level featured more than the average percentage of ideational metaphor used at each level. This showed that ideational metaphor was an important language feature in the investigated high scoring texts. However, there were some variations in the use of ideational metaphor within each year level and between four year levels. For example, in Year 3, the highest percentage is 1.91 compared to the lowest 0.29, 2.76 compared to 0.4 in Year 5, 4.23 compared 0.31 in Year 7, and 4.34 compared to 0.75 in Year 9. Although all students used some ideational metaphor in their writing, and on average, the amount of ideational metaphor increased in accordance with the year levels in a consistent manner, within and between year levels, there were some disparities about the amount of ideational metaphor used. This suggests that some students can still have success with their text if they use ideational metaphor occasionally and strategically. However, as ideational metaphor plays a central role in the marking guide which will be discussed in Section 4.2, this suggests that those students who used less ideational metaphor could even score more highly if more ideational metaphor was used to convince the reader. The percentages of ideational metaphor in all high scoring texts and the average percentages per year level are displayed in Figure 2.

* + 1. *Percentage of types of ideational metaphor used across year levels.*

In addition to quantitative analysis of ideational metaphor in all selected high scoring texts across levels, the study also looked at the types of ideational metaphor being used by high achieving students. The results presented in Figure 3 demonstrate that overall, metaphorical forms of *process as nouns* were commonly employed and the figures increased across grade levels.

(Insert Figure 3 here)

Particularly, the percentage of *process as noun* were 1.05%, 1.18%, 1.62% and 2.03% in Years 3, 5, 7 and 9 respectively. On the contrary, ideational metaphor which is realised by *quality as noun* was not used by Year 3 students, but still featured as a language choice in Years 5, 7 and 9. This finding shows that these middle and upper primary school children were able to use ideational metaphor in their attempts to persuade others, which supports Halliday’s (1985) and Derewianka’s (1995) suggestion that children are able to produce grammatical metaphor at around 9-10 years of age.

* 1. ***Qualitative analysis of grammatical metaphor***

To understand how the school students in the investigated context used grammatical metaphor in their texts, the following section will unpack the effectiveness of using grammatical metaphor by discussing the relationship between grammatical metaphor and the NAPLAN marking criteria, and the use of grammatical metaphor to achieve persuasive purposes.

The NAPLAN persuasive writing marking guide includes 10 criteria as displayed in Table 3. Scoring highly for the first four criteria, which include audience, text structure, ideas and persuasive devices, and the seventh on paragraphing, requires texts to be written persuasively. Phrases like *a persuasive argument*, *persuade the reader*, *a persuasive text* are used in the skill focus section in Table 3 to describe this purpose, showing that the NAPLAN persuasive marking guide explicitly requires assessors to look at the persuasiveness of student writing to reward them high marks against these five criteria.

(Insert Table 3 here)

The other five criteria in the marking guide emphasise the importance of appropriate language choices (vocabulary), text cohesion, meaningful sentence structures, correct punctuation and correct spelling of difficult words as demonstrated in Table 3. In addition to the NAPLAN persuasive marking criteria, the score range for each criterion, with zero the lowest and 3, 4, 5 or 6 as the highest depending on each criterion, is provided to assessors as shown in Table 4.

 (Insert Table 4 here)

Apart from these marking criteria and the range of score points for each criterion, a very comprehensive rubric which includes 11 pages is given to markers to provide detailed explanation on how the score points for each criterion should be awarded. Prior to the start of annual NAPLAN marking, there is comprehensive training for NAPLAN markers in each state and territory to ensure the consistency of the marking and in the application of a set of 10 writing criteria. For example, in Victoria there is 2-3 days of more detailed in-service training as well as control scripts and back marking during the marking period to ensure markers are marking consistently. Regarding the scoring points for each criterion, there are clear instructions in the marking rubric. For example, for Criterion 1 on audience, students will be awarded zero marks if they only use symbols or drawings to convey meaning. By contrast, they will be awarded the maximum scores of 5-6 if they support, engage and persuade the reader through deliberate language choices and persuasive techniques, or influence the reader by precise and sustained language choices.

*4.2.1. Grammatical metaphor and Audience (Criterion 1)*

As explained above, to be able to score highly for this criterion, students should be able to persuade the reader through their deliberate/precise/sustained language choices. The NAPLAN marking rubric explains further that to achieve this persuasive purpose, students need to ‘create an appropriate relationship with the reader (e.g. polite, formal, social distance)’ (ACARA, 2011d, p. 8). This suggests the formality of the text and social distance contribute to the persuasiveness of the text. The use of grammatical metaphor realised by nominalisation contributes to the formality of the text as demonstrated in the following examples.

(8) (Year 3): *Quick* ***action*** *must be taken before it is too late.*

(9) (Year 5): *It is vital**for children ‘to learn how to save money’, not wasting money is a big part of that* ***education*** *that is not taught in schools!*

(10) (Year 7): ***Evidence*** suggests *the cost of living* is going up.

(11) (Year 9):*To sum it up, too much money is spent on* ***self-satisfaction*** *and* ***indulgence.***

As seen in (8) – (11), high scoring primary and secondary school students used a range of types of ideational metaphor realised by nominalisation and involving complexity and abstraction to persuade readers. The examples include *action, education, evidence, self-satisfaction, and indulgence.* Congruent forms of these would be *act, educate, evident, satisfy,* and *indulge.* Thanks to the nominalised processes turning actions (*act, educate, satisfy,* and *indulge*)anda quality (*evident*)into things (*action, education, evidence, self-satisfaction,* and *indulgence*), the students’ writing became more abstract and formal. As noted in Section 2.2.1.1, nominalisation, which is a powerful resource for creating ideational metaphor, is a highly valued language choice of academic writing and persuasive discourse (Halliday, 2004; Halliday & Martin, 1993; Humphrey, Droga & Feez, 2012; Martin, 2008, Thomson & Droga, 2012).

With the use of ideational metaphor, the agent is removed, creating high social distance with the reader, so the text ‘establishes strong, credible voice’ (ACARA, 2011d, p. 8) to persuade the reader. As seen in (8), a Year 3 example, *Quick* ***action*** *must be taken before it is too late*,the ideational metaphor *action* was used without the agent *people* (e.g., *People act*) or *we* (e.g., *we act*). This enhances the formality and objectiveness of the text, establishing a social distance with the reader, and an appropriate relationship with them (ACARA, 2011d), contributing to each text’s social purpose of persuasion. The Year 7 example in (10), ***Evidence*** *suggests* *the cost of living* *is going up* also shows that the student was able to establish hearsay (*evidence suggests*) in their text through the use of ideational metaphor (*evidence*), which made their argument more objective and considered than referring to their own subjective opinion. Formality, social distance, and objectiveness are highly valued language features of arguments and grammatical metaphor is a powerful resource for creating argumentation in scientific and academic discourse (Derewianka, 1995; Halliday & Martin, 1993; Halliday & Matthiessen, 2004).

* + 1. *Grammatical metaphor and Text structure (Criterion 2)*

The NAPLAN marking rubric explains that to be awarded higher marks for Criterion 2, texts should be structured effectively and include an introduction outlining a clear position statement, a body section with reasons and detailed supporting evidence, and a conclusion reinforcing the writer’s position. The conclusion may reflect on issues raised earlier in the text (ACARA, 2011d). Grammatical metaphor is a powerful language resource which is packed in nominal groups to help writers introduce abstract concepts and construct their points of argument in the thesis statement in the introduction, topic sentences in the body section, and/or reinforcement of thesis statement in the conclusion.

Consider the following example:

(12) (Year 5):(Thesis statement) *I strongly believe that the money spent on toys should be spent on other things. Today I will be explaining about* ***cost, bullying and creativity.***

As seen in (12), the ideational metaphors ***‘cost, bullying and creativity’*** were used to introduce the main points of the argument in the thesis statement which were unpacked further in the series of body paragraphs in the same text as follows. Each instance of ideational metaphor as each point of argument (i.e., *cost, bullying, creativity*) was used again in each topic sentence in the body section to link to the previous points of argument in the thesis statement and to allow the text to unfold coherently.

*Firstly, you must consider* ***cost****…*

*Secondly, having too many toys in the house can become a source of* ***bullying****…*

*Now, onto my next point* ***creativity****…*

The analysis of (12) demonstrates how grammatical metaphor was used to present the argument logically in a Year 5 text. Another example is shown below.

(13) (Year 5): (Thesis statement)*Games and toys can be unhealthy and uneducational.* (Series of arguments) *Firstly, video games are one of the most unhealthiest things on the planet… Secondly, the massive productions of toys are**bad for the environment… Thirdly (and finally), toys and games can distract children from important matters*… (Reinforcement of the thesis)*In conclusion, I strongly believe that too much money is spent on games and toys for the reasons of* ***unhealthiness, harshness*** *on the environment and* ***distractions*** *of the task at hand.*

Example (13) shows that the writer introduced two main points of the argument in the thesis statement (e.g., *unhealthy* and *uneducational*) which were explained further in the body section, and the concluding sentence concisely and effectively summarised the points of argument raised within an expanded nominal group *for the reasons of* ***unhealthiness, harshness*** *on the environment and* ***distractions*** *of the task at hand,* using three instances of ideational metaphors (i.e., ***unhealthiness, harshness, distractions).*** As demonstrated, grammatical metaphor used in the introductory and concluding stages, and in some topic sentences in high scoring persuasive texts is a powerful rhetoric device for structuring text and presenting the argument logically and coherently. This support the claims that academic writing ‘displays knowledge authoritatively, structured in a well-organised text’ (Scheppeogrell, 2006, p. 137) and grammatical metaphor realised in nominal groups contribute to authoritative and logical presentation of academic argumentation (Ryshina–pankova, 2010).

* + 1. *Grammatical metaphor and Ideas (Criterion 3)*

As illustrated in the previous two sections, grammatical metaphor is a powerful language resource to engage and persuade the reader and to structure the text and the argument logically and coherently. For Criterion 3 on Ideas, the NAPLAN marking rubric requires markers to reward ideas that ‘are generated, selected and crafted to be highly persuasive’ (ACARA, 2011d, p. 10) and ideas may be elaborated by ‘explaining cause and effect’ (ACARA, 2011d, p. 10). Although the analysis of (12) and (13) already demonstrated how the ideas for the argument were linked coherently between the introductory, body and concluding stages throughout the text through the use of grammatical metaphor, the following examples will explain the cause-effect relationship within a clause by deploying grammatical metaphor.

(14) (Year 5): *Games can cause* ***obesity.***

(15) (Year 9): *The environmental* ***impact*** *caused by toy* ***production*** *is hardly worth it*.

Example (14) uses one instance of ideational metaphor *obesity* with the verb *cause* to express the causal relationship within a clause, rather than explaining this cause-effect relationship in two clauses congruently (*Children can become* ***obese //*** *if they play games*), which strengthens the argument and makes it more concise. Example (15) also shows how grammatical metaphor can establish causal relationships (e.g., *impact, production*) within a simple clause, rather than using three clauses (*When toys are produced, // it impacts the environment, // and this is hardly worth it*) when the ideas were expressed congruently. Presenting this causal relationship within a single clause in (15) focused the argument on whether such a negative impact on the environment is worth it or not, rather than on whether toy production actually does impact the environment negatively. Constructing the ideas and the argument through a causal relationship within a clause is one of the most important roles of grammatical metaphor as argued and illustrated by Halliday and a number of leading scholars in the field of SFL (Christie & Derewianka, 2008; Derewianka, 2003; Derewianka & Jones, 2016; Halliday & Martin, 1993), and the evidence of this in the data set supports the previous studies and argument on the reasoning role of grammatical metaphor.

*4.2.4. Grammatical metaphor and Persuasive devices* *(Criterion 4)*

 To score highly for the fourth criterion, students must use ‘sustained and effective use of persuasive devices’ (ACARA, 2011d, p. 11). The relationship between grammatical metaphor and the first three NAPLAN marking criteria already demonstrated how high scoring students used this linguistic resource to persuade readers by establishing a socially distant, formal and polite relationship with the audience, an objective argument to persuade the reader (Section 4.2.1), structuring the text logically and coherently (Section 4.2.2), and explaining causal relationships effectively within a clause (Section 4.2.3).

Further, Halliday (2004) explains that in the process of constructing an argument or rationality using grammatical metaphor, this necessarily involves ‘a movement from Theme to Rheme’ (p. 106). Theme is the departure of the clause, and Rheme is the remainder of the clause (Halliday & Matthiessen, 2004). The Theme ‘will typically pick up something that has gone before’ and becomes a ‘résumé’ of the previous argument (Halliday, 2004, p. 107). Halliday (2004) argues that ‘the only way to package a piece of argument … of a clause is to turn it into a nominal group’ (p. 107). And the grammar always has the power of ‘condensing extended meanings in a highly structured, nominalised form’ (Halliday, 2004, p. 109). Research by Ryshina–pankova (2010), who identified grammatical metaphor in the strategic theme position in advanced EFL texts, revealed that using grammatical metaphor in the theme position allowed EFL students to ‘coherently integrate information in their texts or move the argument forward’ (p. 186). Examples about grammatical metaphor in the theme position in the investigated NAPLAN texts can be found below.

(16) (Year 9): *A child can be any of these without needing any toys or games. A couch and some pillows can become an army fort. A dog becomes a dragon. The* ***possibilities*** *are endless when it comes to* ***imagination.***

(17) (Year 9): *There is nothing wrong with a phone or computer or other such technologies, but when people, kids especially, start getting addicted to a handheld device or gaming sites, or waste time (days even) watching TV, there is clearly a lack of social and physical lifestyles. Such* ***self indulgence*** *is totally unacceptable!*

As seen in (16), two ideational metaphors used are *possibilities* and *imagination*, in which one ideational metaphor *possibilities* is in the theme position (i.e., the beginning of the clause). The *possibilities* here refer to the things children can use to play with, without the need to buy real toys and games. Using the grammatical metaphor *possibilities* picks up again the argument from the previous clauses (*A child can be any of these without needing any toys or games. A couch and some pillows can become an army fort. A dog becomes a dragon*), moving the argument from specific (e.g., *a couch, pillows, an army fort, a dog, a dragon*) to general (e.g., *possibilities* in the Theme position) and to abstraction (e.g., *imagination* in the Rheme position). Similarly, the thematised grammatical metaphor in (17) *self indulgence* summarises the previous idea *(kids start) getting addicted to a handheld device or gaming sites, or waste time (days even) watching TV,* transitioning the level of meanings from specific (*addicted to a handheld device, watching TV)* to general (*self indulgence*)and effectively moving the argument forward. As demonstrated, grammatical metaphor in the theme position serves as a powerful rhetorical resource to structure arguments as a movement between concrete and specific ideas and general and abstract ones, contributing effectively to the construction of the overall argument and the coherence and cohesion of the text (Halliday, 2004; Ryshina–pankova, 2010).

* + 1. *Grammatical metaphor and Vocabulary (Criterion 5)*

The NAPLAN marking rubric explicitly includes ‘nominalisation’ as a language resource for argumentation for Criterion 5 on Vocabulary, with examples including ‘probability, likelihood, shortsightedness’ (ACARA, 2011d, p. 12). As ideational metaphor involving nominalisation is the focus of this study, obviously grammatical metaphor relates to the Vocabulary criterion. And the fact that high scoring primary and secondary school students used grammatical metaphor as shown in the quantitative and qualitative analysis sections (Sections 4.1 and 4.2) reinforces the powerful function of grammatical metaphor in persuasive discourse as discussed in the literature (Christie & Derewianka, 2008; Derewianka, 2003; Derewianka & Jones, 2016; Halliday, 2004; Halliday & Martin, 1993; Ryshina–pankova, 2010).

*4.2.6. Grammatical metaphor and Cohesion (Criterion 6)*

Ravelli (1988) states that grammatical metaphor serves a cohesive function when it is considered as ‘an alternative lexico-grammatical realization of a choice in the semantics’ (p. 136). Halliday and Matthiessen (2004) adds that grammatical metaphor can act like an incongruent reference to a semantic element or elements in the preceding text. Let us revisit a Year 5 example (9) from earlier, *It is vital**for children to* ***learn how to save money****;// not wasting money is a big part of that* ***education*** *that is not taught in schools.* The ideational metaphor *education* used in the second clause of this sentence referred to the semantic element of the first clause about the importance of *children learning how to save money*. Using the grammatical metaphor *education* rather than writing the idea of *children learning how to save money* a second time makes the text less repetitive and allows the argument to unfold cohesively and coherently, which aids its persuasiveness. More examples and analyses of the cohesive function of grammatical metaphor can be found in Section 4.2.2 on Grammatical metaphor and Text structure, and Section 4.2.3 on Grammatical metaphor and Ideas. Additionally, Ryshina–pankova (2010) comments that when grammatical metaphor appears in the theme position and demonstrates summarising and advancing functions, it will act powerfully as a cohesive and coherent device in writing as analysed and discussed in (16) and (17) in Section 4.2.4 on Grammatical metaphor and Persuasive devices.

*4.2.7. Grammatical metaphor and Paragraphing (Criterion 7)*

For this criterion, the NAPLAN marking rubric describes that strong paragraphing supports argumentation, and evidence of this in the investigated NAPLAN data set was analysed and shown in (12) presented in Section 4.2.2 on Grammatical metaphor and Text structure. Moreover, it states that ‘a single sentence may be used as a final comment for emphasis’ (ACARA, 2011d, p. 14). This is evident in a series of concluding sentences in the investigated persuasive texts when grammatical metaphor was used to summarise the key points of arguments in the body section and reinforce the author’s thesis statement. This is shown in (13) analysed previously, *In conclusion, I strongly believe that too much money is spent on games and toys for the reasons of* ***unhealthiness, harshness*** *on the environment and* ***distractions*** *of the task at hand*. This example uses three instances of ideational metaphors ***unhealthiness, harshness*** and***distractions***in the concluding sentence to recap the key arguments presented in the body paragraphs and to drive home the writer’s thesis statement, serving the summarising and emphasising function.

*4.2.8. Grammatical metaphor and Sentence structure (Criterion 8)*

Effective sentence structure as described in the marking rubric involves a variety of clause types and patterns (ACARA, 2011d). As grammatical metaphor has the function of construing a causal relationship within a clause, and condenses meanings within nominal groups to construct an argument cohesively and coherently, it is often used in a single clause which is also known as a simple sentence as seen in (14) and (15) which originally appear in Section 4.2.3.

(14) (Year 5): *Games can cause* ***obesity.***

(15) (Year 9): *The environmental* ***impact*** *caused by toy* ***production*** *is hardly worth it*.

However, grammatical metaphor can also be used in independent or dependent clauses in a complex sentence as seen in (16), or as the main noun in a nominal group as in ***malnourishmen****t in a third world country* in (17).

(16) (Year 9): *The* ***possibilities*** *are endless when it comes to* ***imagination.***

(17) (Year 9): *As you are reading this sentence, four children have died due to* ***malnourishmen****t in a third world country.*

*4.2.9. Grammatical metaphor and Spelling (Criterion 10)*

The use of grammatical metaphor necessarily involves difficult and challenging words, which are important to score highly on the NAPLAN marking rubric’s final criterion on spelling. This is because grammatical metaphor realised by nominalisation involves consonant alteration patterns (*decide/decision, indulgent/indulgence*), many three- and four-syllable words, multi-syllabic words ending in suffixes (e.g., *malnourishment, immobilisation*), and longer words with unstressed syllables (e.g., *responsibility*), which make words more difficult to spell (ACARA, 2011d). To score highly for this criterion, students should be able to spell at least 10 difficult words correctly.

*4.3. Summary of the findings and discussion*

Through the comprehensive analysis of grammatical metaphor in the qualitative analysis section (Section 4.2 above) with the evidence from the investigated NAPLAN data set, grammatical metaphor plays a vital role in 9 of the 10 marking criteria. This emphasises the critical function of this powerful language choice in persuasive discourse in an educational context. Martin (1989) argued that children need to learn to read texts that are dense with grammatical metaphor if they are to learn how to access the information contained in them successfully. Students will encounter grammatical metaphor in the texts they read from middle primary school (Derewianka & Jones, 2012), as grammatical metaphor starts to appear in factual texts in the middle primary years (Derewianka, 2012). It becomes common across subject areas in the upper primary (Rose & Martin, 2012), and is intimately involved in the increasing use of technicality and specialised knowledge of the different disciplines in secondary school (Christie & Derewianka, 2008). Therefore, being familiar with the language tools this entails becomes an important part of simply interpreting and understanding the information around them, leading to more successful writing outcomes. For the purposes of written argumentation, this study has highlighted the types of grammatical metaphor that were rewarded in high scoring primary and secondary school texts in one context.

While nominalisation—as a linguistic resource for creating ideational metaphor—is explicitly introduced in Year 8 in the *Australian Curriculum: English* (ACARA, 2015), the findings of this study show that high achievers in the national literacy test could use this language choice in their writing from Year 3 (i.e., 8 years of age). The uses of ideational metaphor in primary persuasive texts were also more likely to be limited to the process as noun type. By contrast, the high scoring secondary school students were able to demonstrate a stronger command over process as noun and quality as noun types of ideational metaphor, and use the linguistic feature creatively to accumulate arguments and structure their arguments coherently.

1. **Conclusion**

In this paper, we have examined the use of different types of grammatical metaphor in high scoring students’ persuasive writing, with a particular focus on ideational metaphor involving nominalisation. The results indicate that the percentages of ideational metaphor use increased across the year levels from Year 3 to Year 9 and they were used effectively in the high scoring texts to achieve a range of persuasive purposes. As grammatical metaphor has evolved in writing as a key semiotic resource for constructing academic discourses in the humanities, science and social sciences, understanding grammatical metaphor has been described as the gateway to school knowledge (Rose & Martin, 2012). Grammatical metaphor starts to appear in factual texts in the middle primary years (Derewianka, 2012), and becomes common across subject areas in upper primary school (Rose & Martin, 2012). It is intimately involved in the increasing use of technicality and specialised knowledge of the different disciplines in secondary school (Christie & Derewianka, 2008). Therefore, teaching children how to read grammatical metaphor and how to use this advanced language choice in their writing may lead to more successful writing outcomes. However, as Christie (2012) argued, for this to occur, teachers would first need an understanding of the nature of grammatical metaphor and its significance in shaping meanings in written discourse to both scrutinise student progress and identify teaching strategies to deal with the problems that arise in its absence. This research provides valuable insights into when and how ideational grammatical metaphors were employed in high scoring NAPLAN persuasive texts. However, further research into low scoring NAPLAN persuasive texts would be a fascinating follow up project. It could compare the persuasive language choices like grammatical metaphor used by high achieving and low achieving students to provide further insights into the development of grammatical metaphor across school years. Additionally, research into grammatical metaphor used in more authentic contexts could benefit teachers in preparing their students to write more effectively in a variety of contexts.

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TABLES AND FIGURES

Table 1. Nominal endings for verbs and adjectives (Adapted from Quirk et al., 1972, p. 993; Thomson & Droga, 2012, p. 17).

|  |  |
| --- | --- |
| **Nominal endings for verbs** | **Nominal endings for adjectives** |
| -suffix | verbs | nouns | examples | -suffix | adjectives | nouns | examples |
| -ion | verbs | Abstract and collective nouns | Perception, suspicion | -ity/-ty/-y | adjectives | Abstract nouns | *capacity, honesty,*  |
| -ment | verbs | Chiefly Abstract nouns | Appointment, settlement  | -ance/-ence | adjectives | Abstract nouns | *assurance, importance*  |
| -ation | verbs | Abstract and collective nouns | Concentration, verification | - ness | adjectives | Abstract nouns | Weakness, awareness |
| -ing | verbs | Abstract and concrete nouns | Reloading, warning | -ism | adjectives | Abstract nouns | Idealism, capitalism |
| -al/-ial | Dynamic verbs | Countable, abstract nouns | Proposal, arrival | - th | adjectives | Abstract nouns | Strength, length |
| -ance | verbs | Abstract nouns | Assistance | -gy | adjectives | Abstract nouns | StrategyPedagogy |

Table 2. Sample analysis to demonstrate the coding process.

So you think that you wouldn’t mind having bars surrounding you, faces peering in any minute of the day, and kept away from your natural habitat? If human can have a voice, why can’t animals? The statement suggesting that it is cruel to keep animals in cages and zoos, I think, is accurate. Animals have ruled this land before the destructive race of humans and we should not have the right to take **control** of their **lives.**

If animals are kept in zoos or cages all of their life, they have no chance if or when they are let out into the world. Although some zoos may claim that they have technology to provide the prisoners with products to make, their enclosures seem natural, it will never be the same. In the world, animals grow up to be predators to catch their own food, to know which animals are of danger to them, and develop skills such as fastness and attacking methods. What skills are they going to learn in a small enclosure?

Zoo keepers may argue that being kept in a cage increases the chance of **survival** and allows **reproduction** to continue. Even though this is true, rather than locking them away, humans can help by protecting their natural environment, preventing the number of **deaths** by human **progress**. I hope that it would be agreed that blaming the animals by locking them up, for our mistakes is certainly cruel. Like all living things, animals have personalities too, which furthermore conveys why zoos and cages’ animals are cruel.

In **conclusion**, taking animals away from their natural habitat should be considered cruel. No human technology will ever be the same as their environment and humans should understand that the extent of human **progress** is ruining animals’ lives.

Table 3. NAPLAN Persuasive Writing Marking Criteria (ACARA, 2011d)

|  |  |  |
| --- | --- | --- |
|  | **Criteria** | **Skill focus** |
| 1 | Audience | The writer’s capacity to orient, engage and persuade the reader. |
| 2 | Text structure | The organisation of the structural components of a persuasive text (introduction, body and conclusion) into an appropriate and effective text structure. |
| 3 | Ideas | The selection, relevance and elaboration of ideas for a persuasive argument. |
| 4 | Persuasive devices  | The use of a range of persuasive devices to enhance the writer’s position and persuade the reader. |
| 5 | Vocabulary | The range and precision of contextually appropriate language choices. |
| 6 | Cohesion | The control of multiple threads and relationships across the text, achieved through the use of referring words, ellipsis, text connectives, substitutions and word associations. |
| 7 | Paragraphing | The segmenting of text into paragraphs that assists the reader to follow the line of argument. |
| 8 | Sentence structure | The production of grammatically correct, structurally sound and meaningful sentences. |
| 9 | Punctuation | The use of correct and appropriate punctuation to aid the reading of the text. |
| 10 | Spelling | The accuracy of spelling and the difficulty of the words used. |

Table 4. Category Scores for the 10 Persuasive Writing Marking Criteria

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Audience | Text structure | Ideas | Persuasive devices | Vocabulary | Cohesion | Paragraphing | Sentence structure | Punctuation | Spelling |
| 0-6 | 0-4 | 0-5 | 0-4 | 0-5 | 0-4 | 0-3 | 0-6 | 0-5 | 0-6 |

Figure 1. Types of ideational metaphors investigated in this study.

Figure 2. Percentage of ideational metaphor in high scoring texts across year levels.

Figure 3. Percentage of ideational metaphor across year levels by type.