THE IMPACT OF INSTRUCTION BASED ON TOULMIN ELEMENTS ON THE WRITING PERFORMANCE OF NNES LEARNERS

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THE IMPACT OF INSTRUCTION BASED ON TOULMIN ELEMENTS ON THE WRITING PERFORMANCE OF NNES LEARNERS

ABSTRACT

This mixed methods study examined and analysed the impact of instruction based on Toulmin elements on the argumentative writing performance of four NNES learners and uncovered their perspectives on how the instruction of reasoning elements influenced their argumentative essays. The objective of this study was to a) assess the argumentative essays produced by NNES learners to find problems that occur during their writing performance, b) to determine to what extent the instruction based on The Toulmin Model of Argument affect the NNES learners' argumentative writing performance, and c) to uncover the NNES learners' perspectives on how the instruction of Toulmin elements impact their argumentative essays. The findings of the study will benefit the NNES learners in relation to their need to improve their argumentative skills in their academic writing. This study used the convergent parallel mixed methods design which involved the collection of quantitative and qualitative data. The two sets of data were then compared and analysed to yield an overall interpretation of results. Four NNES learners participated in the eight-week long study and were asked to produce argumentative essays from the pre-, post-, and delayed post-tests. The argumentative essays were then coded for presence of Toulmin elements. Additionally, the essays were assessed for reasoning quality using an argumentative writing scoring rubric adapted from Qin and Karabacak (2010). The quantitative findings revealed that some Toulmin elements were not present in the participants' pre-test essays and exposed several problems in the quality of their argumentative essays. After receiving instruction, the NNES learners employed Toulmin elements in the argumentative essays produced in the post- and delayed post-test and had shown improvement in their use of the reasoning elements. The assessments also revealed

that the argumentative essays from the post- and delayed post-test contained more rich and complex reasoning compared to the argumentative essays written in during the pre-test. The qualitative results revealed that during the early stages of the instruction, they perceived the Toulmin elements *data*, *qualifier*, and *rebuttal* challenging to comprehend and apply in their argumentative essays. Nevertheless, further instruction of Toulmin elements facilitated their understanding of the reasoning features, their function, and application. The semi-structured interview revealed that the NNES learners found the instruction of Toulmin elements useful to their argumentative writing due to several factors. The conclusion of this study recommended that argumentative writing models and reasoning features must be introduced to NNES learners at an earlier stage in order for them to achieve an expected standard of reasoning required in tertiary education levels.

Keywords: Toulmin Model of Argument, Toulmin elements, argumentative writing, NNES learners

IMPAK ARAHAN ELEMEN TOULMIN KEPADA PRESTASI PENULISA PELAJAR-PELAJAR NNES

ABSTRAK

Kajian kaedah campuran (mixed methods) ini mengkaji dan menganalisa kesan pengajaran berdasarkan unsur-unsur Toulmin kepada prestasi penulisan argumentatif empat pelajar yang bukan berbahasa ibunda inggeris dan mengungkap perspektif mereka mengenai bagaimana arahan unsur-unsur pemikiran mempengaruhi esei argumentatif mereka. Objektif kajian ini adalah untuk: a) menilai esei argumentatif pelajar-pelajar yang bukan berbahasa ibunda inggeris untuk mengenali masalah yang dihadapi semasa menghasilkan penulisan mereka, b) meneliti kesan Model Penghujahan Toulmin ke atas prestasi penulisan argumentatif pelajar yang bukan berbahasa ibunda inggeris, dan c) meninjau kesan arahan unsur Toulmin daripada perspektif pelajar yang bukan berbahasa ibunda inggeris. Dapatan kajian ini akan memanafaatkan keperluan pelajar yang bukan berbahasa ibunda inggeris dari segi peningkatan kemahiran penulisan akademik mereka. Kajian ini menggunakan rekabentuk campuran berkumpulan selari (convergent parallel mixed design) yang melibatkan koleksi data kuantitatif dan kualitatif. Kedua-dua set data tersebut dianalisa untuk membuat perbandingan data dan penafsiran hasil kajian yang menyeluruh. Empat pelajar yang bukan berbahasa ibunda inggeris telah mengikuti kajian ini selama lapan minggu dan menghasilkan esei argumentatif semasa pra-ujian, pasca ujian, dan ujian tertunda. Esei-esei argumentatif kemudian dikodkan untuk kewujudan elemen Toulmin. Di samping itu, esei-esei argumentatif dinilai dari segi kualiti berdasarkan rubrik pemarkahan penulisan argumentatif yang disesuaikan daripada hasil kajian oleh Qin dan Karabacak (2010). Hasil kajian kuantatif menunjukkan bahawa beberapa elemen Toulmin tidak hadir dalam esei pra-ujian para pelajar-pelajar serta mendedahkan beberapa masalah dalam kualiti esei argumentatif mereka. Selepas menerima pengajaran,berasaskan unsur-unsur Toulmin, pelajar-pelajar yang bukan

berbahasa ibunda inggeris ini menunjukkan bahawa mereka dapat menggunakan elemen Toulmin dalam esei argumentatif pasca ujian dan pasca tertunda serta menunjukkan peningkatan dalam penggunaan unsur-unsur Toulmin. Hasil kajian esei-esei argumentatif pasca ujian dan ujian tertunda juga menunjukkan penulisan pelajar yang lebih kaya dan kompleks berbanding dengan esei argumentatif pra-ujian. Hasil daripada kajian kualitatif pula menujukkan bahawa pelajar-pelajar tersebut, pada peringkat awal pengajaran, mempunyai kesukaran memahami dan menggunakan elemen Toulmin, seperti *data, qualifier*, dan *rebuttal* dalam esei argumentatif mereka. Walaubagaimanapun, pengajaran yang berfokus kepada elemen-elemen Toulmin memudahkan pemahaman mereka tentang ciri-ciri penaakulan, fungsi dan aplikasi elemen-elemen berikut. Temubual secara separuh berstruktur menunjukkan bahawa pelajar-pelajar NNES mendapati bahawa pengajaran berasaskan elemen Toulmin amat memnafaatkan penulisan argumentatif mereka disebab oleh pengaruh beberapa faktor. Kesimpulan hasil kajian ini mencadangkan supaya model penulisan dan ciri-ciri penaakulan argumentatif mesti diperkenalkan dahulu kepada pelajar NNES pada tahap yang lebih awal agar mereka dapat mencapai tahap penaakulan yang diperlukan pada peringkat pendidikan tinggi.

Kata kunci: Toulmin Model Argumen, elemen Toulmin, penulisan argumentatif, pelajar-pelajar yang bukan berbahasa ibunda inggeris

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LIST OF SYMBOLS AND ABBREVIATIONS

EFL	:	English as a Foreign Language
ESL	:	English as a Second Language
L1	:	First Language
L2	:	Second Language
NNES	:	Non-native English Speakers
TMA	:	Toulmin Model of Argument

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

1.1 Introduction

Critical thinking is a valued intellectual skill in the academic world (Golpour, 2014) and it encompasses the ability to solve problems, create assumptions or inferences and to construct arguments based on facts, evidence and opinions, which hold true especially in academic writing. One of the many aims of successful academic writing is creating strong arguments (Crowhurst, 1990; Dastjerdi & Samian, 2011) and while these require truth and evidence, it also requires the articulate self-expression and point of view of an individual (Golpour, 2014; Paul & Elder, 2001) as these factors are believed to be a strong indicator of higher intellectual thinking. The ability to construct a written argument is an extension, as well as a recognized sign, of higher critical thinking (Hakim, 2014; Nussbaum & Sinatra, 2003) as it involves the skill to reflect, analyse, and synthesize information that is used to compel the reader (Qin & Karabacak, 2010). Unfortunately, ESL learners, as well as EFL learners tend to encounter difficulties in using appropriate reasoning in their argumentative writing. Instead, non-native English speakers provide arguments that lack evidence and coherence. According to Felton and Kuhn (2001), in order to be effectively persuasive, one must be able to present a strong integration of accurate and detailed evidence and other relevant information based on analyzation and evaluation to be used as a foundation for a good argument. In past studies, The Toulmin Model of Argument is used to exhibit such argument. The model is known for its extensiveness of argument construction, providing a strong systematic transition of ideas, facts and evidence and because most ESL learners have not been exposed to the model. It is believed that the opportunity to arm them with the knowledge of systematic arguing can drastically improve their writing process and outcome. Thus, this study will focus on the instruction of argumentative elements by Toulmin and conduct an analysis of common argumentative elements found in the essays of ESL students before and after the

instruction to assess the argumentative writing performance of the learners as well as uncovering their perspectives on the instruction of the Toulmin model itself.

1.2 Background of the Study

A common writing genre in academia, as well as an essential constituent of academic writing (Huh & Lee, 2014) is the argumentative genre. This writing genre is one that learners of English as a second language will come across in their academic life (Mei, 2006; Wingate, 2012). Argumentative writing is also known to be a difficult genre of writing, this is because it requires one's critical thinking skills (Bacha, 2010; Dastjerdi, & Samian, 2011; Kaur, 2015; Kneupper, 1978). Past studies showed that both ESL and EFL learners find that constructing arguments in their native language is a far easier task than writing it in another language (Chen & Cheng, 2009). In fact, some studies highlighted that ESL and EFL learners, in general, exhibit low critical thinking skills, more specifically, in creating strong and convincing argumentative papers when writing in English (Bacha, 2010; Hirose, 2003; Nunun, 1999; Varghese and Abraham, 1998; Yang & Sun, 2012), the studies stated that these could be due to factors such as the lack of linguistic knowledge and the struggle to translate ideas from one language to another.

1.2.1 Common Problems found English Language Argumentation

In non-English speaking countries, the ability to create and justify arguments are expected of students as it is crucial for one's academic success (Crowhurst, 1991). However, most NNES learners encounter disadvantages when faced with the argumentative discourse due to their lack of communication and reasoning skills when it comes to writing and conveying their arguments in English (Kaur, 2015; Nippold &

Ward-Lonergan, 2010), difficulty in providing evidence, counterarguments and rebuttals (Kuhn et al., 1997) and struggle when expressing their claims and the logic and reason behind the claims made. These problems are also stemmed from their limited understanding of the proper rhetorical steps in developing arguments (Hakim, 2014; Zhu, 2009). Another problem related to the fact is that NNES learners do not expect that they are required to produce complex and logical statements regarding their reasoning behind their written arguments (Hakim, 2014). Students are required to have a general idea of an argumentative structure yet, the existing knowledge that most learners have are basic and often not explained to them well by their teachers (Driver et al., 2000; Jonassen & Kim, 2010; vonAufschnaiter et al., 2008). The product of this assumption often resulted in poor argumentative essays that mostly lack clear written logic, weak justifications and conclusions, lack of counterarguments and rebuttals. In addition, due to the intricacy and complex nature of the argumentative discourse, ESL and EFL teachers find it taxing and difficult to teach argumentation to their students (Kaur, 2015).

1.2.2 A Common Written Argumentation Guideline

Most ESL learners have a general idea of how to write arguments however, they still struggle to develop their reasoning systematically and compellingly. One of the main reasons why these learners face difficulties in writing argumentative essays is that they have not been presented a clear argumentation guideline and they have not been taught key elements needed in constructing effective arguments (Driver et al., 2000; Jonassen & Kim, 2010). Without an idea of how an argument is formulated, NNES students will be left with poor logic and reasoning skills which will produce weak arguments with inadequate and unsupported evidence that will be reflected in their argumentative writing. What is commonly taught in ESL classrooms instead are ways to avoid argument

fallacies, which are weak elements found in one's reasoning (Kneupper, 1978). In programmes like English for Academic Purposes (EAP), ESL and EFL learners are taught a basic argumentative structure that is embodied by main sections such as an introduction, a main body, and a conclusion (Hakim, 2014).

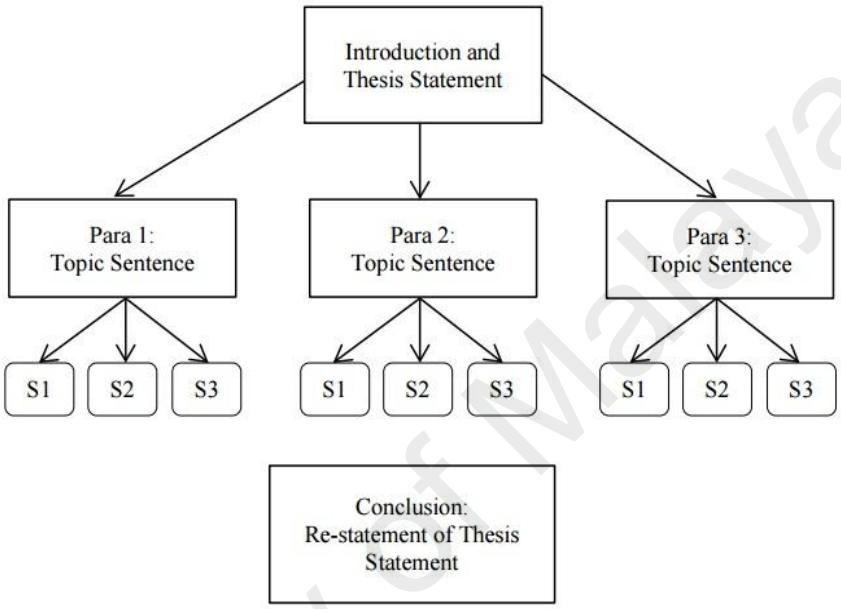

Figure 1.1: An EAP argumentative essay structure

(Hakim, 2014)

With reference to Figure 1.1, the conventional writing structure posed to students is simple on the surface, the introduction section provides the thesis statement or claim of an argument whereas the main body, which could be dissected into one or more sub-sections, contains the main points of an argument such as counter-claims, rebuttals and justifications. Lastly, the concluding section provides closing statements that refer to the initial claim of an argument. To a native English speaker, the structure could be easily understood without further detailed instructions on how an argument is made and supposedly systematized. For a non-native English speaker however, more information is needed to describe and define the common argumentative construct. The common

structure also does not provide detailed information of the sections itself such as which statements and reasoning elements are to be used and what they are used for. The vagueness posed by the general argumentative writing guideline poses a threat to the development of the writing performance of learners. Steps in adopting an efficient and detailed writing model, as well as the integration of the model into ESL programmes, should be taken to provide support in improving the ESL learners' argumentative writing.

1.3 Problem statement

Studies concerning argumentative writing is vast and although there have been studies conducted relating to the use of the Toulmin model, these are mainly focused on L1 contexts (Qin & Karabacak, 2010). Other studies focus on how to improve the second language learners' argumentative writing using new or modified pedagogical methods (Varghese & Abraham, 1998) or looks at differences of written argumentative structures between cultures (Chen & Cheng, 2009; Hirose, 2003). Nevertheless, little research has been done in investigating the effects of the instruction of Toulmin elements in the ESL learners' argumentative writing performance as well as the learner's insights concerning instruction. It is crucial that argumentative papers produced by ESL learners be analysed much deeper to pinpoint the learners' weaknesses pertaining to their argumentative performance and address them by integrating the Toulmin model into curriculums which contain crucial argumentative elements. To address the problems in relation to the ineffectiveness of argumentative essays produced by ESL learners, the current study aims to address the objectives stated below.

1.4 Objectives of the study

1. The current study aims to assess the argumentative essays produced by 4 ESL learners to find the problems that occur during their writing performance. The ESL learners' written argumentative essays will be investigated following a pre- and post-test to identify what Toulmin elements are present in their essays, what they already know about creating arguments, and what reasoning elements are lacking.
2. The ESL learners will be given instruction of The Toulmin Model of Argument during two treatment cycles to familiarise them with the argumentative elements needed to create effective argumentative essays, this will help them understand the rationale of the elements in the Toulmin model, and
3. The study seeks to uncover the ESL learners' perspective on how the instruction of the Toulmin elements impact their argumentative essays and reveal the encountered difficulties of ESL learners' during the instruction and writing process using semi-structured interviews. In relation to the specified objectives, the research questions are the following:

1.5 Research questions

The research questions that will be answered in this study are:

a. What reasoning elements, based on Toulmin's Model of Argument, are commonly found in the ESL learners' argumentative essays?
b. To what extent does the instruction based on The Toulmin Model of Argument influence the performance of ESL learners in terms of reasoning elements found in their argumentative essays?
c. How do learners perceive the instruction related to The Toulmin Model of Argument in influencing their argumentative writing performance?

1.6 Significance of the study

Developing teaching and learning methods to improve the ESL learners' academic writing ability is one of the many focuses in the field of second language teaching and learning. The opportunity to provide solutions in regards to argumentative writing difficulties can potentially improve the academic writing abilities of ESL learners. The findings of this study will benefit the ESL learners in relation to their need to improve their argumentative skills for their academic development. The analysis of the argumentative patterns produced by ESL learners will shed light on the strengths and weaknesses that occur in their argumentative essays, which in turn will allow practitioners to help ameliorate the learner's weaknesses and heighten their strengths. Additionally, gaining insights of the learner's perspective of the instruction of crucial argumentative elements will help uncover the ESL learners' perceived strengths, weaknesses, and difficulties and will aid practitioners to address problems in the ESL classroom linked to argumentative writing (Jonassen & Kim, 2010). The instruction of key elements from The Toulmin Model of Argument will familiarize the learners in structuring an effective written argument, improving their reasoning skills in a second language. Students will be able to understand the functions of each argumentative element and they will learn how these elements can contribute to an argument (Felton & Herko, 2004). Moreover, through the instruction of the Toulmin model, ESL learners will be able to use the Toulmin elements to develop well-supported and systematized arguments. Various past studies (Bacha, 2010; Qin, 2013; Varghese & Abraham, 1998), have proven that the instruction of argumentative components has significantly improved ESL learners' writing performance, therefore perhaps the inclusion of Toulmin elements can indeed provide a clear and detailed guideline for students in relation to argumentative writing. Qin and Karabacak (2010) stated that these can be incorporated in classroom activities and writing

programmes to promote the ESL learners' higher critical and analytic skills. New and modified resources containing key argumentative elements can then be used as guidelines for writing effective argumentative essays that will help ESL learners improve their argumentative writing performance. Furthermore, the result of this study will benefit ESL practitioners in terms of providing writing solutions to improve students' second language learning.

1.7 Ethical considerations

In order to successfully investigate the problems concerning the ESL learners' argumentative writing, the current study has taken into account the ethical issues that might arise during the research process. Due to the nature of the research, the study has taken the consent of the revision centre where the participants are enrolled in, as well as the participants' consent, fully apprising them about the research, its procedures and possible risks. Moreover, the subjects of the study are guaranteed confidentiality that the identities of the participants will not be disclosed to a third party and all data will be kept and used only for research after which time, all documents will be disposed.

1.8 Summary

Chapter 1 of this study discussed the inability of ESL learners to write effective argumentative essays which is the result of their limited understanding of argumentation and ineffective argumentative writing instruction. The chapter briefly discussed the findings of past studies that relate to the argumentative writing capabilities of second language learners as well as the potential contribution of The Toulmin Model of Argument in relation to the improvement of the learners' written argumentation. In

addition, the chapter outlined the objectives of the study, the research questions that are set out to be answered, and the potential significance of the present study. In Chapter 2, the present study will discuss the nature of argument and analyse studies pertaining to the argumentative writing capabilities of second language learners extensively, as well as the problems found in the learners' writing process. Moreover, The Toulmin Model of Argument will be discussed in greater detail and will examine past studies that have implemented Toulmin-based argumentative instruction. Finally, Chapter 2 will also reflect on the perspectives of learners and practitioners in regards to their experience of learning and teaching of argumentative writing.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In Chapter 1, the study determined that the difficulties found in the argumentative writing process of second language learners may possibly be rooted from the students' deficiency in constructing arguments in a second or foreign language, the use of ineffective general argumentative writing models, as well as the unsuccessful argumentative writing instruction by practitioners. Studies in Chapter 1 also revealed further problems in written argumentation such as the learners' limited capabilities in producing coherent reasoning with sound evidence that is logically structured, and the learners' weakness in appropriately translating ideas from one language to another.

In Chapter 2 of this study, the literature attempts to unveil further details of these problems, including other complications that arise during the argumentative writing process. The chapter outlines the argumentative writing discourse, the notions of critical thinking and argumentation, as well as the relation between the two concepts to provide deeper information and analysation concerning the writing genre. The chapter also discusses in detail The Toulmin Model of Argument, its elements and their individual functions, and the critiques relating to Toulmin's systematic argument theory and implementation of the model in the argumentative writing discourse. Furthermore, Chapter 2 examines the universally common argumentative writing issues of both native and non-native English speakers, as well as the perceptions of practitioners in relation to teaching argumentation. Lastly, the literature review explores the various studies that employed The Toulmin Model of Argument to reveal the strengths and weaknesses of the implementation of the model and its effect on the argumentative writing performance of students.

2.2 The Argumentative Writing Discourse

It is believed that writing is a skill that requires the recurrent process of planning, observation, and evaluation of written information (Van Gelderen & Oostdam, 2004). Writing involves various tasks such as collating selected information, the systemization of texts, as well as the interpretation and materialisation of concepts into written and spoken language (Oostdam, 2005). In relation to these processes, writing utilises the application of general and specific knowledge and writing skills into several text genres. The learned information that is either factual or procedural in nature is then applied using writing skills via the manipulation of mental, verbal, and written data.

General and specific knowledge and skills are important in all writing genres such as the narrative, descriptive, and argumentative variety. Of all the writing discourse types, the argumentative genre demands specific knowledge and skills in order to successfully achieve the genre's goal and purpose. Argumentative writing and its complexity (Kneupper, 1978) entails specified skills such as identifying the genre type and its objectives, establishing the topic, determining the audience (Van Eemeren & Grootendorst, 1984), selecting an argumentative position (Street, 2009), analysing and evaluating information to be used from sources (Wingate, 2012), generating arguments and rebuttals, and structuring of the argumentative text (Andrews, 1995; Oostdam, 2005; Toulmin, 1958; Toulmin, Rieke, & Janik, 1979). The numerous skills associated with argumentative writing are complex in nature (Mitchell et al., 2008; Wingate, 2012) and, even more so, for non-native English speakers. Some of the difficulties that learners face during argumentative writing include their developmental thresholds in grasping logic and reason, the deficiency of support offered by standard resources, and poor teacher training and instruction.

In order to efficaciously assist students in producing effective written arguments, it is imperative that the specific knowledge and skills of argumentation be taught to provide them with a clearer understanding of expected genre-specific writing goals and outcome. It is also important that practitioners place deliberate focus on teaching learners the distinction between what type of knowledge and skills are needed for argumentative writing.

2.2.1 Argumentation, Critical Thinking, and Cognitive Demands

The argumentative writing context, as with any other writing genre, requires the ability to process meaning (Nystrand, 2006). Argumentation necessitates problem solving where the writer must select and support a viewpoint that is justifiable not only to the addresser, but to the addressees as well, whose views, perceptions, and experiences must be considered. Therefore, audience awareness is a fundamental element in argumentation.

Kroll (1978) studied the cognitive demands associated with argumentative writing and found that writers are required to classify the type of audience needed in a writing genre. In order to do this, he stated that writers need to be able to decenter their viewpoints and adopt the standpoint of "a hypothetical readership" (p.279) in order to exhibit audience awareness instead of only presenting one-sided opinions based on the writers' personal perspective. This, unfortunately, is what is commonly lacking in argumentative writers as they tend to dissociate themselves from their audience by presenting their viewpoints without contemplating opinions that conflict their own (Kroll, 1978; McCann, 1989; McCutchen, 2006).

Bulkhalter (1995) stated that most argumentative writers find that taking into account their audience is a difficult task for them to accomplish as they are required to persuade

their readers and predict the possible objections that might arise during argumentation, which is crucial in order to provide effective arguments. This problem can be linked to the learners' deficiency in planning, interpreting ideas and facts, and reassessing their arguments before essay, therefore, learners are often left communicating their arguments in a knowledge-telling approach. Deane et al. (2008) indicated that although writing in a knowledge-telling style is acceptable, complex writing genres mandates the use of knowledge-transforming skills to be able to solve complex problems. Furthermore, due to the sophisticated nature of argumentation, the cognitive skills to compare and contrast viewpoints, to identify ideas that are segments of a greater whole, to distinguish ideas from essential to non-essential, and so on, are crucial in knowledge-transformation.

2.2.2 The Significance of Critical Thinking in Argumentative Writing

Critical thinking is an intellectual process in which an individual consciously analyses and evaluates an issue or problem. It necessitates the skill to effectively conceptualise, communicate, apply, analyse and synthesise information learnt from examination, experience, rumination, reasoning and communication. Scriven and Paul (1987) declared that critical thinking is based on general intellectual morals that exceed subject matter boundaries: clearness, accuracy, precision, reliability, relevance, sound evidence, good reasons, complexity, extensiveness, and fairness. It entails the examination of those structures or elements of thought implicit in all reasoning: purpose, problem, or question-at-issue; assumptions; concepts; empirical grounding; reasoning leading to conclusions; implications and consequences; objections from alternative viewpoints; and frame of reference. The ability to argue is an extension of critical thinking and the skills needed to effectually conceptualise and construct sound reasons are sophisticated and requires a deeper understanding of a subject matter. Argumentation demands critical thinking as an

individual must assess an issue, select a standpoint, and create justifications to succeed in an argument.

2.3 What is an Argument?

A vital function of critical thinking is to distinguish, build, and evaluate arguments. In everyday life, individuals frequently refer to argument as a disagreement between people either verbally, physically, or both. In logic and critical thinking, an argument is a set of assertions that includes assumptions and conclusions, as defined by Copi, Cohen, & McMahon (2016), Hillocks (2010), Slob (2002), and Toulmin (1958). To deliver an argument is to give a set of evidences as reasons for agreeing to the conclusion. Presenting an argument is not essentially to confront or disapprove, it is also to support other opinions. Argumentation is a social process which entails two or more parties countering a claim or supporting a claim. An argument not only states and re-states a claim and justification, it involves backing, altering and defending viewpoints appropriately. The next section of this chapter will elaborate on the aspects of argument.

2.3.1 Aspects of Argument

A question is asked when we deal with daily conversations, or scholarly/political debates, or scientific symposiums. How can we communicate truths, use logical and accurate reasoning, and convince others to believe an opinion? Additionally, we attempt to make decisions to evade declamatory and figurative statements during arguments in order to seem persuasive (Hillocks, 2010), while remaining compelled to produce rational and valid reasoning. However, Slob (2002) stated that in most cases, arguments produced rhetorically and fallaciously tend to win contentions. The question that is asked concerning this situation: How can we differentiate between good and deceptive arguments and how can we construct arguments that will convince others? An argument

can take various forms, each of which is distinct and defined by its own reasoning method. Arguments of logic can be categorized into three common types: deductive argument, inductive argument, and abductive argument (Hillocks, 2010; Peirce, 1974; Walton, 2014). Aside from this, effective and defective elements can be found within the several types of arguments, which will be defined and explained in the next section.

2.3.1.1 Deductive Argument

A deductive argument is constructed when a conclusion is generated with certainty based on a claim or premise. Peirce (1974) discussed that the reasoning process between the claim and conclusion should be well-established in order to guarantee the validity of the conclusion. This is shown in this classic example "*All men are mortal. Socrates is a man. Therefore, Socrates is mortal*.". The method of reasoning is dependent on what is universally assumed to be known to extrapolate truths about comparably interrelated conclusions (Hillocks, 2010; Oaksford & Hahn, 2007; Walton, 2014). Conversely, in actuality and experiences, few statements that are credited to be truths guarantee no absolute certainty. For instance, it is assumed that when a mother is with child, she is a woman. However, although women have been known to be the only human gender to bear children, one cannot be certain if a pregnant woman was once a man who had undergone gender reassignment surgery or is a hermaphrodite. Nevertheless, the premises made initially are sufficiently compelling to support and verify the conclusion.

The validity of a deductive argument is heavily dependent on the truth of the supposed premises (Stenning & Van Lambalgen, 2008). The argument may be deemed valid or invalid, whether they are plausible or not. It seems that the argument's legitimacy is contingent on the systematic and logical flow from premise to conclusion. Markovits (2003) specified that if the assertions made as premises are factual and the conclusions

developed from those premises are sound and methodical, then a deductive argument is judged as valid. A deductive argument is deemed dismissible if it delivers a false notion. In order to fully invalidate a deductive argument, the premises and conclusion must be proven as untrue. Until then, it can be presumed that one of the assertions within the argument is incorrect or fallaciously used. Next, *inductive argument* will be defined and explained in the following section.

2.3.1.2 Inductive Argument

Arguments that are inductive produce conclusions that will possibly be based on the claim or premise. Hillocks (2010), Kyburg (2008), and Oaksford & Hahn (2007) explained that an inductive argument offers enough evidence to support the probability, not full certainty, of the conclusion. This is shown in the example "*The people of Windsor and Maidenhead, UK predominantly vote for the Conservative Party over the Labour Party. Hence, it is expected that the next Member of Parliament elected in the county of Berkshire will be a Conservative*.". In inductive reasoning, the apparent truth of an assertion is substantiated by cases that have been validated. In contrast to deductive reasoning, a claim may appear factual until an exemption is obtained. An individual may reason inductively, for instance, that all cats have fur, until he/she sees an exception. Inductive arguments are frequently based on incidental proof of a small or large sampling size. Due to this constraint, an inductive argument can be exposed to invalidation when a solitary veto is provided.

Hayes (2007) explained that this method of argumentation is vulnerable to failures due to perceptive predispositions, where the arguer sees what he/she expect to reinforce their argument. Whilst inductive arguments can be persuasive and may perhaps demonstrate probability, it can never be deemed as an absolute truth. Additionally, Walton (2014) and

Glassner (2017) clarified that unlike deductive reasoning, where current premises are used to conclude an existing or previous circumstance, inductive reasoning uses evidence from former or present conditions to substantiate a conclusion of a future prediction. The subsequent section will define *abductive argument*.

2.3.1.3 Abductive Argument

Peirce (1974) and Walton (2014) stated that an abductive argument is produced when a general conclusion is given based on a claim or premise. Unlike deductive reasoning, an abductive argument imparts no certainty in its conclusion and unlike inductive reasoning, it produces truth that is either more or less probable. The method of reasoning attempts to provide the soundest, comprehensive, and descriptive supposition possible (Hillocks, 2010; Nepomuceno-Fernández, Soler-Toscano, & Velázquez-Quesada, 2013; Weinreb, 2005). In an example "*Al has been coughing, sneezing, and has a fever of 110 °F. It's been going on for over a week. He probably has the flu*.", the speaker has made an observation and due to the symptoms shown by the subject, the speaker has arrived to the conclusion that he possibly has the flu. Abductive reasoning produces a universal argument that uses the most feasible and available information it can obtain, which is often only partial (Kowalski, 2011). For example, when being diagnosed for a medical condition, a doctor will examine symptoms that might best explain a diagnosis. A doctor may not be certain about a diagnosis as there could be other possible indicators that were not considered or even scientifically found therefore, a doctor would make an opinion based on what he/she knows.

Abductive reasoning is typified for its partiality in proof, or justification, or both (Nepomuceno-Fernández, Soler-Toscano, & Velázquez-Quesada, 2013). In a patient and doctor situation, the patient may perhaps neglect to inform the doctor of every symptom

experienced, causing incomplete proof for a diagnosis. Alternatively, the doctor may reach a diagnosis that fails to justify the further symptoms displayed by the patient. However, the doctor is required to find the best and probable diagnosis he/she can find. The process in abductive reasoning can be inventive, instinctive, and even radical.

The previous section explicated the reasoning processes and conditions of all three categories. Deductive reasoning, inductive reasoning, and abductive reasoning display distinct roles in the process of argumentation, all of which poses their strengths and some, their weaknesses. The following section will describe the characteristics of a good argument and will shed light to the type of reasoning that is required to argue successfully.

2.3.2 A Good Argument

The notion of a good argument is vague. However, a good argument can be detected when it exhibits characteristics that contributes to reasoning that is well-defined and sound. These characteristics are qualifications used to enable arguments to persuade readers and listeners. There are several conditions that makes a good argument. However, not all will be discussed in this chapter. Instead, the most common criterions will be described. Firstly, an argument can be qualified as sound when it is able to provide factual premises. According to Glassner (2017), an argument is deemed valid when it imparts accurate premises. This means that when an argument uses false evidence, it cannot be accepted as a truth. This condition exists as good arguments must be able to convince people to accept a conclusion. Toulmin (1958) supported that if the premises presented in an argument are true then, the assertion cannot be deemed false and the conclusion must be accepted. Moreover, the premise in an argument must be more rational than the conclusion. This means that if the conclusion is merely a reiteration of the evidence, or when the conclusion rests upon a highly deceptive and/or ambiguous premise, the

argument cannot be accepted as factual and sound. Aside from producing true and valid evidence, it also must be relevant to the argument. Jones (2010) stated that the use of irrelevant premises, which is the red herring fallacy, exposes an argument's weakness for criticism and condemnation. The action is common in reasoning as people often deliberately or neglectfully acknowledge the arguments of others and rather, choose to oppose their conclusions.

Secondly, an argument must be valid or strong (Hahn, Harris, & Corner, 2009). Furthermore, it is imperative that in an argument, the conclusion must follow the premise (Branković & Žeželj, 2016). Conversely, a good argument does not necessarily mean that it is valid nor does it mean that it is strong. In this example, "*Man has never been able to harness the power to read minds. Therefore, no man is going to have the power to do so*.", the assertion presented is a good argument but, not valid. It is scientifically true that man has not been able to prove that such mental ability exists within the human biological makeup however, the premise used does not follow the conclusion logically. The argument is invalid because it is not logically improbable for man to have an extraordinary brain development so that he can be able to read another individual's thoughts. Nevertheless, because small probabilities as such are unlikely, the premise presented in the assertion supports the conclusion and so we accept it as a good argument. A good argument does not have to be valid but, it has to be inductively strong. If the assertion is inductively weak, it cannot qualify as a good argument. Hillocks (2010) explained that this is because the evidence does not provide sound reasons to accept the conclusion.

Thirdly, in relation to the second condition, an argument must consider all feasible possibilities. It is a requirement that a statement that is true, rather than one that is of lesser verity, must be accepted as any premise is prone to be challenged if it does not

communicate facts accurately. When a theory is being argued for example, one must acknowledge the existence of other notions in order to analyse their legitimacy and decide whether or not the initial theory remains valid. On the other hand, it is challenging to consider every viable route so, opinions and arguments that fail to do so are frequent. Nonetheless, presupposing that there are fewer viable options than ones that currently exist represses proof and commits a fallacy known as bifurcation or false dichotomy. Finally, a good argument is charitable. Slob (2002) described that when an argument is rejected, one must be able to identify, understand and explain the argument itself to be able to provide rebuttals that are relevant to the case. When an argument is misrepresented by an individual due to his/her failure to be charitable, it makes it weak and eliminates the opportunity to communicate relevant statements and assertions.

To summarise, a good argument is not impossible to achieve. In order for reasoning to be successful, an argument must communicate accurate evidence, it must be valid or strong, it must consider other viable premises, and the speaker or writer must be charitable. Nonetheless, ESL learners find it difficult to reason effectively due to a variety of factors. One of the prevailing problems that emerge during the argumentative writing process is the writers' incapability to link premises to conclusions. Another problem is that learners tend to limit their acceptance of possibilities in an argument. Arguments produced by second language learners often present and advocate premises that are either weak or outdated. The foundation of argumentative essays produced by second language learners lack reasoning elements and instead contain fallacies. This problem can be linked to the ineffective argumentative writing models taught to the learners by practitioners. The following section will provide the various types of fallacies and their definitions.

2.3.3 Fallacies

Within categorised arguments, reasoning errors can emerge. These errors create doubt in reasoning and often invalidate it. The ineffectiveness of arguments can be due to various factors: weak evidence, unstructured and vulnerable counter-arguments or rebuttals, irrelevant statements that attempt to persuade the listener or reader, weak claims, and etc. Most factors that render arguments ineffective can be described as fallacies. As discussed in Chapter 1, practitioners often teach learners to avoid fallacies in argumentative writing. However, fallacies are commonly and frequently found in arguments as a result of weak critical thinking and, at times, misguided argumentative writing instruction. Clements (2013) described fallacies in critical thinking as the deceptive and often persuasive errors or mistakes realised in one's reasoning (Bregant, 2014; Petousis-Harris, et al., 2010; Schoeneberg, 2016; Walton, 2010; 2003; 1999a; 1992a). Conversely, fallacies are sometimes difficult to detect in argumentation as it can be deceptive and persuasive to the listener or reader.

There are many types of common fallacies in relation to reasoning; hasty generalisation; dicto simpliciter or sweeping generalisation; post hoc or false cause; faulty analogy; appeal to ignorance; appeal to authority; appeal to tradition; ad populum or appeal to the crowd; bifurcation or false dichotomy; ad hominem; tu quoque; equivocation; non sequitur or fallacy of the consequent; straw man; petitio principii or begging the question; red herring; slippery slope; inconsistency (Benson, 2012: Bregant, 2014; Clements 2013; Grouse, 2016; Heiss & Bates, 2016; Leibowitz, 2016; Oakey, 1994; Odrowąż-Sypniewska, 2012; Petousis-Harris, et al., 2010; Pynes, 2012; Rescher, 1987; Schoeneberg, 2016; van Eemeren, Garssen, & Meuffels, 2012; Veber, 2012; Walton, 2010; 2003; 1999a; 1992a; 1999b).

Fallacies appears in both verbal and written arguments however, some of the most common errors in reasoning are *hasty generalization*, *post hoc*, *ad hominem*, *straw man*, and *red herring*. In his book, *Rethinking the Fallacy of Hasty Generalization*, Walton (1999b) defines *hasty generalisations* as statements that put forward assumptions based on a small group of people or cases, a single instance or example to be made as a foundation for a broader generalisation. For example, in an argument such as "*Salha's Bengal cat is very friendly and loves to cuddle people. Bengal cats must be an affectionate breed*.", the speaker assumes that all Bengal cats possess the same personality as his/her neighbour's pet. Broad generalisations based on one's single experience such as this produces a weak argument as it is neither accurate nor valid.

Post hoc or faulty cause is defined as the fallacy that misinterprets correlation as causation (Grouse, 2016). In the example "*Breaking a mirror brings bad luck. Jehaad broke his mother's antique mirror last week and from then on, he has been very unlucky. Last week he failed his exams and just today his flight to Kuala Lumpur has been cancelled*.", the speaker argues that the breaking of the mirror caused the inopportune events that his/her friend experienced, deeming that B is the causation of A. The argument made is neither valid nor admissible as correlation cannot be recognized as a cause, especially when there is no presented proof to the assertion.

Ad hominem or *genetic fallacy* is an assertion that attacks the character of the opponent (Leibowitz, 2016; Pynes, 2012; van Eemeren, Garssen, & Meuffels, 2012; Veber, 2012) or prosecutes the source of the argument rather than the core or the evidence of the argument itself. In this example, "*Paris Hilton should not be a role model for women, she is a spoiled brat with too much money to spend and has a cocaine addiction*.", rather than addressing the core of the argument. In this case, the subject of famous women as role

models to other women, the arguer chose to condemn the character and experiences of the actress which is irrelevant and adds no strength to the argument.

The fallacy termed *straw man* describes the reasoning tactic in which the speaker attacks the weak portions of an argument, often in a radical or overstated manner, in order to effortlessly succeed in an argument. Using this fallacy, the speaker frequently starts by referring to the weakest point of the opponent's argument (Heiss & Bates, 2016; Petousis-Harris et al, 2010). In the example "*Equality for both genders is impossible! Why would a woman want to have a right to go to war when drafted? Why would she want to have the right to work in construction? Or pay alimony to her husband? Or be the breadwinner of the household while her husband stays at home?*", the speaker did not address the significant circumstances that the initial ground attempted to draw such as equal pay for men and women, equal rights to education, or the elimination of the patriarchal societies in various countries. Instead, he/she isolated factors that has little to no significance to the issue and inflated them to deliberately undermine the opponent's argument.

Red herring is the fallacy that distracts the audience from the issue of an argument by providing irrelevant information as evidence. Walton (2003) specified that the arguer will attempt to hide the weaknesses of his/her reasoning by luring attention away from the topic. An example of a red herring argument to the question *'Surely there is a higher being that can be linked to all mystical experiences, right?'* would be "*Even if there is one, it doesn't matter because I think that devout people are hypocrites and religion does more damage in society than good*." The answer avoided providing relevant and appropriate counter-arguments regarding the existence of a god and rather, stated his perception of religious people which serves no purpose to the argument except providing a distraction to guide the conversation away from the topic.

Fallacies appear in daily verbal or written reasoning and weakens the credibility, validity, and structure of an argument. Errors of reasoning do not contribute to good arguments but rather, assert bad arguments that endanger the claim, premise, and conclusion. While it is difficult for ESL learners to avoid using fallacies in their argumentative writing, it can be reduced, if not eliminated in their entirety. Stephen Toulmin (1958) has conceived an argumentative model that encompasses a set of reasoning elements that is to be applied in order to exhibit a well-constructed argument. The model can help eliminate the occurrence of reasoning errors and instead communicate clear, accurate, and sound arguments. The next section will discuss and explain The Toulmin Model of Argument in detail.

2.4 The Toulmin Model of Argument

Stephen Toulmin (1958) argued in his book, The Uses of Argument, that argumentation should be rationalised and must include features that does not render reasoning complicated, as opposed to the formal and traditional argumentation that has been in place for many years. Due to this, Toulmin devised a comprehensive argumentation model that exhibit these features. The Toulmin Model of Argument is believed to be an effective system of constructing a strong and resilient argument and can assist learners in organising facts and evidence (Huh & Lee, 2014; Lunsford, 2002; Varghese & Abraham, 1998), and conveying ideas and opinions, which are important factors that are crucial in critical thinking and reasoning. His notions have been adapted by many field of disciplines as they impart a fundamental and structural model for developing and analysing rhetorical arguments. Toulmin's criticisms reveal the insignificance of theoretical reasoning to the valuation of real-world, pragmatic argument and propositioned an alternative method that precisely illustrates the way people create

persuasive, reasonable, and realistic arguments. He offers a non-complex scheme of guidelines for rational argumentation that combines inductive and deductive reasoning.

The Toulmin Model is a criterion of which an argument is ideally structured and following this system can help provide foundation and strength to one's reasoning. Toulmin explained in his book, The Uses of Argument:

"An argument is like an organism. It has both a gross, anatomical structure and a finer, as-it-were physiological one. When set out explicitly in all its detail, it may occupy a number of printed pages or take perhaps a quarter of an hour to deliver; and within this time or space one can distinguish the main phases marking the progress of the argument from the initial statement of an unsettled problem to the final presentation of a conclusion." (p. 87)

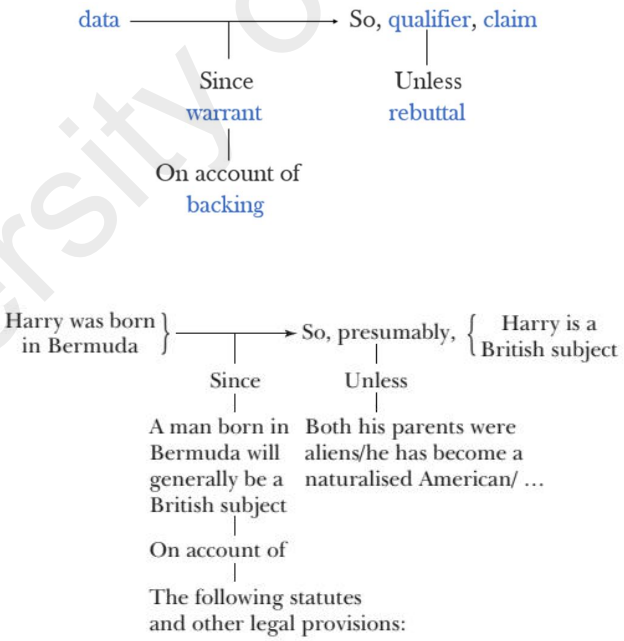

Figure 2.1: The Toulmin Model of Argument

(Toulmin, 1958, p.97)

The Toulmin Model of Argument consists of six elements; *claim, data, warrant, qualifier, rebuttal* and *backing* (Huh & Lee, 2014; Toulmin, 1958; Toulmin, Rieke, & Janik, 1979, 1984). Toulmin stated that the elements can be divided into two categories, the primary elements of argument; *claim, data* and *warrants*, and secondary elements; *qualifiers, backing* and *rebuttal* (Toulmin, Rieke, & Janik, 1984). *Claim* is the statement made in an argument, d*ata,* also known as *ground,* is the evidence that supports and proves a claim, *warrant* is an inferential, logical and often broad universal statement that links a claim to data, *qualifier* is a statement that exhibit a probability to the claim, *rebuttal* is the counter-statement that indicates conditions when an argument is not proved to be true and *backing* is a statement that defends a warrant. In the next page of the current study, the in-depth definitions and individual functions of the elements in The Toulmin Model of Argument are explained.

2.4.1 Definitions and Functions of Toulmin Elements

There are six elements that constitutes The Toulmin Model of Argument and is broken down into two classifications: the primary elements and the secondary elements. Stephen Toulmin (1958) claims that the main elements, *claim*, *data*, and *warrant* appear in any argument. These elements are also the core of any written or spoken argument (Fulkerson, 1996; Karbach, 1987). A *claim* is the thesis, proposition, or assertion that an individual makes in an argument and is the straightforward purpose of a contention. Felton and Herko (2004) defines claim as "an argument used to support the author's position" (p. 874). According to Stratman (1982), a claim is an obligation to an argument that is contested by opposing individuals. Claims implicate taking a stance as they typically possess a controversial character and therefore should be proven by the speaker or author as true by providing justifications. *Data* or *ground* is the groundwork of an argument

which contain evidence and explicit proofs that provides support to a claim (Cho & Jonassen, 2002). It can take the form of numbers and figures, quotations, accounts, articles, findings, physical proof and even basic premises. As said by Toulmin (1958):

"Unless the assertion was made quite wildly and irresponsibly, we shall normally have some facts to which we can point in its support: if the claim is challenged, it is up to us to appeal to these facts, and present them as the foundation upon which our claim is based." (p.90)

A claim must be made as a strong assertion by providing data that does not provoke another challenge from the opposing individual. As evidence is a potent and formidable facet of persuasion, it is often trusted and accepted by the opposed without further arguments. However, there are instances when the data itself is challenged, and with this, warrants are needed. *Warrant* is the bridge that connects claim to data as it legitimises the claim by revealing the relevance of the data (Kneupper, 1978; Rex, Thomas, & Engel, 2010; Toulmin, 1958). Additionally, Karbach (1987) defines that "the warrant -implied or stated- links the grounds to the claim and gives the grounds general support" (p.82). Warrants are represented by general, logical, universally-accepted statements and beliefs that are implicitly stated in an argument and often take the form of assumptions. It is a vital element in forming the validity and power of an argument. The three main elements defined above serve as the core structure of an argument, and Figure 2.2 exhibits the correlation between claim, data, and warrant.

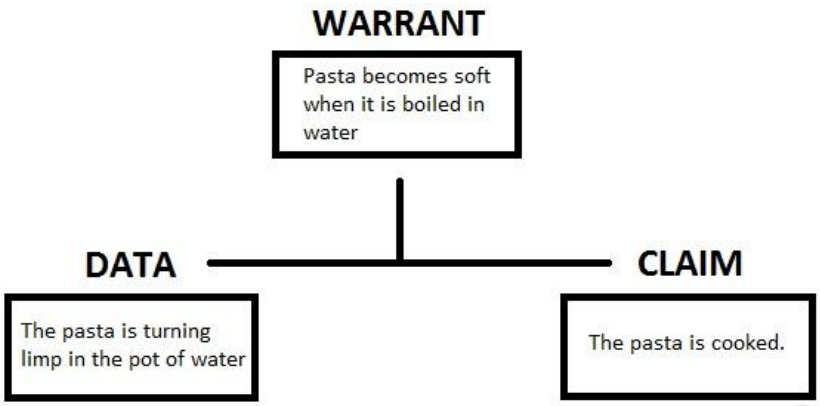

Figure 2.2: The correlation between the main elements of Toulmin's model

In Figure 2.2, stating the claim that "The pasta is cooked", it is observed that the data linked to the thesis is that "The pasta is turning limp in the pot of water". Therefore, the warrant "Pasta becomes soft when it is boiled in water" proves the claim to be valid. The primary components in The Toulmin Model of Argument is fundamental in argumentation however, they are only used in simple reasoning. In most arguments, depth and complexity is needed to create strong, sound, and accurate conclusions. With this, Toulmin (1958) devised a set of intricate elements for argumentation.

The secondary elements consist of three essential facets that can further strengthen arguments when necessary; *qualifier*, *backing* and *rebuttal*. A *qualifier* is a statement that declares the extent of force or probability that is affixed to the claim made. An alternative meaning given by Kneupper (1978) defines the element as "the acknowledgement of the probabilistic nature of the claim" (p.238). In his book, The Uses of Argument, Toulmin (1958) explained that a qualifier informs the opposition about the explicit degree, conditions, and exceptions of the claim that is to be taken into consideration. A qualifier, often used in conjunction with modal verbs, is crucial as it adds strength and eliminates vagueness in claims (Stratman, 1982). *Backing* is the supporting information given in support of the warrant to state its dependability and relevance. Toulmin (1958) explained

that since warrants themselves are not impervious to inaccuracies and implausibility, one would need to provide resilient support to warrants made when the occasion rises. Finally, a *rebuttal* is the counter-argument that foresees objections and registers provisions to which warrants are not deemed relevant. It is important that a rebuttal is present in reasoning to debilitate any attempt to invalidate and nullify an argument. In order to visualise the linking of all Toulmin elements, Figure 2.3 shows each element with examples.

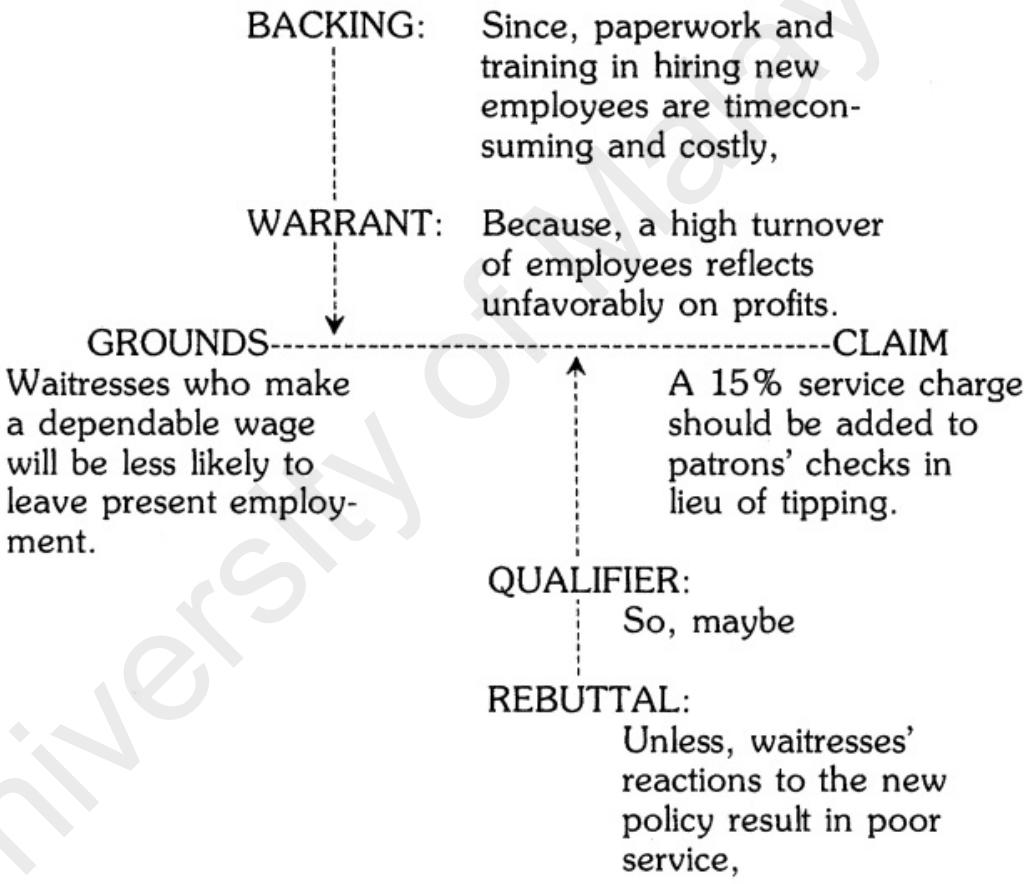

Figure 2.3: The Basic Argument

(Karbach, 1987)

Figure 2.3 illustrates how the Toulmin components are linked together and used in a simple and basic argument. The *claim* states that a service charge shall replace tipping,

placing the reader in a situation in which he/she is to choose a standpoint. Next, *data* is given, which asserts the unlikelihood of waitresses leaving their present employment when they are given fair and steady pay. This enables the reader to consider the claim made during the introduction of the argument. Subsequently, the *warrant* "Because the high turnover of employees reflects unfavourably on profits" shows the connection between the claim and data as the warrant is generally known to be true. The three initial statements made in the argument above will often suffice during a contention since the reader will typically agree with the conclusion. However, should the warrant be contested, a more developed argument is needed to persuade the reader. To prove the warrant is factual and reliable, a *backing* is used that states the high costs of hiring new employees. This statement supports the validity of the warrant as it is known as a universal truth in the management domain. Lastly, to further the strength of the argument, the opportunity to nullify the warrant is eliminated by stating a *qualifier* and a *rebuttal* in which the reader is made aware of the possibilities provoked by the claim. In the argument above, a negative outcome could result from imposing a service charge where waitresses could become complacent. To see another example, please refer to Appendix A.

2.4.2 Arguments Against the Toulmin Model

While the Toulmin model posits a rational structure that aims to guide towards a formidable argument, there are criticisms surrounding the theory. Some scholars claim that the model is inclined towards the assertion of out-dated methods and suppositions of knowledge and power, thus advocating hierarchical and linear thinking. Olson (1993) explained that this is because Toulmin's argument structure does not truly reflect the actuality and intricacy of persuasive communication. Fulkerson (1996a; 1996b) argued that the model tends to create complexity in evaluating arguments as an individual must

have the ability to designate an argument to a specific subject area and must be simultaneously familiar with that area. Another contention made by Fulkerson (1996) was the question as to whether an argument should be examined macroscopically as a whole or microscopically as a chain of arguments. Another concern pertaining to the relevancy of Toulmin's model is that the precincts of logic based on suppositions pose a problem when emotional factors of a rhetorical circumstance are not taken into consideration (Schroeder, 1997). This matter seems to refer to the restriction of teaching learners to appeal to an audience's emotions or persuasion techniques. The major problem that some scholars maintain is that learners are not able to apply the Toulmin model to their argumentative writing. Fulkerson (1996b) mentioned that the model and its elements proved to be challengingly complex than when the theory first surfaced. Yet, there are studies that showed the benefits of Toulmin's model, which will be discussed in the next section.

2.4.3 Arguments For The Toulmin model

In the midst of concerns raised by academics, many declared that Stephen Toulmin's (1958) theory of argumentation provides a simple and extensive outline of reasoning that is empirical in developing an argumentative paper (Kneupper, 1978). The model is believed to be one that allows for the detailed examination of allegorical arguments, as opposed to the conventional approach to logic. In relation to this, it is claimed that Toulmin's model can successfully help learners to identify and analyse claims, suppositions, and understand explanations behind the claims made (Qin, 2013; Qin & Karabacak, 2010). Moreover, scholars state that the model allows for the advancement of ideas regarding logic and rhetoric, as opposed to using a rationalist approach solely. Toulmin (1958) disagrees with the notion of traditional evaluation norms. He instead

attempts to advance a criterion that assesses the value of ideas that are neither absolutist nor relativistic (Foss, Foss, & Trapp, 2014). Toulmin's reasoning elements are categorised as field- reliant or field-independent, which deviates from the conventional belief of rationalists that all features of arguments are exclusively field-independent and that logical claims are therefore general and endless. Toulmin (1958) also believes that arguments must be justified by endorsing strong premises in support of a claim, rather than the contention of an absolute truth of a claim. Furthermore, his model encourages the recognition of opposing viewpoints as a means of argument strengthening. Kneupper (1978) and Van Eemeren & Grootendorst (1984) cited that one of the major positive critiques about Toulmin's argumentation theory is that it transcended from the former rigid and dogmatic model to a process communication model that accurately embodies the actuality in which speakers perceive and communicate arguments. His notions regard inferences as imperfect, conclusions as indefinite, warrants that sanction suppositions are based on significant convictions of an individual. Qualifiers leave room for consideration regarding the complications of reality, and rebuttals substantiate and contextualise arguments in the aspects of a condition. Toulmin (1958) advocates value his multifaceted interpretation of argument which does not necessitate definite views, thereby challenging the highbrow reductionism that is associated with rationalists.

In conclusion, although there are criticisms about the theoretical and practical aspects of Stephen Toulmin's (1958) model of argument, the possible contributions of the model to the development of non-native English speakers' argumentative writing seems promising. The results from studies mentioned earlier indicated the incorporation of Toulmin's model in the argumentative writing discourse, which can provide solutions to various written reasoning issues. The next subsection will discuss the benefits of using and incorporating Toulmin's model in argumentative writing.

2.4.4 The Value of The Toulmin Model to NNES Learners and Practitioners

Many non-native English speakers struggle to plan, write, and justify their written arguments logically. As discussed in earlier sections of this study, these learners are conditioned to communicate their reasoning based on ineffective argumentative models, leaving them with poorly developed critical thinking skills. However, using Stephen Toulmin's (1958) argumentative model to expose the learners to the exemplification of the reasoning elements, will enable the learners to concentrate their thinking, identify the outline of an argument, and acquire good critical thinking skills overall. The model can teach learners how to establish a claim and how to strengthen it with good premises. In addition, students can learn how to select a hypothesis that relates the data to the claim, while taking into consideration the similarities and differences between their own and their audience's experiences and perceptions. Kneupper (1978) stated that the primary elements of the Toulmin model are unambiguous and that the attributed association between claim and data can be easily comprehended and explicitly criticised. He further explained that learners are less apprehensive by an approach that addresses arguments found in everyday circumstances and commonplace language.

Practitioners can benefit from teaching Toulmin's model (1958) as the reasoning structure can assist them in identifying flaws and gaps in their learner's argumentation. A major problem in teaching argument, as stated by Schroeder (1997), is that practitioners themselves lack the essential experience and training in rhetoric and logic in order to successfully teach argumentation. Teachers who lack these characteristics can learn from the simple and adaptable description of pragmatic reasoning and help their learners do the same. The practicality of Toulmin's reasoning model illustrates the structure of an argument unambiguously that both practitioners and learners can distinguish effective notions that make for good arguments. Schroeder (1997) further described Toulmin's model to be easy to instruct by a practitioner in a classroom due to its relative simplicity.

Toulmin created a scheme of utilitarian argumentation, which has been praised by many scholars as an applicable pedagogical instrument (Erduran, Simon, & Osborne, 2004; Foss, Foss, & Trapp, 2014; Gleason, 1999; Huh & Lee, 2014; Karbach, 1987; Kneupper, 1978; Lunsford, 2002; McCutchen, 2006; Osborne, Erduran, & Simon, 2004; Qin, 2013; Qin & Karabacak, 2010; Rex, Thomas, & Engel, 2010; Schroeder, 1997; Varghese & Abraham, 1998; Van Eemeren & Grootendorst, 1984; Yeh, 1998), that has notably simplified and improved the duties of practitioners in terms of imparting reasoning in a radically easier, logical, and coherent approach. Additionally, the model developed by Stephen Toulmin (1958) can be utilised by practitioners as a useful tool in analysing and evaluating students' written arguments. The following section will discuss the argumentative writing issues experienced by students.

2.5 Argumentative Writing Issues

The argumentative writing discourse is known to be complex compared to genres like narrative, descriptive, or expository (Kneupper, 1978). Argumentation, whether formal or informal, requires complex thinking, speaking, and writing skills that transcends the generality of daily communicative forms. Aside from the necessity for genre specific skills, sophisticated language and vocabulary are also needed in order to successfully communicate one's opinions and perceptions (Mitchell et al., 2008; Wingate, 2012). As discussed in an earlier section, it seems that in an academic setting, argumentation is a recurring problem not only for non-native English speakers but, for native English speakers as well (Crammond, 1998). While some problems that occur in the argumentative writing process of non-native English speakers and native English speakers are varied, and independently exclusive to each other, a few influencing factors of unsuccessful argumentation are faced mutually by both types of learners. Thus, the

following subsections will discuss the argumentative writing issues and written reasoning capabilities of both groups of learners to uncover the differences and similarities between them.

2.5.1 Native English speakers' Argumentative Writing

In an article written about the common argumentative writing issues of native English speakers, Crowhurst (1990) explored evidence of their writing performance, discussed reasoning problems and developments, and proposed suitable and applicable teaching stratagems. The paper reported students' poor argumentative writing performance during educational assessments and noted that learners achieved better results in writing narrative essays than argumentative writing. Studies mentioned in Crowhurst's (1990) article included that of Craig (1986), who investigated language functions used in the argumentation of 6th and 11th grade native English-speaking students. It was found that essays written by 6th graders were written as narrative rather than argumentative and that they tended to emphasise on positive opinions, appeal for opinions, and use conversational statements, all of which are attributes of speech rather than argument.

Crowhurst (1987), who examined cohesive devices in the argumentation of native English-speaking students of three grade levels, found that the learners in the higher-grade level used complex vocabulary, exhibiting greater capability in developing sophisticated ideas. The study also found that younger students in lower grade levels exhibited poor use of conjunctives compared to the higher-grade level, who used the grammatical feature appropriately.

Crammond (1998) examined the dissimilarities between student writers at three grade levels (Grade 6, Grade 8, & Grade 10), as well as the differences between expert writers and students in relation to the use and complexity of reasoning presented in their

argumentative essays. The study placed focus on the identification of progressive attributes and distinctive weaknesses of learners' argumentative writing by examining samples of their essays. Crammond (1998) used a modification of Toulmin's model for argument analysis and frequency of argumentative elements in written texts. The results showed that all students, including expert writers, provided a claim, sub-claim, constraint, and data. In addition, all expert writers used at least one modal, warrant, countered rebuttals, and reservation. Two grade levels showed significant increase in the use of warrants, modals, and countered rebuttals however, one grade level decreased in frequency of the use of reservation. Moreover, the results revealed that there is an absence of warrants of students at the 6th Grade compared to other grade levels, which is consistent with a similar study conducted by McCann (1989). It was discussed by Crammond (1998) that the cause of this absence may be due to the learners' perception that warrants are not necessary in creating written arguments. Another probable pretext to the lack of the reasoning element is that the group of learners are not capable of recognising the necessity of warrants when they are needed. This can indicate that the students are not capable of addressing the audience's needs and/or backgrounds to provide warrants (Crowhurst, 1990). More importantly, because of this, it can also indicate that the learners are not capable of producing warrants because they do not know how to communicate it.

Overall, the result of Crammond's (1998) study considered that the difficulties students face in argumentative writing may have come from social complexities and the reasoning demands of complex semantic structures of arguments. The next subsection will discuss the studies concerning the argumentative writing issues of non-native English speakers.

2.5.2 Non-Native English Speakers' Argumentative Writing

One study by Kaur (2015) involved interviewing two Thai EFL teachers on the weaknesses found in developing argumentative papers written by L2 learners of English. To discover the problems that learners face when writing, the study has interviewed the EFL teachers using a semi-structured interview and the Stimulated Recall Interview (SRI) developed by Gass and Mackey (2000) to uncover the teaching strategies that teachers utilised in assisting learners with argumentative writing. They uncovered that their learners faced great difficulties in creating a clear and effective claim, organising their ideas, and producing robust arguments that are backed up by evidence as they have never dealt with the argumentative genre before.

Chen and Cheng (2009) explored and compared the argumentative writing abilities of 40 Taiwanese ESL learners and 39 of their American counterparts. In addition, they also compared the Chinese and English versions of the Taiwanese learners' argumentative essays, furthermore, they examined whether cultural differences between The Taiwanese and American learners played a part in the way they construct argumentative essays. To analyse the essays made by the two groups, the researchers referred to a revised model of Toulmin's Model of Argument and explored what elements are found in the essays of both groups. The conclusion showed that American students were better at providing *warrants, data* and *rebuttals* compared to the Taiwanese students' English argumentative papers. However, the Chinese essays written by the Taiwanese learners were found to produce greater arguments than the Americans' English essays. One reason stated by the study was because the English proficiency of the Taiwanese students counteracts with their ability to defend their claims, stipulate statements that connects their justifications and claims, and producing rebuttals and refutations.

An explanatory study by Qin and Karabacak (2010) analysed the Toulmin elements in 133 Chinese EFL university students and examined the link between the argumentative elements and the quality of the learners' argumentative essays. The study found that on average, *claim* and *data* were present in most of the learners' papers, showing that the learners possess basic knowledge in constructing arguments. The study also revealed that some of the students have not used *counterarguments* in their paper and further stated that this could be due to reasons such as high cognitive load and their lack of awareness in terms of using counterarguments to further solidify their arguments. In addition to the conclusion, they have found that, using a 5-point scale scoring rubric produced by Nussbaum and Kardash (2005), the overall quality of the argumentative papers was not interrelated to their use of *claim* and *data* but, was highly associated with *counterargument claims, counterargument data, rebuttal claims* and *rebuttal data*, four secondary argumentative elements infrequently found in the learners' written essays.

A study by Huh and Lee (2014) examined the effect of peer feedback in 34 Korean EFL learner's argumentative writing and its quality in relation to the used Toulmin elements using both a qualitative and quantitative approach. During analysation, the researchers compared two sets of essays and found that the papers produced after receiving peer feedback exhibited better structured arguments. In the analyzation of Toulmin elements, the study found, on average, four elements used by the learners in their essays, *data, claim, warrant* and *rebuttal*, with the remaining two, *qualifiers* and *backing*, being absent. They have also found that *warrants* were correlated to the overall quality of their essays while *data*, *claim* and *rebuttal* showed weak to insignificant correlation. The study concluded that *warrant* is a vital factor that produces a more complex and effective argumentative paper.

Ferris (1994) investigated the argumentative essays written by both native and non-native English speakers studying in the U.S. The essays were assessed using a number of variables, including Toulmin elements and the overall effectiveness of the arguments presented. The university freshman students in her study were chosen at random and grouped into two: basic and advance. The students' essays were gathered from the files of the essay programmes they were enrolled in. The study employed two independent raters to assess the argumentative essays based on rhetorical, topical, and quantitative variables. Results showed that there are distinct variances between the essays written by native and non-native English speakers. Differences included the high frequency of counter-arguments by advanced native and non-native English speakers. Ferris (1994) stated that continued writing instruction can possibly increase the chances of students enhancing their ability to anticipate counter-arguments in order to assert their own standpoints. However, it would seem that in Ferris' (1994) study, the native English speakers are more adept in creating and communicating counter-arguments compared to the advanced non-native English speakers, even after receiving the same amount of writing instruction.

The previous studies reveal that focus is placed on the problems that NNES learners face during their argumentative writing process and described what recurrent and non-existing reasoning elements surface in their essays. The studies have also confirmed that there is a pattern in the way learners develop their reasoning and revealed important elements are left out of their papers reflecting on a lack of knowledge in devising arguments. Nevertheless, research on these elements and assessing the quality of argumentative papers of NNES learners before and after exposing them to The Toulmin Model of Argument are scarce. To address this issue, a focus should be placed on improving and strengthening reasoning skills using a practical and explicit argumentative writing model to significantly improve the content and structure of argumentative papers

written by NNES learners. The following subsection will examine the problems that are consequential to the ineffective writing instruction given to NNES learners.

2.5.3 General Argumentative Writing Instruction and its Inefficiency

For years, scholars have investigated the instruction of argumentation and stated that practitioners have failed to transform theory to practice in the classroom (Applebee, 1986; Hillocks, 2010; 2011; McCutcheon, 2006; Smagorinsky, 1994). It is known that writing is a dynamic, meaning-making method. Smagorinsky (1994) described the general writing instruction as an amalgamation of model essays to be emulated and is combined with the use of systematic writing guidelines, i.e. outlining, drafting, reviewing, and editing. Pritchard and Honeycutt (2006) expressed that this process often results in poor argumentative writing as it is merely a one-dimensional pedagogy that is linear and inflexible. They further stated that the process of model essay imitation only teaches students to recall and repeat procedures given to them by teachers in order to produce an argumentative paper. In addition, the instruction itself is mainly aimed at composing narrative essays, a genre that is known to be mostly knowledge-telling and has less audience and cognitive demands.

Argumentative writing mandates critical thinking, coherence, and audience awareness, which can be learnt from the instruction of a schema that allows for knowledge transformation. The inclusion of an effective argumentative writing scheme is crucial to facilitate complex problem solving in order to be persuasive. However, it seems that learners must follow general writing guidelines given to them and write argumentative essays based merely on the reproduction of model essays. Smagorinsky (1994) added that the general argumentative writing instruction could be stemmed from the time-saving nature of the method and the writing demands of state examinations.

Some practitioners teach model essay imitation in order to fulfil the writing objectives needed for learners to pass their exams. Most tests today, and the syllabus that prepares learners for examinations, urge restricted and rigid writing and teaches students that writing as only a skill. Aside from the failure to provide instruction of knowledge-transforming procedures, the deficiency in reflecting on the dynamic of context which is crucial in argumentative writing, is prominent. Context is vital as it entails the acknowledgement of the knowledge, beliefs, and perspectives of an audience about a topic, as well as the writer's own. When given context, learners are able to plan their argumentative paper conceptually which will focus on the audience-related demands of providing clear premises, producing accurate evidence, and responding to challenging counter-arguments (McCann, 1989). Hillocks (2010; 2011) found that argumentative writing instructions fall into three classifications: *presentational, natural process,* and *environmental*. He stated that *presentational* is the instruction that involves the exploration and emulation of model essays. This method does not provide learners support from peers and practitioners, other than what is taught in a general argumentation model. Hillocks (2010; 2011) further emphasised that the presentational scheme does not allow for feedback, but merely supposes that information can only be taught by a practitioner or given text subsequent to the writing task. The mode disregards the advantage of the use of student-collaboration and neglect the benefits of knowledge imparted from student-centred activities.

The *natural process*, on the other hand, is linked to the general writing procedures: specifically planning, drafting, reviewing, and editing. Text structures are neglected as learners are required to determine their own structural schemas. Practitioners attempt to give critiques on students' drafts however, feedback given is individualised. Without collective understanding of requirements concerning form, content, and rhetoric, peer group feedback is restricted to matters of clarification and editing. The natural process

does not provide a scaffolding for learners to participate in complex reasoning essential to problem solving.

Lastly, Hillocks (2010; 2011) described the *environmental* process as the only method that considers the cognitive demands required in argumentative writing as it acknowledges the writing process for its complex problem solving. Hillocks (2011) further illustrated the process as an inquiry-based method of learning and teaching that allows learners to create arguments based on current data. This approach creates an atmosphere that prompt and support active learning of complex and multifaceted stratagems that learners are not able to use on their own. The *environmental* process can help learners develop inquiry skills that can be used inside and outside a classroom in order to tackle the cognitive challenges in argumentative writing.

In order to help learners write effective argumentative essays, practitioners must teach them how to methodically generate and assess texts communicating their viewpoints, as well as the probable perceptions of their intended audience. Encouraging students to employ this type of theoretical planning will help with problem solving, which is linked to knowledge transforming. This will require instruction that is beyond the confines of model essays and general writing guidelines. Additionally, practitioners can involve their students in student-centred activities that will teach them to learn collaboratively and work through problems together, this can help them with the argumentative writing process. The next section will discuss the perspectives, as well as studies revealing the experiences of practitioners in relation to teaching argumentative writing.

2.6 Studies that Employed The Toulmin Model

Graff (2003) indicated that the ability to reason verbally seems to be an innate human characteristic. However, reasoning complexity, scaffolding, and practice is required in an academic environment due to higher scholarly demands. In order to achieve these, explicit instruction must be given to learners as it is known to educate them in crucial argumentation skills. Scholars have investigated the role of explicit instruction in argumentative writing and how it can foster critical thinking skills, conceptual planning, and reasoning structuring. Results from empirical studies by these scholars (Choi et al., 2018; Gleason, 1999; Lunsford, 2002; McCutchen, 2006; Osborne, Erduran, & Simon, 2004; Rex, Thomas, & Engel, 2010; Vasu et al., 2018; Yeh, 1998) propose that the most practical and efficient method of applying The Toulmin Model of Argument is to use it in explicit instructional activities in order to teach learners how to generate reasoning elements such as claim, data, qualifier, warrants, backing, and rebuttals (Nussbaum & Kardash, 2005; Nussbaum & Schraw, 2007).

One interesting study that uses an amalgamation of argumentative theory and models, including that of Toulmin, is by Vasu et al. (2018). They used a checklist created by Nimehchisalem et al. (2014) to examine the effects and efficacy of the utilisation a self-assessment checklist used by 5 Malaysian undergraduate students. They also gathered data pertaining to the learners' and 4 teachers' perception of the checklist's effectiveness. They provided the self-assessment checklist to the learners to help them improve their argumentative writing through a series of writing stages: *before writing*, *while writing*, and *after writing*. Using a mixture of data collection procedures, the Delphi method, semi-structured interviews, and observations, they found that the learners and teachers perceived the checklist useful to the development of their argumentative writing performance. However, they were unclear of the reasoning elements counterarguments, rebuttal, and warrant in regards to Toulmin features. This suggests that not only were

students lacking in knowledge in regards to the terms of reasoning features, they have never applied them in their writing prior to the study. This can be linked back to one of the problems related to argumentative writing, in which NNES learners are not given exposure to argumentative-based writing models that should give them knowledge needed to write argumentative essays. Nevertheless, with the help of reimplementation of the checklist and the provided training regarding its definitions and use, the learners communicated that the checklist helped them write better argumentative essays.

Ananda, Arsyad, & Dharmayana (2018) applied Toulmin's model to their study in order to identify the key reasoning factors found in successful IELTS essays. They collected 60 academic essays with band scores from 8 to 0 and analyzed them. The results show that firstly, across all academic essays, *lead in*, *thesis statement*, and *deduction* were common occurrences. Secondly, reasoning features *claim*, *data*, and *warrant* were also common. Lastly, academic essays were frequently structured simply or strongly, the latter being the highest frequency. This conclusion implies that in order to write argumentative essays effectively, a clear and systematized structure must be used namely an introduction, writer's opinion, and conclusion. It also implies that effective arguments cannot be made using only Toulmin's primary reasoning elements. The findings also suggest that strongly-structured arguments that utilises all six Toulmin elements, are more likely to be high quality academic essays. This conclusion is similar to some studies (Crammond, 1998; Gleason, 1999; Qin & Karabacak, 2010; Qin, 2013) that affirms secondary elements allow for resilient, coherent, and well-rounded arguments. This is because primary reasoning elements do not allow the formulation of strong justification of claims, analysation and syntheses of ideas, and simple or complex problem-solving in regards to the topic at hand.

Yeh (1998) used Toulmin's model to instruct learners in argumentative writing. Moreover, Yeh used the model as a basis to assess the quality of the students' argumentative essays. Using Toulmin-based heuristics, the study has found that the participants were able to learn and adapt principles instead of repetitive steps of argumentation and were able to acclimatise the heuristics and convey learned information to a variety of topics. The conclusion in Yeh's (1998) study suggests that Toulmin's model and the heuristics used enabled a complex problem-solving approach which supported knowledge transforming. As discussed in an earlier section, knowledge-telling does not promote sophisticated and critical thinking skills that are required in argumentative writing. However, when knowledge transformation occurs in a learning process, McCutchen (2006) stated that learners are able to engage in conceptual planning, which involves the identification of content and rhetorical objectives, and problem solving before and during the argumentative writing process.

Gleason (1999) found the use of Toulmin's model to be effective in addressing the difficulties found in learners' argumentative essays. In Gleason's three-series study, it was found that one group of students who were given instruction based on the primary elements of the Toulmin model and another that focused on applying all elements, achieved higher scores than the control group who did not receive any Toulmin model instruction. The group of students who utilised all reasoning elements showed significant improvement with regard to presenting opposing viewpoints and rebuttals.

Similar to Yeh (1998), Lunsford (2002) used Toulmin's (1958) model to instruct argumentation and assess learner essays in her study. Lunsford examined how a group of high school students employ The Toulmin Model of Argument in their argumentative writing process during a writing course. She investigated how the students collaborated meanings using Toulmin's reasoning model as a guide. Lunsford determined that the

model is an efficient and applicable instrument in teaching argumentation and an effective framework for assessing learners' argumentative essays.

In a scientific context, Osborne, Erduran and Simon (2004) conducted a 2-year study involving high school students. They utilised Toulmin's model as an assessment tool to evaluate the quality of the participants' argumentation. During the first stage of the study, the teachers' progress in argument instruction was evaluated, whereas the second stage involved the assessment of the quality of the learners' argumentation. The study found that using Toulmin's model in both phases was a functional tool that serves as a good ground for analytical framework.

Similarly, Erduran, Simon, and Osborne (2004) used Toulmin's model to measure the quality and number of argumentation in classroom discourse during the evaluation of two methodological approaches. The study investigated the model's contribution in tracking reasoning development for the classroom and indicated that Toulmin's model motivated collective reasoning behaviour. Both studies from Osborne, Erduran, & Simon (2004) and Erduran, Simon, & Osborne (2004) suggests that the argumentation model is useful in teaching and learning reasoning skills in the scientific field.

Rex, Thomas, and Engel (2010) examined high school students and their ability to create sound arguments. The researchers used the primary elements found in the Toulmin model to instruct argumentation to the students. The participants were instructed in-class, as a group, and individually for two months to maximise the knowledge retention of reasoning elements. The study concluded that learners further enhanced their argumentation skills and with the help of the model, they learned how to communicate their arguments articulately and in accordance to academic contexts.

Similar to the present study, Qin (2013) examined the efficacy of using The Toulmin Model of Argument in teaching argumentative writing in a Turkish university classroom. The study investigated the argumentative essays of 16 Turkish freshmen before and after the instruction of Toulmin's model. The study involved activities based on Toulmin's reasoning model which were assimilated into a 10-week teaching syllabus. Each activity was an hour long. The instruction of the Toulmin model, knowledge-building of the reasoning model and its elements with reading texts, student-centred discussions of issues, as well as the identification of Toulmin elements in published persuasive essays were also included in the teaching syllabus. The results of Qin's (2013) study revealed that the quality of the argumentative essays written by the Turkish students improved after the instruction of Toulmin's model. The essays provided rich and sophisticated argument content and overall structure. Improvement was also seen in their ability to provide statements using various Toulmin elements, such as rebuttals and backing, elements that did not occur in the first stages of written arguments. The university students shared that the instruction of Toulmin's model encouraged them to write arguments in the future.

2.7 Summary

Chapter 2 outlined the literature that is essential to the present study. Firstly. the chapter presented the nature of argumentative writing genre and its significance to critical thinking. Secondly, argument as well as its various aspects were defined and explained. Thirdly, literature in regards to The Toulmin Model of Argument was presented, as well as the critique of Toulmin's (1985) argumentation scheme. Lastly, studies concerning the argumentative writing issues of both native and non-native English speakers, and studies that employed Toulmin's model were presented in detail.

In the next chapter, the research method and methodology of the present study will be described in detail. The research design, participants, the data collection procedures, and the data analysis will be discussed.

CHAPTER 3: RESEARCH METHOD AND METHODOLOGY

3.1 Introduction

In Chapter 2, the study discussed the nature of the argumentative writing discourse, the importance of critical thinking, argumentation, and the focal relation between them. The literature review then explained in detail the various aspects of argument, The Toulmin Model of Argument, as well as the analyses and critiques pertaining to the theory behind the model. In this chapter, the methodological processes of this study were outlined and discussed in detail. The chapter reviewed the research design chosen, the participants involved, instruments used, the data collection method, and the data analysis.

3.2 Research Design

The use of mixed methods design in the social sciences is becoming common as the demands for richer data and fulfilment of research objectives have increased. Mixed methods research allows for a phenomenon to be explored and analysed in order to produce accurate and valid research results and conclusions (Kumar, 2014). The gathering of information either qualitatively or quantitatively in the social sciences nowadays requires more than just interviews, statistical numbers, ethnographic immersion, surveys, etc., rather, it necessitates triangulation to observe different angles that offer a deeper look into occurrences. Creswell (2013) defines mixed methods as an approach that constructs knowledge claims on pragmatic grounds. He further stated that the collection of numerical data together with text data concerned in mixed methods can be simultaneous or sequential in order to arrive at the best possible understanding of research questions. Crabtree et al. (2005) for example, used the convergent parallel design in order to examine the clinical preventive services given by family medicine practices and provide solutions to improve these services. Another study that employed the convergent parallel design is

of Saint Arnault & Fetters (2011), where they used quantitative and qualitative data to investigate the interaction of physical, cultural, and social factors that affect Japanese women's help-seeking. So as to accomplish the research objectives and answer the research questions, the mixed methods research design is adopted in this study. This approach allows the study to provide breadth and depth of information as a means for triangulation.

The present study used the convergent parallel mixed methods design, a method that entails collecting qualitative and quantitative data to be used to compare or relate gathered data and yield an overall interpretation.

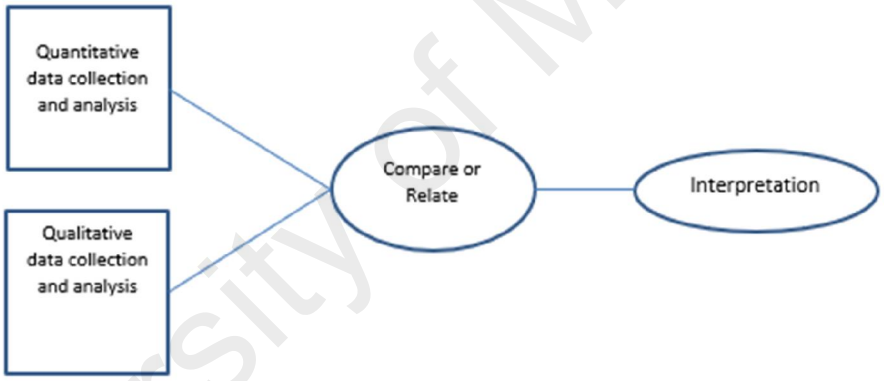

Figure 3.1: Convergent Parallel Mixed Method Design

(Creswell, 2013)

The design requires the analysis of the two types of gathered data to be done either at the same time or stage with equal emphasis given to each. The data must be examined for convergence, deviations, contradictions, or correlations between the qualitative and quantitative data. The mixed methods design used in this study included a pre-test, a post-test, and a delayed post-test experiment, three treatment cycles, and an in-depth interview.

The quantitative element in the research was used to find and describe the argumentative elements and patterns that ESL learners commonly use in their writing and the treatments were used to instruct the Toulmin model and determine the impact of the instruction of Toulmin elements on the learners' argumentative essays. The qualitative element in the research was used to reveal the ESL participants' thoughts and opinions regarding the instruction that incorporated the Toulmin model, as well as illustrate the influence of the model on the elements found in their essays. The following section will describe the participants involved in the present study.

3.3 Sampling

The quantitative and qualitative data was gathered from a convenience sample size of 4 NNES students studying in different universities. Their age ranges from 20 and 23 years old and possess upper intermediate English language proficiency level, as determined by their respective universities prior to the beginning of their school year. The study chose 2 male and 2 female learners of different nationalities for diversity. The selection of the participants is based on accessibility to the students. The participants are registered in a revision centre, where the researcher is employed as an English tutor. The participants wish to receive English language classes during their free time to further enhance their speaking, reading, writing, and listening skills.

The undergraduate programmes that the participants are enrolled in are varied. However, all undergraduate programmes require knowledge and capability in reasoning skills and academic writing. The NNES students are required to compose argumentative essays, write assignments, and produce academic reports. All participants are not exposed to the Toulmin Model of Argument prior to the study.

The participants involved are required to display their critical thinking skills via writing argumentative essays during their study of their respective undergraduate programmes. These NNES learners must display an understanding of a topic given, evaluate ideas concerning the topic, provide support to the viewpoints, and communicate their ideas with clarity and accuracy. Prior to the present study, the NNES learners were only taught a basic argumentation model in their years of secondary education in which they must provide their own points of view in relation to the topic, assess the viewpoints of a text, explain ideas, and make assertions based on the analysis of the standpoints within the topic.

3.3.1 Ethical Considerations

The researcher selected willing participants and was given verbal and written agreement by them to participate in the study, i.e. to be given instruction of the Toulmin model, to be asked to write argumentative essays throughout the experiment, and to be interviewed and audio recorded. The participants were informed of the purpose of the present study, as well as how the data will be used and who will have access to the collected files. The researcher had notified the participants that the data collected will only be accessed by the researcher and will be disposed of upon completion of the study. In addition, the researcher guaranteed that the identities of the participants will not be revealed and that they are free to choose a pseudonym for identification. They were also informed that their real identities will be excluded from present and future documents such as reports, published papers, etc. The participants were notified that their participation in the present study was free from coercion and they are allowed to withdraw from the study should they wish to do so. They were also assured that if whenever they decide to withdraw from the study, there will be no negative impact on their involvement

in their future endeavours. Lastly, the participants were assured that no physical and/or psychological harm will be involved throughout the whole study, including invasion of privacy, stress, pain, etc. A sample of the consent form used for the participants can be found in Appendix H. The next section will discuss the instruments used in the present study.

3.4 Instrument

The study collected data in the form of documents, specifically argumentative essays, produced weekly by the NNES learners. Subsequently, a pre-test, post-test, and a delayed post-test were used to gather argumentative essays which were assessed using a 5-scale scoring rubric. The study conducted three treatment cycles to examine the information retention of the NNES learners during and after instruction, as used in the studies of Daneshvar & Rahimi, (2014), Esfandiar, Yaqubi, & Marzban, (2014), and Bitchener & Knoch (2008) regarding written corrective feedback. The rubric was adapted from Qin and Karabacak (2010) to evaluate the quality of the learners' written arguments. The rubric, derived from McCann (1989) and Nussbaum & Kardash (2005), is chosen as it efficiently assesses the strengths and weaknesses of argumentative essays based on their effectiveness, structure, and language use. Some studies show that the rubric is an effective evaluation instrument: Qin (2013) used the rubric to assess the argumentative essays of 16 university students from Turkey after the instruction of the Toulmin model, and Abdollahzadeh, Farsani, and Beikmohammadi (2017) evaluated the quality of essays written by Iranian graduate students. In addition to the 5-scale scoring rubric, semi-structured interviews were used in the study to provide insights to how the instruction of Toulmin elements impacted the learners' writing of argumentative essays and to find out challenges they faced during the writing process. The interviews were audio recorded using a mobile phone and the participants' consent were obtained. The consent forms are meant to safeguard the participants' confidentiality and ensure that all information

collected and used during the study will remain classified and will only be used for research purposes.

3.4.1 Pre-test, Post-test, and Delayed Post-test

The researcher decided that the use of a pre-test, post-test, and delayed post-test experiment is an effective method to identify the recurring reasoning elements used by NNES writers in their argumentative essays. Kumar (2014) described a pre-and post-test as a measurement of the knowledge obtained during a period as a result of paralleling what the participants knew beforehand in a pre-test and after another period or experience in a post-test. Furthermore, Creswell (2013) indicated that the use of a pre-and post-test can specify the changes that occur during an experiment. In this study, the pre-test determined the frequency and lack of reasoning components, the structure of the written essays, as well as the language used by the participants in their argumentative essays prior to the instruction of the Toulmin model. The post-test revealed and measured the knowledge learnt by the NNES students after the instruction of the Toulmin model, in addition to the frequency of argumentative elements in the essays after the experiment. Furthermore, the delayed post-test determined the argumentative elements that learners retained and elements not learnt two weeks after the post-test.

3.4.2 The 5-Scale Argumentative Writing Scoring Rubric

In order to assess the argumentative essays written by the participants, this study adapted Qin and Karabacak's (2010) 5-scale scoring rubric. The mark scheme is comprised of three components: the efficacy of arguments, overall structure of arguments, and language use (please refer to Appendix D for the full three-category breakdown of

the scoring rubric). The holistic rubric was created using Nussbaum and Kardash's (2005) description of the effectiveness of arguments, and the description of argumentative structures and language use from McCann's (1989) rubric. The 5-scale mark scheme is described as follows in Table 3.1 below:

Table 3.1: 5-scale Scoring Rubric adapted from Qin & Karabacak (2010)

Scale	Description
Scale 5: An excellent persuasive argument	An argumentative essay that meets the scale exhibits a clear claim, produce well-developed premises that use accurate and/or convincing evidence, and provides a strong connection between premise and conclusion. Additionally, the essay may provide opposing viewpoints and successfully contradict them. Furthermore, the paper shows a logical and systematic presentation of arguments and exhibits great control of language that uses appropriate vocabulary and contains little to no linguistic errors.
Scale 4: A reasonably good and persuasive argument	An argumentative essay that falls under Scale 4 displays rational viewpoints supported by good premises. Assertions are made clear by using convincing information and/or examples. The paper may contain irregularities and irrelevant information that do not support premises. The essay may present opposing ideas and refute them sufficiently. Moreover, the argumentative essay is organized well and displays a good control of language with appropriate vocabulary and contains few linguistic errors.

Table 3.1, continued

Scale 3: A clearly recognizable argument but limited in effectiveness	A 3rd scale argumentative paper communicates adequate/acceptable premises and provides adequate evidence for support. The paper may present and refute opposing ideas but counters them weakly. The paper exhibits a suitable argumentative structure and shows average control of language that contains some linguistic errors, as well as some problems in vocabulary use.
Scale 2: A minimally acceptable argumentative paper, though not persuasive	An argumentative essay under Scale 2 demonstrates a viewpoint that is supported by weak assertions and provides weak, irrelevant, and/or incoherent evidence to the claim. The organization of arguments presented is weak and the essay displays limited control of language. The paper may present opposing ideas but does not refute them. The vocabulary and grammar used impedes the communication of arguments.
Scale 1: An ineffective argument with major gaps in reasoning	A 1st scale argumentative paper communicates a standpoint that is supported by weak and ambiguous premises and provides irrelevant and/or inconsistent evidence to the arguments. The paper may not contain and/or refute opposing ideas. The paper is not organized appropriately and the control of language is very poor. Moreover, the vocabulary used is inappropriate and the numerous linguistic errors heavily impedes reasoning.

The criteria set in the rubric were based on the gathered and validated broad-spectrum standards of an effective argumentative essay (McCann, 1989; Nussbaum & Kardash, 2005; Qin & Karabacak, 2010). Holistic rubrics have been primarily used to assess the quality of argumentative essays. The process of argumentative writing assessment must take into account the coherence, cohesion, as well as the presence of reasoning elements

in order to successfully determine the overall persuasiveness of an argumentative paper, as stated by Chase (2011), Graham & Harris (1989), Monroe & Troia (2006), and Nussbaum & Schraw (2007). As scoring rubrics are often exposed to elements of subjectivity, it is possible that an argumentative paper's "true" mark may differ from the rated mark, regardless of medium to strong inter-rater reliability. Therefore, the aim of a detailed, criteria-based mark scheme is to restrict subjectivity and foster the efficacy of scoring rubrics.

Table 3.2: Breakdown of the Holistic Scoring Rubric

Weighting	**Very Poor**	**Poor**	**Average**	**Good**	**Excellent**
Content (0.6)	1	2	3	4	5
	Uses very weak and/or ambiguous premises. Provides irrelevant and/or inconsistent evidence. May not present and/or refute opposing ideas. Arguments are not properly organized.	Uses weak premises. Provides insufficient evidence. May present opposing ideas but does not refute them. Organization of arguments are weak.	Uses acceptable premises. Provides adequate evidence. May present and refute opposing ideas but counters them weakly. Organization of arguments are adequate.	Uses good premises. Provides sufficient and/or convincing evidence. May present and refute opposing ideas sufficiently. Provides good organization of arguments.	Uses well-developed premises. Provides good and/or convincing evidence. May present and refute opposing ideas effectively. Organization of arguments is logical and/or systematic.

Table 3.2, continued

Language (0.4)	1	2	3	4	5
	Displays very poor control of language. Uses inappropriate vocabulary. Contains numerous linguistic errors that heavily impede reasoning.	Displays poor control of language. Poor choice of vocabulary. Contains numerous linguistic errors that impede reasoning.	Displays average control of language. Shows problems in vocabulary. Contains a number of linguistic errors.	Displays good control of language. Uses appropriate vocabulary. Contains few linguistic errors.	Displays great control of language. Uses appropriate vocabulary. Contains little to no linguistic errors.

To further provide details of the assessment of the argumentative essays, a breakdown of the scoring rubric is given in Table 3.2. The assessment scores are distinguished by two categories: content and language. This was done to identify the participants' specific strengths and weaknesses in their argumentative essays. Each category was broken down into a Likert scale to account for possible factors that may be found in the argumentative essays. For example, two participants may receive an overall assessment score that is in the range of scale 2 based on the holistic scoring rubric. However, one student may be stronger in content while the other, in language or vice versa. In order to allow for the consideration of these differences, the researcher divided the assessment into two categories and created a calculation method that accounts for the strength and weaknesses of the participants' argumentative essays. Content scores ranged from 1 to 5 and language scores ranged from 1 to 5. Each score given for content was multiplied by the weight of the category, which is 0.6 and scores given for language was multiplied by 0.4. The final

marks combined from the content and language scores displayed their overall scores, also revealing the level of degree as to how close each participant was in achieving the next highest or lowest scale. An example is given below in Table 3.3 to show the researcher's process of calculating the total assessment scores.

Table 3.3: Total Assessment Score Calculation

	Content (0.6)	**Language (0.4)**	**Calculation**	**Total score**
Student A	2	3	Content: 2 x 0.6 = **1.2** Language: 3 x 0.4 = **1.2** C & L: 1.2 + 1.2 = **2.4**	**2.4**
Student B	2	2	Content: 2 x 0.6 = **1.2** Language: 2 x 0.4 = **0.8** C & L: 1.2 + 0.8= **2**	**2**

The decision to further breakdown the adapted 5-scale holistic scoring rubric allows for a more detailed, accurate, and objective assessment of the participants' essays.

3.4.2.1 Inter-rater reliability for Assessment

The present study employed an additional rater to mark the pre-test, post-test, and delayed post-test papers, as well as the essays obtained from the treatment cycles. The second rater is an experienced teacher who has been teaching English essay to students ages 12-25 years old for approximately 6 years. The co-rater also has experience assessing students' writing using scoring rubrics. The researcher met with the co-rater weekly and prior to the beginning of the experiment in order to review The Toulmin Model of

Argument and Qin and Karabacak's (2010) holistic scoring rubric. The researcher and the co-rater then assessed argumentative essays written by the researcher's non-participating students using the scoring rubric as practice before the experiment commenced to determine assessment consistency, accuracy, and objectivity.

There was also a discussion that relates to the coding and scoring of essays. The co-rater was given instructions to identify Toulmin elements and assess all of the collected essays based on Qin and Karabacak's (2010) scoring rubric during the following weeks of the experiment. In addition, the co-rater was asked to assess the argumentative papers' efficacy of argument, overall structure of argument, and language use. Furthermore, the assessment of the quality of argumentative essays written by NNES learners were reassessed and discussed to ensure that scores given were objective and precise.

3.4.2.2 Inter-rater Reliability for Coding

The co-rater was also employed as a coder. The co-rater cum coder was given the task to identify and code Toulmin elements in order to assess argumentative papers in terms of factors that are embodied by Toulmin elements, i.e. premises that are exemplified by *warrants*, evidence which represented *data*, support for premises which are represented by *backing*, etc.

First, the researcher familiarised the secondary coder with The Toulmin Model of Argument and the 5-scale scoring rubric. The secondary coder was then asked to find Toulmin elements in the collected essays and to do a frequency count. The Toulmin elements found in the argumentative essays were coded using different colours. *Claim* was coded in yellow, *data* in green, *qualifier* in blue, *warrant* in pink, *backing* in orange, and *rebuttal* in purple (an example of a coded argumentative paper can be found in

Appendix E). After coding the Toulmin elements, a frequency count was produced for each argumentative paper to reveal the regularity of elements. The coding of data and frequency count of Toulmin elements were carried out to ensure an accurate and coherent coding process.

Table 3.4: Table of Percentage Agreement: Argumentative Essay Assessment

Participants	1st coder	2nd coder	Agreement
Lipton	6	6	1
Janey	6	5	0
Chris	6	6	1
Riya	6	6	1
			3/4 = 75%

In reference to Table 3.4, the percentage agreement of the inter-rater reliability is shown. The percentage agreement is 75%.

3.4.3 Semi-structured Interview

The perspectives of NNES learners in the field of language acquisition have been crucial in providing new and innovative solutions to common language learning problems. Duff & Li (2004) cites that the importance of understanding the experiences, thoughts, beliefs, and concerns of learners relies upon the need to distinguish differential success and help practitioners apply more effective instruction of language. In this study, a semi-structured interview was conducted to determine the complications that occur before, during, and after the instruction of the Toulmin model. In addition, the aim of the interview was to also reveal the difficulties learners faced during the argumentative writing process and other concerns pertaining to the writing tasks. The interview is

comprised of eight pre-determined questions (please refer to Appendix F for the semi-structured interview questions), with the opportunity to further explore other specific themes or responses provided by the participants. The semi-structured interview was recorded using a mobile phone and notes were taken during the interview process. Each participant was interviewed for a minimum of 7 minutes to allow for individuals to communicate a wide range of issues extensively. Moreover, the learners were interviewed separately to ensure respondent confidentiality. The following section will outline the data collection procedures employed in the present study.

3.5 Data Collection Procedures

The study was conducted in a period of 8 weeks. The pre-test during the 1st week of the experiment was conducted in an hour. The treatment cycles during the 2nd, 3rd, and 4th weeks were conducted in 2 hours; the first hour involved the instruction of the argumentative model and the reading and analyzation of reading texts, the second hour was dedicated to the argumentative writing task. The 5th week was dedicated to a one-hour post-test. During the 6th and 7th week, the participants were given a break from the experiment. Finally, the 8th week involved a one-hour delayed post-test following the semi-structured interview. Figure 3.1 illustrates the data collection procedure taken during the study:

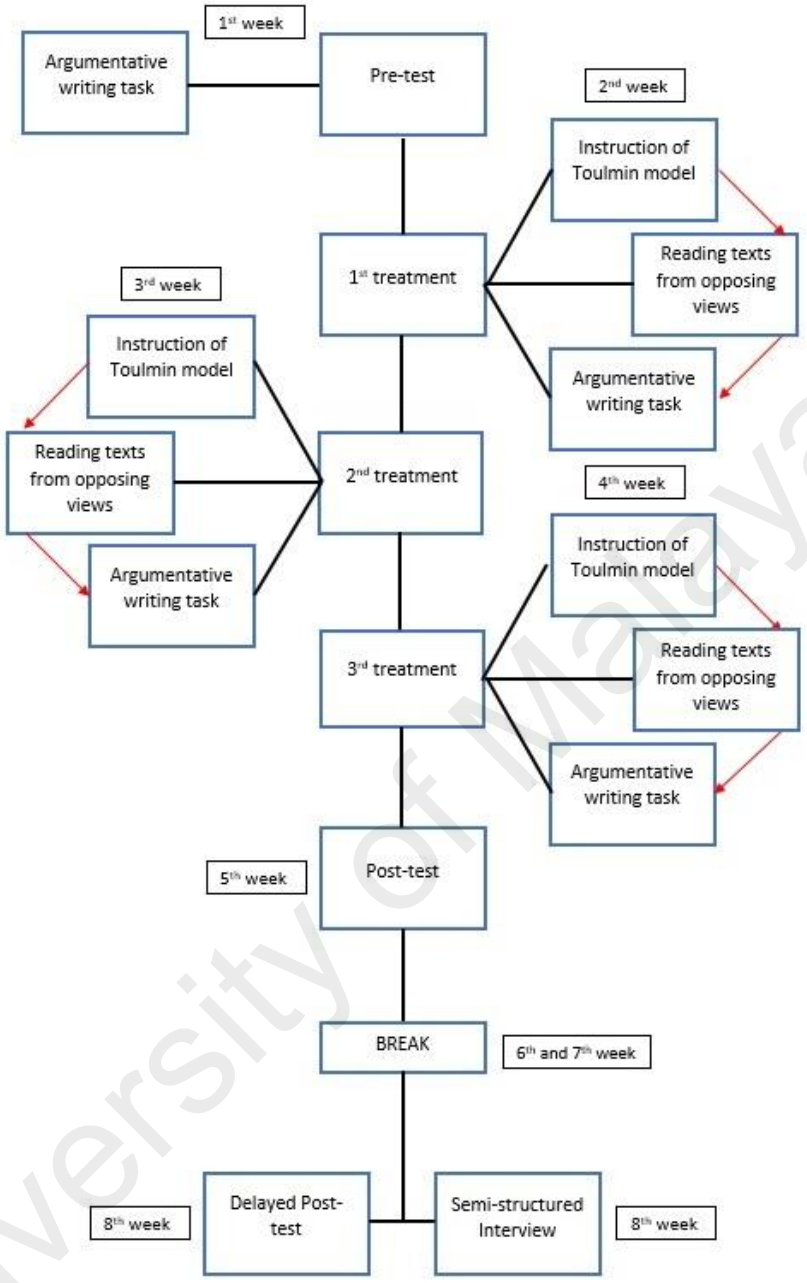

Figure 3.2: Data Collection Procedure

The 1st week involved a pre-test where the participants were given an argumentative topic to which they wrote a 400-word argumentative essay in English. The students were given one hour to complete their argumentative essays while the teacher, who assigned the writing task, observed the students during the writing process to ensure that the

participants completed the activity accordingly. On the 2nd week, the participants were introduced to The Toulmin Model of Argument (please refer to Appendix C for the instruction reference used in the experiment) and were given two reading texts from opposing sides based on a new subject topic to expose them to examples of model arguments. Following the instruction of the model, the learners were given the task to compose a 400-word argumentative that was based on the topic introduced earlier in the lesson. The 3rd week involved the revision of the Toulmin model. Subsequently, the students were asked to read two reading texts from opposing sides following a writing task based on the topic discussed in the texts. On the 4th week, the argumentative model was briefly revisited for a final time and the participants were asked to write an argumentative essay after the discussion of texts that reflected opposing viewpoints. The post-test was conducted during the 5th week where the participants were asked to write a 400-word argumentative essay using the exact same topic given to them on the 1st week of the study (please refer to Appendix B for list of argumentative topics used during the instruction). The participants were given a two-week study break after the initial post-test. The delayed post-test was conducted during the 8th week. The participants were asked to write a final 400-word argumentative essay that discussed a new topic to assess the knowledge they have retained from the previous weeks of instruction. Afterwards, the participants were individually asked a set of semi-structured interview questions that elicited their views and opinions about their writing process and how The Toulmin Model of Argument impacted their writing before, during, and after the instruction. The next section will describe the data analysis procedures followed in this study.

3.6 Data Analysis

In this section, the content analysis of each research question will be outlined, as well as the description of the steps and instruments used to analyse collected data.

Table 3.5: Data Analysis

Research question	Required Data	Data Analysis
1. What reasoning elements, based on The Toulmin Model of Argument, are commonly found in the NNES learners' argumentative essays?	The learners were asked to produce a 400-word argumentative essay based on a specific topic as a pre-test.	• The document data taken from the pre-test was coded for argumentative elements found within the text. • Each of the Toulmin elements within the essays were labelled into codes accordingly e.g. "claim", "data", "qualifier", "warrant", "backing", and "rebuttal". This is done in order to determine the existing and non-existing elements in the argumentative essays. • The pre-test essays provided much needed insight to the problems concerning writing style, language use, and argumentative structure of the learners' papers prior to the instruction of The Toulmin Model of Argument.

Table 3.5, continued

2. To what extent does the instruction based on The Toulmin Model of Argument influence the performance of ESL learners in terms of reasoning elements found in their argumentative essays?	Following the pre-test, the learners had undergone three treatment cycles, a post-test, a delayed post-test, and a semi-structured interview. The three treatment cycles conducted during the 2nd, 3rd, and 4th weeks produced three essays for each participant. The post-test on the 5th week involved a writing task using the same topic as the pre-test, therefore producing one essay per learner. The delayed post-test collected one final essay from each participant.	The argumentative essays gathered from the treatments were coded weekly to find and categorise new and existing argumentative elements participants' argumentative essays to ensure consistency and persistent reasoning patterns. It is crucial to the study that the essays produced by learners were regularly examined for learned reasoning elements to determine the learners' strengths and weaknesses. • The weekly analysation of argumentative papers allowed the researcher to revise and modify the instruction of the Toulmin model based on what learners need to improve on. The 5-scale scoring rubric developed by Qin and Karabacak (2010) was used to assess the argumentative essays based on three components: a) The efficacy of a presented argument that includes the presence or absence of conceivable contrasting opinions, b) The overall structure of the argument and, c) Language use. The rubric was used to determine whether the overall progress of argumentative papers produced by the participants. • A second assessor was employed to establish inter-rater reliability in marking and evaluating the participants' argumentative essays to ensure consistency.

Table 3.5, continued

3. How do learners perceive the instruction related to The Toulmin Model of Argument in influencing their argumentative writing performance?	The semi-structured interviews produced four 10-minute audio recordings in total. The learners were asked a set of open-ended questions using a mobile phone voice recorder to find out in what ways the instruction of Toulmin elements impacted their essays and uncover the difficulties they face during their writing process.	• The audio recordings collected from the semi-structured interview were transcribed, arranged, and categorized. This was done to provide a narrative of the various perceptions of the participants in relation to the instruction of Toulmin's model (please refer to Appendix G for a sample of a transcribed audio recording of the semi-structured interview).

In order to answer the 1st research question, a pre-test essay was collected from each of the NNES learners prior to the instruction of The Toulmin Model of Argument. The essays were analysed for existing Toulmin elements as well as the learners' writing style, writing structure, and overall writing process. The analysation of existing argumentative elements provided insight as to what the learners already know and how they argued before the instruction of the model. Furthermore, with the help of an additional coder, the elements found in the pre-test essays were manually coded by colour.

For the 2nd research question, essays collected during the weeks of the instruction of Toulmin's model, as well as the pre-test, post-test and delayed post-test, were continually analysed by hand coding the elements and by assessment using Qin and Karabacak's (2010) 5-scale scoring rubric. The argumentative elements within essays were colour-

coded respectively: *claims* were coded in yellow, *data* in green, *qualifiers* in blue, *warrants* in pink, *backing* in orange, and *rebuttals* in purple (an example of a coded argumentative paper can be found in Appendix E). Each essay produced by the NNES learners were colour-coded for argumentative element identification and assessed using the 5-scale scoring rubric, after which feedback was given concerning their use of the Toulmin elements, specifically on how to improve their argumentative essays for the following weeks. The learners were handed back their essays after each week and the researcher individually discussed with them their writing performances and their essay scores. Moreover, strengths and weaknesses found in their essays were discussed in order to target areas of improvement. This allowed the researcher to amend strategies of instruction in order to better assist the NNES learners in learning argumentation.

Lastly, in order to answer the 3rd research question, a 15-minute semi-structured interview was conducted. After the collection of the delayed post-test essays, the NNES learners were interviewed individually to discuss their views of the instruction of The Toulmin Model of Argument. In addition, their overall writing performance during the study and their perceived strengths and weaknesses were discussed. The audio data collected was transcribed into scripts to provide a narrative of learner perceptions that was compared and related to the quantitative data. The following subsection will discuss triangulation.

3.6.1 Triangulation

Triangulation is an effective method that aid the validation of data using intersecting verification from two or more sources (Creswell, 2014; Kumar, 2014). Due to nature of the convergent parallel mixed method design, it is imperative that an amalgamation of data collection methods is used in order to triangulate results. The quantitative element in

the present study aimed to gather information in the form of treatment cycles and argumentative writing instruction in order to gather essays. This was done to collect data of frequency and existence of reasoning elements, as well as information of knowledge retention after treatment cycles. The qualitative element, on the other hand, aimed to assess the participants' argumentative essays and gathering the learners' beliefs, opinions, and perceptions of argumentation and the writing process. The information gathered qualitatively was then compared and related to the quantitative data to produce an interpretation of the overall results. The use of quantitative and qualitative data collection methods ensures validity of results (Olsen, 2004). By triangulating data from more than one source, the possibility of bias and problems of reliability and validity, are lessened.

3.7 Summary

Chapter 3 discussed the research design chosen in the present study and the rationale behind the selection. The chapter also discussed in detail the participants involved, as well as the various instruments used in order to address the objectives of the research. In addition, the chapter outlined and described the data collection procedures taken to gather the quantitative and qualitative data needed. Moreover, the chapter also deliberated the data analysis procedures required to examine and interpret data in order to answer the research questions. In Chapter 4, the present study will discuss the overall findings and discussion of the quantitative and qualitative data derived from the pre-test, post-test, delayed post-test essays, essays collected from weeks of instruction of Toulmin's model, as well as the transcribed data from the semi-structured interviews.

CHAPTER 4: FINDINGS AND DISCUSSION

4.1 Introduction

The previous chapter discussed in detail the research design used in the present study. The participants involved and their backgrounds were described. Moreover, the instruments such as the pre-test, post-test, and delayed post-test, Qin and Karabacak's (2010) 5-scale scoring rubric, and semi-structured interview, were all deliberated in order to provide information about their importance in gathering data. The data collection procedures were also outlined and examined to describe the quantitative and qualitative data to meet the objectives of the research.

In the following sections, the findings and discussions will be presented. The results and discussion will be organised in correspondence to the research questions. The first section of this chapter will describe the findings that correspond to the 1st research question, which is the frequency of Toulmin elements found in the NNES learners' pre-test essays prior to the instruction of the Toulmin model, as well as the assessment scores of their argumentative essays. The next section will reveal and discuss the results that relate to the 2nd research question, which is the frequency of Toulmin elements found in the learners' argumentative essays after receiving instruction of The Toulmin Model of Argument. The assessment scores of the argumentative essays written during the post-test and delayed post-test essays, will also be revealed. The following section will discuss the analysation of the perceptions of NNES learners concerning the instruction of Toulmin's model and their perceived strengths and weaknesses vis-à-vis argumentation. The findings, which relate to the 3rd research question, will be presented as a narrative, which was taken from the transcribed audio data.

4.2 Findings and Discussion Relating to RQ1

To answer the 1st research question, "What reasoning elements, based on The Toulmin Model of Argument, are commonly found in the NNES learners' argumentative essays?", the frequency of Toulmin elements in the pre-test essays were investigated before the learners were given instruction of Toulmin's model.

4.2.1 Frequency of Toulmin Elements: Pre-test

The findings and discussion of the NNES learners' pre-test argumentative essays regarding element frequency is informed by Table 4.1 below. In the column located next to the participants' pseudonyms, is the frequency count of each Toulmin elements found in the learners' pre-test essays, which indicated how often the reasoning elements occurred. All argumentative essays written by the participants throughout the study were coded in collaboration with a second coder, as referenced in 3.4.2.2 in the previous chapter. To determine the frequency count of Toulmin elements, the coders agreed that the frequency of an element will be counted per phrase and sentence. In addition, the coding of elements found in the pre-test essays were reviewed by both assessors to ensure accuracy and consistency.

Table 4.1: Frequency Count of Toulmin Elements in Pre-test Essays

Participant	Claim	Data	Warrant	Qualifier	Rebuttal	Backing
Lipton	3	4	5	2	1	2
Janey	2	0	9	0	0	5
Chris	2	3	9	2	2	3
Riya	2	0	10	0	0	4

The pre-test essay topic was "Should students be able to grade their teachers?" and the NNES learners were asked to write a 400-word essay. According to Table 4.1, all four participants used *claim*, *warrant*, and *backing* in their pre-test essays. This result may suggest that the NNES learners are already aware of the basic reasoning strategies needed to argue a viewpoint. Lipton and Chris showed use of all six Toulmin elements, while Janey and Riya did not use any *data*, *qualifier*, and *rebuttal* in their essays. This may indicate that Lipton and Chris have further experience in argumentation compared to Janey and Riya. Crammond (1998) discussed in a similar study that experienced writers will at least use all reasoning elements once in their essays to create a well-structured and sound argument. Another observation is that warrants occurred more frequently in their argumentative essays than any of the other reasoning elements. Contrary to what Crammond (1998) stated in his study, where he concluded that learners may not perceive that warrants are necessary and that they have problems communicating them, the participants in the present study seem to rely heavily on *warrants* as the main foundation to their reasoning. This can also mean that the participants are using reasoning elements similar to Toulmin's more frequently because they have more background knowledge about the warrants than the backing that is needed to support them. The existence of warrants in the participants' pre-test essays also differs from the study conducted by Qin (2013). For the purpose of determining the effectiveness of Toulmin elements in argumentative essays and their overall quality, she provided instruction of Toulmin's model to Turkish EFL students and measured the frequency of reasoning elements found in their pre-test and post-test essays. The participants in Qin's (2013) study used little to no warrants before and after instruction and therefore not measured. Similar to the result of the element frequency in the pre-test essays found in this present study, the Turkish students in Qin's (2013) study also showed minimal use of rebuttals.

While all four participants produced warrants in their argumentative essays more frequently than other reasoning elements, a few were not justified by backing, rendering some of the warrants to be fallacious. For example, in the warrants found in Riya's pre-test essay, she wrote "*Teachers nowadays tend to take profession light shouldering the responsibilities of their pupil's education*" and "*It seems the major objectives nowadays of being a teacher is to get paid only*". Riya made a hasty generalisation by generalising teachers to a larger population. Furthermore, the warrants made were not substantiated by relevant backing, presenting a weak assertion to her claim. Other examples of fallacious assertions are from Janey's warrants, "*The problem is that most students are immature…*" and "*Students should only focus on studying and leave the grading to the ones who knows how to do it*". These statements are genetic fallacies or *ad hominem* and set out to criticise the character of students rather than address the core argument of their grading capability. Pynes (2012) stated that the fallacy appears in arguments frequently and is an ineffective strategy to use in order to evaluate contentions since the foundations are irrelevant. Sinnott-Armstrong and Fogelin (2014) specifically describes this type of *ad hominem* argument as *silencers*, which implies that the subject is to be denied the right to speak in a particular context, often due to weak authority over an issue. Additionally, the backing used by Janey in an attempt to support her warrants were as weak as the assertions made and led to an overall conclusion that only focused on suppositions of the students' character. This is also another type of fallacy called *straw man,* as Janey's reasoning in her pre-test essay only targeted factors that provided little significance to the argument and overstated and magnified them in an effort to convince the reader. Another fallacy found in Riya's pre-test essay is red herring when she attempted to communicate her claim by using the argument "*The future of our country depends on how our kids are nurtured in their formative years.",* weakening her claim and warrant.

Prior to the instruction of Toulmin's model, the pre-test essays display various reasoning elements. It is apparent however, that there is an imbalance of element use. For example, in order to deliver a well-developed argument, each claim must provide data, each warrant must be followed by backing, and warrants must anticipate counter-arguments and provide rebuttals. To refer back to Table 4.1, the presence of *data*, *qualifier*, and *rebuttal* were non-existent. This problem may be associated with their previous experiences, or dearth, of argumentation. As deliberated in an earlier chapter of this study, the common argumentative model used in conventional classrooms do not effectively guide students in creating strong and convincing arguments (Driver et al., 2000; Jonassen & Kim, 2010) but rather, provides them with a general structure of how arguments are to be written. Moreover, the common argumentative writing model posed to students is vague and does not elicit further critical thinking skills needed to create valid and strong arguments. When addressed about the lack of these elements in their pre-test essays, Janey and Riya stated that they had difficulty materialising evidence and counter-arguments due to the confusion brought by translating their ideas from one language to another. Kaur (2015) and Nippold & Ward-Lonergan (2010) stated that this is a recurrent problem that NNES learners face during argumentative writing and sometimes result in a misinterpretation of written ideas. It was also found that in the participants' pre-test essays, personal opinions and assumptions with little support or evidence took the form of data. The use of warrants as data was a problem that persisted during the initial weeks of the NNES learners' argumentative writing. The problem was also found in some studies relating to argumentative writing. Wingate (2012), for example, found that the participants in her study primarily failed to provide evidence in their argumentative statements. Additionally, when given prompts, the students often used the un-evidenced opinions and assumptions taken from the stimuli as data as they could not identify data from warrants. In a few papers examined by Qin & Karabacak

(2010), they found that data was missing in the arguments presented by Chinese EFL students during their 1st essays. These findings could be due to the participants' lack of ability to corroborate personal point of views and data. Another cause of the absence of data in the pre-test essays of the present study may possibly be due to the lack of their familiarity with the argumentative topic. Presenting data when dealing with foreign and unversed topic matter is challenging, particularly if the individual lacks in skills of reasoning. Evidence is an important factor in argumentation and lack of data cannot produce a strong argument. As successful reasoning is realised by logical and factual information, it is imperative that argumentation employ accurate and objective premises.

The lack of *qualifiers* in the pre-test essays was not unforeseen, as communicating scopes of limitation are often not taught in common argumentative models. During a discussion on the 2nd week of the experiment, the NNES learners were introduced to the qualifier. The participants expressed that they never had to state conditions to their claims before and were never asked to do so. The qualifier is one of the most complex of Toulmin's model as it entails indicating the limit to which the claim is applied (Kneupper, 1978; Stratman, 1982; Toulmin, 1958). Reasoning with general claims and not stating a condition limits the strength of assertions, will weaken the argument and the statements that supposedly function as foundations. More importantly, without qualifiers, relevancy is sacrificed (Stratman, 1982) and may lead to a presentation of premises and contentions that are ambiguous, which provides access for assaults in reasoning.

Lastly, the rebuttals missing from Janey's and Riya's pre-test essays can be associated with the lack of qualifiers. Without statements that limit the strength of claims, counter-arguments that are focused on fortifying the relevancy of warrants cannot be communicated (Slob, 2002). Most of the pre-test papers were reasoned with high numbers of warrants, which were not sufficient enough to guarantee effective argumentative essays

as the warrants themselves were not supported with rebuttals. When asked to further explain the reason behind the lack of rebuttals in their pre-test essays, Janey and Riya expressed that they do not know how to foresee any possible contentions, a difficulty found in many NNES learners, as stated by Kuhn et al. (1997). Due to this, they only focused on providing as much opinions and explanations of their views as they could.

4.2.2 Argumentative Essay Scores: Pre-test

After the frequency count of Toulmin elements within the essays, the assessors examined the effectiveness of the pre-test essays and gave scores based on the holistic scoring rubric. The scores were reviewed and discussed between the rater and instructor in order to reach a final assessment. The essays were handed back to the participants and the researcher discussed with them individually about the scores, as well as Toulmin elements found, and the strengths and weaknesses of their essays. Table 4.2 reveals the breakdown and total scores received by the participants following an assessment using Qin and Karabacak's (2010) holistic scoring rubric, which shows how learners wrote their argumentative essays prior to the instruction of Toulmin's model.

Table 4.2: Pre-test Assessment Scores

Participants	Content (0.6)	Language (0.4)	Calculation	Total Assessment Score
Lipton	3	4	C: 3 x 0.6 = 1.8 L: 4 x 0.4 = 1.6 **1.8 + 1.6 =**	3.4
Janey	2.5	2.5	C: 2.5 x 0.6 = 1.5 L: 2.5 x 0.4 = 1 **1.5 + 1 =**	2.5
Chris	4	4.5	C: 4 x 0.6 = 2.4 L: 4.5 x 0.4 = 1.8 **2.4 + 1.8 =**	4.2
Riya	2	3	C: 2 x 0.6 = 1.2 L: 3 x 0.4 = 1.2 **1.2 + 1.2 =**	2.4

Overall, the results showed that prior to the instruction of Toulmin (1958) elements, the students displayed use of argumentative features in their essays. With the exception of one student, their arguments lacked sophistication in reasoning. The essay and content of the essays were unbalanced in which arguments were based heavily on unsubstantiated suppositions. This problem could be rooted from the lack of guidance during their previous years. Driver et al. (2000) and Jonassen & Kim (2010) stated that common argumentative writing models taught to students do not introduce crucial reasoning elements and instead hinder their analytical thinking. Moreover, the participants had difficulty generating evidence to bridge claims to their warrants. This implies that the students experience problems in providing logical and accurate data (Kuhn et al., 1997) that is focused on the core of the issue being discussed. Another possible explanation is that the learners misconstrued warrants and backing as evidence. In addition, it was observed that the students argued for fixed inferences and beliefs rather than statements that allow for probabilities and qualifiers. The learners seemed fixated on convincing their audience into believing that only the opinions of one side were to be accepted as the

absolute truth to the argument, exhibiting fallacious reasoning. Furthermore, the presence of rebuttals in the pre-test essays in total were infrequent, if not minimal. Due to the absence of opposing ideas in their pre-test papers, the learners were not able to counter possible arguments that could arise. As the argumentative writing genre is complex in nature, one needs to be analytical as it requires depth of information and breadth of perceptions in order to reason successfully. In order to do this, the students have to argue for what is valid and accurate.

As reflected in Table 4.2, the highest pre-test essay assessment score was written by Chris. Absence of these weaknesses could have added additional marks to his overall assessment scores. Lipton garnered an overall assessment score of 3.4. Nevertheless, Lipton's lack of coherence in some parts of his pre-test essay and his shortcomings in providing further additional information to support his warrants has deprived him of extra content marks. Janey's pre-test essay garnered an overall assessment score of 2.5. Janey's essay could have achieved a scale 3 assessment score if she had presented data to solidify her claim, used qualifiers, and provided counter-arguments to strengthen her essay. Riya received an overall assessment score of 2.4. In reference to Table 4.2, Riya's pre-test essay was assessed as ineffective in content due to the lack of strong premises, relevance, opposing ideas, qualifiers, and rebuttals.

4.3 Findings and Discussion Relating to RQ2

To answer the 2nd research question, "To what extent does the instruction based on The Toulmin Model of Argument influence the performance of ESL learners in terms of reasoning elements found in their argumentative essays?", the frequency of Toulmin elements in the post-test and delayed post-test essays were compared after the learners

were given instruction of Toulmin's model. Additionally, the essay scores were assessed to determine the learners' argumentative writing progress.

4.3.1 Frequency of Toulmin Elements: Post-test

During the experiment, the students were introduced to Toulmin's Model of Argument. Throughout the instruction weeks, the Toulmin elements were reviewed repeatedly in order to assist them in learning and retaining the information that could potentially help improve their argumentative writing during the experiment. The introduction of the elements *claim*, *data*, and *warrants* were straight-forward as the learners used them in their pre-test essays, the only problem they had was that they did not know how to name and describe the elements themselves. Throughout the instruction weeks, the learners had difficulty comprehending the secondary elements: *qualifier*, *backing*, and *rebuttal*. They stated that the features were complex and generating ideas from them were challenging. The NNES learners also expressed that the *qualifier* was the most problematic as they normally only emphasize on a general claim and that thinking of a condition or exemption to the claim were beyond their reasoning, due to their lack of knowledge of argumentation.

The findings and discussion of the NNES learners' post-test argumentative essays regarding element frequency is shown in Table 4.3 below. The post-test essays were collected on the 5th week, which was the last week of instruction. Similar to the coding process of the pre-test essays, the contents of the gathered data were labelled into their respective names by the two coders to establish the frequency count of the Toulmin elements found in the post-test papers. Subsequently, the frequency counts were reviewed and re-assessed to achieve accuracy and reliability.

The post-test essay topic, which was the same as the pre-test during the initial week of the study, was "Should students be able to grade their teachers?" and the participants were asked to write 400 words. With reference to Table 4.3, all six argumentative elements were used by the learners. This result generally shows an improvement compared to the findings of the pre-test essays shown in Table 4.1 previously.

Table 4.3: Pre-test and Post-test Frequency Count Comparison

	claim		data		warrant		qualifier		rebuttal		backing	
Participant	Pre-test	**Post-test**	Pre-test	**Post-test**	Pre-test	**Post-test**	Pre-test	**Post-test**	Pre-test	**Post-test**	Pre-test	**Post-test**
Lipton	3	**1**	4	**1**	5	**5**	2	**2**	1	**2**	2	**4**
Janey	2	**3**	0	**2**	9	**4**	0	**1**	0	**2**	5	**5**
Chris	2	**3**	3	**4**	9	**9**	2	**3**	2	**2**	3	**2**
Riya	2	**3**	0	**2**	10	**8**	0	**2**	0	**1**	4	**8**

In Table 4.3, it was found that the frequency of *warrant* and *backing* had reduced in most of the participant's post-test. However, the presence of the remaining argumentative features had increased. Similar to the frequency count of the pre-test essays, the frequency for *warrant* and *backing* were higher. However, the use of the two elements in the pre-test essays were unbalanced, in which *warrants* were excessively used with little backing to provide supplementary evidence and information. When support and secondary data is not sufficient enough to safeguard *warrants*, an argument becomes less credible and feasibly irrelevant. It is important that *backing* is built around each *warrant* to eliminate gaps of reasoning. The use of *warrant* and *backing* in the post-test essays showed improvement, not only in frequency but, in application. The participants were able to

support their warrants appropriately using additional support and relevant information, adding weight to the validity of the warrants (Toulmin, 1958). For example, in Janey's post-test essay, she wrote: "*Secondly, students are not trained to make an evaluation of the teachers ability of their teaching (**warrant**). Because they don't have training and they are not professionals (**backing**)"*. In some of Janey's previous argumentative essays, she had used irrelevant warrants and unsupportive backing as foundations for her arguments. However, with the example shown above, it is an improvement as she used statements that were significant to the claim she made in her post-test essay. Prior to the instruction of the Toulmin model, most of the participants relied heavily on the use of warrants and backing as the only core foundation to their arguments. In the post-test, there is an increase in the progress made by the NNES learners may be due to their enhanced grasp of how the argumentative elements are utilised and what their purpose are in creating assertions.

Moreover, in the post-test essays, the NNES learners were all able to use *data* to provide evidence to the claims they had made. For example, Janey stated "*There is evidence in many countries that students in universities grade their teachers and its helping teachers teach better.*" The data lifted from the NNES learners' post-test essays reflect their better comprehension of what information is appropriate to be used as evidence. In their pre-test essays, only 2 of 4 participants used *data* as they relied on warrants to be sufficient in providing evidence to their reasoning. The validity of *data* is stronger when statements that reflect statistics, accurate evidence, and rational logic are used. In the pre-test, statements that embody implicitly broad universal assertions, values, and assumptions (warrant) were used, which are not sufficient to embody accurate data. The quality of *data* found in the NNES learners' post-test essays had improved and displayed good and sufficient knowledge of evidence needed to support their claims. The result concerning data in the post-test is similar to Qin's (2013) study. Before giving

instruction of Toulmin's model, the Turkish EFL students in her study mostly relied on personal experiences and general knowledge as data. However, the students were able to improve their arguments after instruction by becoming aware of various forms of data and applying appropriately factual and accurate statements as corroboration to their claims.

With reference to Table 4.3, the participants applied *qualifier* most frequently. They were able to provide appropriate, relevant, and reasonable exceptions to their claim, which added specificity and strength to their arguments. Additionally, the argumentative feature *rebuttal* appeared more frequently in the post-test essays than in the pre-tests. This result corroborates with Crammond's (1998) study, which involved an argumentative analysis and frequency count of Toulmin elements. The results of this study showed an increase of rebuttals of two grade levels. Qin (2013) also found that after the instruction of Toulmin elements, the participants in her study used rebuttals in their post-test essays compared to the pre-test, in which the presence of the element was non-existent. The students were able to integrate opposing ideas and rebut them successfully. Some of the participants in the present study stated that during the introduction of *rebuttal* that they had found it difficult to comprehend and apply into their writing as trying to foresee counter-arguments from opponents were challenging. However, as studied by Stratman (1982), it was observed that because the NNES learners were able to provide qualifiers, they were able to justify their reasons of excluding certain circumstances, as it eliminates vagueness and subsequently countering a possible assertion from an opposing side about the scope of a topic. The following example is taken from Lipton's post-test essay:

*"For example, a student might rate a teacher lowly simply because the student does not like the teacher (**qualifier**). This would be bad as it could damage the teacher's reputation (**rebuttal**). In order to solve such a issue, care must be taken to screen the*

*feedback in order to determine which submissions are serious and genuine from those that do not offer any constructive criticism or suggestions (**rebuttal**).”*

Additionally, the rebuttals presented in their post-test argumentative essays clarified the relevancy and strength of the warrants they produced, as shown in the extract above from Lipton.

4.3.2 Argumentative Essay Scores: Post-test

Table 4.4 below reveals the breakdown and total scores of the post-test argumentative essays received by the participants following an assessment using Qin and Karabacak’s (2010) holistic scoring rubric, which shows how the learners’ written performance after the instruction of Toulmin’s model.

Table 4.4: Post-test Assessment Scores

Participants	Content (0.6)	Language (0.4)	Calculation	Total Assessment Score
Lipton	3.5	4	C: 3.5 x 0.6 = 2.1 L: 4 x 0.4 = 1.6 **2.1 + 1.6 =**	3.7
Janey	3	3	C: 3 x 0.6 = 1.8 L: 3 x 0.4 = 1.2 **1.8 + 1.2 =**	3
Chris	4.5	4.5	C: 4.5 x 0.6 = 2.7 L: 4.5 x 0.4 = 1.8 **2.7 + 1.8 =**	4.5
Riya	3	3	C: 3 x 0.6 = 1.8 L: 3 x 0.4 = 1.2 **1.8 + 1.2 =**	3

On the whole, the results of the post-test argumentative essay assessment displayed that after the instruction of Toulmin's model (1958), the learners were able to comprehend the functions of the elements and applied them successfully into their argumentative writing. Their writing process had improved in terms of being able to use *data* as an appropriate means of evidence rather than *warrants*. More significantly, the quality of the NNES learners' essays increased due to the articulated specification of their *claim's* extent and the presence of *rebuttals* to which *warrants* were given relevancy and validity. As complex elements in Toulmin's model, *qualifier* and *rebuttal* adds richness and depth to reasoning, which helps with the development of advanced argumentation. In Qin & Karabacak's (2010) correlational analysis of argumentative elements and quality, they found that the effectiveness of argumentative essays was not established by *claim* and *data* but rather, on secondary elements (*qualifier*, *backing*, and *rebuttal*). The result of the present study also aligned with Nussbaum & Kardash's (2005) findings where group of respondents that used primary and secondary elements scored higher than those who only used primary elements. The quality of the NNES learners' argumentative essays in the present study show improvement generally due to the overall elaboration and complexity of arguments that they presented in their post-test essays.

Lipton's post-test essay garnered a total assessment score of 3.7. His shortage of hard evidence and a few number of linguistic mistakes has deprived him of a Scale 4 assessment score. Janey received an assessment score of 3, a .5 score difference compared to her pre-test argumentative essay. What gave her extra marks were her inclusion of data and qualifiers and improved organization of arguments. Chris' gathered a total assessment score of 4.5, .3 marks higher than his pre-test essay. The improvement of his post-test score was due to his use of relevant data that bridged his claim and warrants. Finally, Riya received a score of 3. The score is a higher mark than her initial argumentative essay as she had used qualifiers and provided a rebuttal.

4.3.3 Frequency of Toulmin Elements: Delayed Post-test

After the instruction weeks, the participants were given a two-week break. One of the objectives of the present study is to examine the ability of NNES learners to retain their learning in terms of using Toulmin elements in their argumentative writing. After the two-week break, the participants were asked to write a final argumentative essay without being given instruction of the Toulmin model.

The findings of the NNES learners' delayed post-test argumentative essays in terms of element frequency is shown in Table 4.5 below. The delayed post-test essays were gathered on the 8th week (final) of the experiment. As before, the argumentative essays were coded into their corresponding reasoning elements and a frequency count was carried out.

Table 4.5: Frequency Count of Toulmin Elements of Delayed Post-test Essays

Participant	Claim	Data	Warrant	Qualifier	Rebuttal	Backing
Lipton	4	3	5	4	3	4
Janey	3	4	6	1	4	4
Chris	6	4	10	3	3	2
Riya	1	1	8	1	3	6

The delayed post-test essay topic was "Do bystanders have a responsibility to intervene when there is trouble?" and the NNES learners were once again asked to write a 400-word essay. With reference to Table 4.5, all four participants used all Toulmin elements in their delayed post-test essays. The frequency of *claim* increased in the final essays of

Lipton and Chris compared to Riya, they achieved this by reinstating the element throughout the entirety of their delayed post-test paper.

Table 4.6: Pre-, Post-, and Delayed Post-test Frequency Count Comparison

	claim			data			warrant			qualifier			rebuttal			backing		
Participant	Pre-test	Post-test	**Delayed post-test**	Pre-test	Post-test	**Delayed post-test**	Pre-test	Post-test	**Delayed post-test**	Pre-test	Post-test	**Delayed post-test**	Pre-test	Post-test	**Delayed post-test**	Pre-test	Post-test	**Delayed post-test**
Lipton	3	1	**4**	4	1	**3**	5	5	**5**	2	2	**4**	1	2	**3**	2	4	**4**
Janey	2	3	**3**	0	2	**4**	9	4	**6**	0	1	**1**	0	3	**4**	5	5	**4**
Chris	2	3	**6**	3	4	**4**	9	9	**10**	2	3	**3**	2	2	**3**	3	2	**2**
Riya	2	3	**1**	0	2	**1**	10	8	**8**	0	2	**1**	0	1	**3**	4	8	**6**

Table 4.6 shows the frequency of *claim* and other Toulmin elements throughout the experiment. During the instruction weeks, they were taught to reinstate their claims within the body and the conclusion of their essays to allow for strength and consistency in creating their asserting statements. The decision to teach them the appropriate placement (introduction, body, and conclusion) and organisation of Toulmin elements were due to the opportunity to ingrain in them a coherent and systematised flow of argumentation. According to Wood (1998), the reinstatement of a claim adds effect to the argument but, more importantly, it continuously reminds the reader of the writer's argumentative intent. Additionally, the re-instatement of the claim acts as a constant cue to the writer to wholly maintain consistency in generating statements that are relevant to the claim. Often, NNES writers tend to write supplementary statements that drift from the initial claim, which can lead to ambiguity and incoherence.

In terms of *data*, the participants seemed to consistently use the element in their post-test and delayed post-test argumentative essays. In addition, the frequency of the element had increased in all of the NNES learners' delayed post-test paper except one participant. Nevertheless, all four participants' final essays provided sufficient evidence to their claims and warrants using facts, news accounts, and reports. For example, Lipton wrote *"It is espeshially common for incidents: like these to occur in China as intervening in crimes there can often result in legal consequences for those trying to help."*, he used factual evidence remembered from his previous knowledge rather than presumptuous statements. Another example of logical data used in a delayed post-test essay was from Chris: *"... as several cases emerged recently where bystanders who helped accident victims sadly died after getting hit by oncoming car"*. He used a news account as evidence to prove the validity of his warrants. The type of data provided by the participants had improved compared to their previous essays. Previously, their perceived understanding of what embodies data were of personal accounts and experiences, which lacked validity and accuracy which was a similar problem that was found in studies by Qin (2013), Qin & Karabacak (2010), and Wingate (2012). During the instruction weeks, the NNES learners were provided with reading materials that presented ideas from two camps of an argument. These texts exposed them to various viewpoints and evidence that influenced their opinions and assertions of the argumentative topic. The evidence found in the reading materials were then adapted by the participants, which were then applied into their essays during the writing process. However, during the final week of the experiment, the NNES learners were not given any reading prompts, thereby leaving them to obtain appropriate and valid evidence on their own, to which they have successfully accomplished. This may suggest that they have understood the argumentative element and its function during the instruction weeks. They were eventually able to develop their skill in procuring evidence independently without being given supplementary

information. The researcher purposely chose to use a new topic for argumentation on the final week to examine the NNES learners' ability to use all Toulmin elements autonomously and their ability to retain the features.

Two participants, Janey and Chris had increased use of *warrant* in their delayed post-test essay, while the remaining two had similar frequency counts as their post-test essays. It is noted however, that in an analysis of all argumentative essays written during the instruction weeks by the four participants, it was found that the frequency of warrants, as well as their use, were improved. Warrants can be based on statements of *logos*, *pathos*, and/or *ethos* (Karbach, 1987; Kneupper, 1978; Rex, Thomas, & Engel, 2010; Toulmin, 1958). Nevertheless, during the initial weeks of the experiment, most of the NNES learners in the experiment mainly relied on using *pathos* as warrants and some were non-factual assertions. In Table 4.7 below, examples of warrants were lifted from the participants' pre-test essays and were compared to the warrants used on their post-test and delayed post-test papers. The topic used in both pre- and post- test were the same. In comparison to the warrants written during the pre-test, the assertions made in the post-test were significantly better, more relevant, and more focused. Learners were able to use *logos* and statements that show reasonable logic rather than personal biased opinions. Moreover, the warrants in the delayed post-test had generally improved. Their use of rational explanations, as well as sound logic, rather than statements of emotive and passionate partiality, allowed for a more convincing basis to their claims.

Table 4.7: Comparison of Warrant Use on Pre-test, Post-test and Delayed Post-test Essays

Participant	Pre-test	Post-test	Delayed Post-test
Lipton	*"In fact, students tend to not question a teacher's skill, if they get something wrong in class, they usually assume that they must be doing something wrong and not the teacher."*	*"A student's performance in tests, exams and in class is heavily influenced by how skilled the teacher is at their job."* *"… on average, better teachers tend to result in a higher overall grade in the class."*	*"Imposing laws that result in possible punishments to people trying to help is a bad idea."* *"Many argue that intervening in a situation could be dangerous and possibly make an already bad situation worse."*
Janey	*"If students are allowed to grade the teachers, they can destroy their careers because the students can say lies and made up stories that are not true and the teachers can loose their jobs."* *"… because it is very unfair and students will only get revenged and not learn in class anymore because they dont like their teachers."*	*"Students do not have the knowledge to grade the people who are teaching them."* *"Students are not trained to make an evaluation of the teachers ability of their teaching."*	*"In real life people are afraid to help other people because they are scared and they dont want to get hurt."* *"I think the solution so that everyone can help people in trouble is that they should make sure that it is safe to help people in trouble."*
Chris	*"… to ensure the student's voices and opinions are heard."* *"This act should not be shunned away due to fears of a power shift."*	*"Input of students on the lesson is important as any corrections within the lesson plan can be made with the input of teachers and most importantly, students."* *"Some might feel that students will be given the power to dictate the overall flow of the classroom if given the power to grade the teacher."*	*"Some view that bystanders have the responsibility to intervene while others view bystanders as individuals who don't have to put themselves in harms way to provide assistance."* *"The intervention of bystanders sometimes mean life and death to the victim…"*
Riya	*"When a teacher has a good sense of humor and is a jovial person, his/her pupils will definitely look forward to the lesson and give their full concentration during the class."* *"The future of our country depends on how our kids are nurtured in their formative years."*	*"… also because a student will not assest based on but based on if they like the teacher or not."* *"If a student is allowed to assest they would only do it based on their personal feelings towards the teacher."*	*"In reality, not all bystanders have the courage to stand out…"* *"I strongly recommend the government to take some relevant steps to encourage bystanders to stand out."*

As shown in Table 4.7, Lipton's warrants developed throughout the experiment, using more specific statements that are tailored for the claims he had made in his post- and delayed post-test essays. Janey has shown a slight improvement in some of her essays. However, the warrants in her delayed post-test was not as effective as the ones she presented in her post-test. Nevertheless, they were better than the warrants she used in her pre-test paper. Chris' warrants were consistent in that he had used the element appropriately to connect his claims to his data. Riya used statements of emotion as her warrants during her pre- and post-test essays but exhibited progress in her delayed post-test by presenting statements that are more relevant and appropriate to her argument.

One of the most improved and consistent use of Toulmin elements is *qualifier*. In the frequency count of the pre-test essays, two participants did not provide qualifiers to their claims. Initially, the NNES learners communicated their lack of knowledge in providing the bounds of which their claim ends. They stated that when they develop ideas for argumentation, they tend to focus only on the generality of their claim and debate the limitations only when its scope is challenged directly and verbally by their contenders. The rise and quality of qualifiers in the post-test and delayed post-test essays suggests that the learners have attained an enriched knowledge of how to use the element. The qualifiers used by the learners in their argumentative essays had provided a clear and direct objective of their claims, eliminating the opportunity for gaps in reasoning to appear.

The presence of *rebuttal* was non-existent in two of the NNES learners' first essays, Janey and Riya, which was similar to the results of their pre-test's *data* and *qualifier* frequency count. However, the presence of *rebuttals* increased in all of the participants' delayed post-test essays. Consistent to the findings found in studies by Varghese & Abraham (1998), Bacha (2010), and Qin (2013), the use of rebuttals increased and the

argumentative essays written by the participants of the studies displayed more elaborate and complex argumentation, which lead to a more effective style of reasoning. The result of the frequency of the rebuttal is significant to the qualifier. This is because the presence of rebuttals provided a grounded foundation of claims in the NNES learners' delayed post-test papers. Rebuttals are crucial in creating *ethos* (Toulmin, 1958), helping the author prove that he/she has taken into account possible argumentative challenges (usually derived from a lack of qualifier, i.e. does it include this and that?) from his/her contenders. Similar to *qualifier*, *rebuttal* is also one of the most challenging Toulmin element to the NNES learners. Initially, all of the participants perceived *rebuttal* as difficult to develop in an argument, especially when it is written, as the author is compelled to anticipate what contentions may hypothetically arise. The quality of the rebuttals in the delayed post-test papers suggests improvement due to the learners' enhanced ability to provide relevant and factual counter-arguments.

Lastly, the NNES learners showed a continual use of *backing*. The element was used by the participants throughout the whole experiment, which suggests that they had no difficulty obtaining support for their warrants. *Backing* is a statement or set of statements used to provide reasons and explanations for the warrant, these statements could either be specific or general. NNES learners do not perceive backing as a challenging reasoning element to learn because in an argument that is either spoken or written, individuals tend to provide additional defence for their own viewpoints (supplementary support for warrants). In the NNES learners' pre-test essays, it revealed that *backing* was the 2nd most used Toulmin element, followed by *warrant*. The high number of backing on the pre-test can be associated with the participants' unfamiliarity of other reasoning elements that can be used to bolster an argument. Conversely, after the instruction weeks, the slight decrease of *backing* can be contributed to the presence of all other Toulmin elements. As *backing* decreased and elements like *data*, *qualifiers*, and *rebuttals* increased, the post-

and delayed post-test essays had improved. The decline in frequency did not interpret weakened reasoning as the backing used by the NNES learners revealed relevancy and depth in their arguments.

4.3.4 Argumentative Essay Scores: Delayed Post-test

Table 4.8 below reveals the breakdown and total scores of the delayed post-test argumentative essays received by the participants following an assessment using Qin and Karabacak's (2010) holistic scoring rubric, which shows how effectively learners wrote their argumentative essays after a two-week break from the experiment.

Table 4.8: Delayed Post-test Assessment Scores

Participants	Content (0.6)	Language (0.4)	Calculation	Total Assessment Score
Lipton	4	4	C: 4 x 0.6 = 2.4 L: 4 x 0.4 = 1.6 **2.4 + 1.6 =**	4
Janey	3	3	C: 3 x 0.6 = 1.8 L: 3 x 0.4 = 1.2 **1.8 + 1.2 =**	3
Chris	4	4.5	C: 4 x 0.6 = 2.4 L: 4.5 x 0.4 = 1.8 **2.4 + 1.8 =**	4.2
Riya	2	3	C: 2 x 0.6 = 1.2 L: 3 x 0.4 = 1.2 **1.2 + 1.2 =**	2.4

In Table 4.8 above, the delayed post-test essays written by the NNES learners revealed that they were able to retain information of Toulmin elements well after the instruction of the model and use them in their argumentative essays. The essays contained a more matured and refined reasoning compared to their previous essays, which could be contributed to their developed understanding of reasoning elements and what is expected of them in terms of argumentation. The NNES learners were able to not only state their claims in the beginning of their paper but, they re-established them repeatedly to maintain the thesis that they want the readers to take. This is important as it is the first step in guiding the reader's personal beliefs and opinions into a different direction (Karbach, 1987). In terms of faulty reasoning, Janey used a fallacy called post hoc as backing for one of her warrants: *"This attitude is bad because it shows that people don't care that other people get hurt and if other people see this they wont help also."*. This statement weakened her argument during the delayed post-test. Data was missing only in the pre-test essay of two participants but, had appeared repeatedly in their subsequent essays. As mentioned in an earlier subsection of this present study, the quality of data used by the learners generally improved as it transitioned from statements of personal opinions and warrants to factual evidence and logical statements. Warrants were largely and consistently used by the NNES learners from the pre-test to the delayed post-test. Before the instruction of Toulmin's model, the participants were already experienced in advancing their claims by putting forward their warrants, though they did not know how to identify the reasoning element itself. This is because general principles, universal values, and appeals to human intentions are a staple in argumentation (Díaz Hormazábal, 2007).

The presence of *claim*, *data*, and *warrant* in the pre-test argumentative essays however, was not unexpected, as it is the very basic structure of reasoning. This result aligns with the findings in a study conducted by Cooper et al. (1984), where university

freshmen's essays revealed use of basic reasoning elements for instance, *claim* and *data*. Crammond (1998) also found that *claim*, *data*, and *warrant* were the elements in 3 grade levels' predominant systematical construct. Moreover, Qin & Karabacak's (2010) findings indicated the improved grasp of the Chinese students' understanding of the primary Toulmin elements as they revealed increased use of *claim* and *data*. While the presence of the primary elements was anticipated, it is important to acknowledge that the NNES learners' evolved comprehension of what statements of reason are acceptable as evidence enriched their argumentative writing process and essays.

In relation to secondary elements, the NNES learners were able to expand their arguments and put forward their assertions with clarity. The delayed post-test essays revealed a balanced use of *backing* to add supplementary support to the warrants. Since warrants themselves are susceptible to gaps, *backing* is used to minimise, if not eliminate, opportunities to weaken them. The participants were also able to develop their backing by using logical statements rather than sub-warrants to ratify their warrants. Despite the complex nature of *qualifier*, NNES learners were able to retain knowledge of how to use them and at which point of their argument it should be placed. They were able to add specificity to their assertions and directed their arguments to a more focused facet of an issue rather than arguing for the general thesis (i.e. *Animal testing should be banned except in medical research* vs. *Animal testing should be banned completely*). The quality of the rebuttals in the delayed post-test essays were improved in terms of strategic association to the qualifier, as the NNES learners were able to deliberate and elaborate on the reasoning behind the inclusion of the exception. Furthermore, the learners were able to make their arguments more effective using the clearly stated counterarguments. Perkins et al. (1991) found that secondary students as well as college students rarely used counterarguments in their argumentative essays as they were fixated on arguing for one side, they coined this *my side bias.* In a second language context, Qin & Karabacak (2010)

observed that only 58 out of 130 argumentative essays written by Chinese university students contained statements that formed rebuttals. They discussed that the possible causes for the lack of counterarguments could be attributed to the element's demand for epistemological complexity in the writer's ability to relate to a reader who already has entrenched beliefs, opinions, and values (Hays & Brandt, 1992). Qin & Karabacak (2010) also stated that L2 writers might have experienced high cognitive load (Andriessen et al., 1999) or that they were not aware of the contribution counterarguments could offer in improving the persuasiveness of their reasoning (Nussbaum & Kardash, 2005). After the instruction of secondary Toulmin elements, the NNES learners in the present study showed progress in their delayed post-test essays in terms of taking into account probable contentions and varied opposing beliefs and refute them successfully. O'Keefe's (1999) study found that participants that produced counterarguments exhibited a more persuasive argumentative essay than the participants that relied on reasoning that was built on primary elements. Similarly, Ferreti et al. (2000) observed that a specification group who was tasked to argue using only primary elements scored lower in quality than a specification group that was asked to use rebuttals, among other reasoning elements. The NNES learners' exhibited ability of information retention after the post-test essay allowed them to understand how to reason methodically with objectives of clarity, coherence, and validity, thereby achieving generally, a more effective argumentative paper than their previous essays.

Table 4.9: Comparison of All Assessment Scores of Pre-, Post-, & Delayed Post-test Essays

Participant	Pre-test	Post-test	Delayed Post-test
Lipton	3.4	3.7	4
Janey	2.5	3	3
Chris	4.2	4.5	4.2
Riya	2.4	3	2.4

In reference to Table 4.9, it is shown that Lipton received an overall assessment score of 4 for his delayed post-test essay, the highest he has received throughout the experiment. Janey garnered an overall score of 3 for her final paper. This score is the same as her post-test essay assessment mark. Chris' delayed post-test essay declined .3 marks compared to his post-test essay due to lack of additional counterarguments, therefore leaving him an overall assessment score of 4.2. Yet, the score he received was not an indication of a low-quality paper. Riya obtained an overall assessment of 2.4 for her final argumentative paper, a lower score than her previous post-test essay.

4.4 Findings and Discussion Relating to RQ3

To answer the 3rd research question, "How do learners perceive the instruction related to The Toulmin Model of Argument in influencing their argumentative writing performance?", the study will reveal the NNES learners' perspectives and experiences of Toulmin's model, their argumentative writing process, and the contribution of Toulmin elements in their argumentative essays. The findings were gathered from the semi-structured interviews of the NNES learners recorded during the final week of the experiment.

4.4.1 NNES Learners' Experiences of the Toulmin Elements

Prior to the instruction of reasoning elements, the participants had knowledge of how to write arguments using only general argumentative writing structures based on information they learned from previous years. When asked about their previous knowledge and strategies on writing argumentative essays, Chris indicated that he referred to his past experience in school, linked them to his knowledge of the issue, supported his points, and rebuffed opposing ideas. Riya also relied on her past knowledge of how to write in general however, not of argumentative writing, as she mentioned that she has never written an argumentative essay before the experiment. She further stated that she is not familiar with the genre, as she was only versed on narratives and/or descriptive genres. This problem may be linked to the absence of a specific and purposed writing models in schools, colleges, and universities. Crowhurst (1990) and Craig (1986) found that in their studies, when tasked to write narrative and argumentative essays, the participants scored higher on the latter, revealing that the students were not well-acquainted to the argumentative genre. The following subsections will discuss the factors found in the NNES learners' attitudes towards the Toulmin elements.

4.4.1.1 NNES learners' difficulties in generating *data*

During the semi-structured interview, the participants were asked about the problems they faced throughout the instruction of Toulmin elements. They shared the same attitudes towards *data*, *qualifier*, and *rebuttal*, elements that are crucial in argumentation. They expressed that before the instruction of Toulmin's model, they were accustomed to using personal experiences and beliefs as a form of statements of evidence. Most of the participants were not versed in using valid and accurate data as they do not know how to procure such information. Two participants expressed that data was challenging to

employ in their argumentative papers due to their lack of knowledge in producing evidence that are factual and unfabricated, as shown in Figure 4.1 below:

Interviewer: Hmm, okay. Alright, third question. Uhm… can you tell me which argumentative element did you find difficult to understand, uh, during the instruction?

Lipton: Uhm, for that one is like… the data. Because ah… it's hard to find the evidence if you don't know… if you don't know or if you… don't have first, ah, hand info and, ah, sometimes fictitious details are very dangerous… so, that's why. It's the data…

Janey: Ah, I think… what elements, ah… tsk. I think that data it's hard to find because I don't know a lot of evidence.

Figure 4.1: Participants' response regarding the reasoning element *data*

The difficulty in finding and using data in argumentative essays is not only experienced by the NNES learners in the present study but, it is shared by participants in studies conducted by Qin & Karabacak (2010), Qin (2011) Wingate (2012), Qin (2013), and Kaur (2015). In these studies, they found that learners were struggling to include data in their argumentative essays and instead used personal experiences, biased and unsupported statements that had no validity and, often times, relevancy to the claims they presented. It may be noted however, that students are unversed on the given prompts for argumentative essays and they face challenges in finding credible and accurate evidence to complement their papers. Another problem could be due to the translation of ideas from one language to another, which sometimes lead to miscommunication of reasoning as students struggle to explain their ideas in a second or foreign language.

4.4.1.2 NNES learners' difficulties in stating *qualifiers*

The NNES learners also found that qualifiers were one of the most difficult reasoning element to understand and apply. Chris shared that even during the instruction weeks, he found qualifier complicated, a perception that Janey also believed to be true. Lipton explained that specifying a thesis and its exceptions were difficult to comprehend. This may be due to the nature of innate reasoning, whereby individuals are accustomed to stating and defending a one-sided and general stance to an issue, a *my-side bias*, as termed by Perkins et al. (1991). Below is Lipton's answer when he was asked about a reasoning element/s that he still struggled applying in his argumentation:

Interviewer: Alright, okay. I have two more questions for you. Uhm, so, ahm, is or are there any argumentative elements that you still have difficulty applying in your writing? Argumentative writing?

Lipton: Ah, yes I think so, yeah yeah. This was the qualifiers and uh rebuttals. So, on the qualifiers, ah, of course it's hard to think of exceptions 'cause you know… uhm… uhm… we need to take some moral stance and also it's just very difficult to find… the right viewpoints of it.

Interviewer: Uhmm…

Lipton: So, that's why for the qualifiers and for the rebuttals, I find it difficulty because… it's hards to, it's hard to enter the, uhm… entertain possible counter arguments when you don't know what it is. And also, is also complicated to have the counter arguments when I'm only focused on my own parts. So, that's why.

Figure 4.2: Participant's response regarding the reasoning elements *qualifier* and *rebuttal*

Similar to Lipton's answer to the question, Chris stated that he was used to asserting his pre-existing beliefs rather than emphasising on a specific area of an issue. Conversely,

he was able to use a qualifier in his pre-test essay, despite his perception of the complexity of the element. Toulmin (1958) implied that there are cases when qualifiers are optional however, to create a clearer and stronger thesis statement, one must indicate the claim's bounds during the initial introduction of his/her viewpoint. Riya also expressed that she had difficulties with qualifiers, however, it is believed that she meant rebuttals as the strategy of predicting refutations is the element's nature.

4.4.1.3 NNES learners' difficulties in producing *rebuttals*

Also in Figure 4.2 above, Lipton stated that he found rebuttals to be complex, as he would have to predict opposing ideas and attempt to refute them. Chris shared the same problem as Lipton and Janey, in which rebuttals were difficult to apply into his argumentative papers. In terms of the recognition of opposing ideas and their refutations were unfamiliar to most of the participants in the present study. They stated that specifying on an aspect of an issue (qualifier) rather than a general argument was beyond their writing abilities as they mainly focused on their one-sided assertions. Furthermore, defending exemptions using counter-arguments were challenging as they found refutation difficult to generate. Similar to Nussbaum & Kardash's (2005) study, they found their participants initially did not use counterarguments in their argumentative papers as the students found rebuffing statements from either side of an argument challenging to predict and use. Nevertheless, the participants in the present study were able to use the reasoning element in their final essays.

4.4.2 NNES Learners' perceptions towards the Toulmin elements

After the instruction of the Toulmin model and the completion of the final argumentative writing task, the NNES learners were interviewed regarding their perceptions toward Toulmin elements. Interview questions were asked regarding their experiences in applying the reasoning features, their ability to retain the information they learned during the instruction of Toulmin's model, and their perception of the influence of Toulmin elements to their argumentative writing. The following subsections will discuss the factors found in the NNES learners' perceptions toward the Toulmin elements.

4.4.2.1 Application of Toulmin elements in NNES learners' argumentative writing during instruction

When one participant was asked about her general difficulties in applying reasoning elements effectively, she shared that on most cases, she would forget the function of some reasoning elements and therefore neglect adding supplementary information as strength to her essays. She also stated that she would often lose writing time due to the long word count of the argumentative writing task.

Interviewer: Okay. Alright. Uhm… Alright, ah, so fourth one. Ah, during the instruction weeks, uhm… what were the problems that you… faced when you were writing argumentatively?

Janey: I think I trying to think what I say about… about the topics was so hard because, I have to use all the data especially…Yeah, yeah. Especially… oh, data, warrants, rebuttals and everything. So, when I think about everything, uh! And answer? I write them. I take so long… Yeah, sometimes I don't have a lot of answer to think of more, so… that's (laugh). Yeah.

Figure 4.3: Participant's response to applying Toulmin elements

In a portion of a transcript taken from Janey's interview, as shown in Figure 4.3, it was observed that she also found the generating of ideas and its application into her argumentative writing taxing. Riya also stated during the interview that she had forgotten how to apply some Toulmin elements in her 3rd essay. Other participants expressed that they found the Toulmin elements initially challenging to comprehend and apply in their essays during instruction, further explaining that not being able to remember some of the functions of the reasoning features made it problematical to write arguments. These experiences may implicate high cognitive load, a common occurrence in second language writers, as stated by Andriessen et al. (1999). Problems like this is often found in any writing genre, especially when students are not well-versed in a selected writing field. However, as argumentative writing requires higher critical thinking in order to analyse, criticise, and synthesize ideas, learners are often more prone to high cognitive load.

In general, the NNES learners found the reasoning elements *data*, *qualifier*, and *rebuttal* to be the most problematic features to apply in their argumentative writing. They stated that finding data was complicated because they were used to relying on their past experiences and beliefs as evidence. They professed that narrowing a claim using qualifiers was too complex as they were used to defending a viewpoint that was all-encompassing. Furthermore, they communicated that the rebuttal's requirement of foreseeing refuting statements from readers was nearly unfeasible.

4.4.2.2 Retention of Toulmin elements in NNES learners' argumentative writing after instruction

The semi-structured interview was conducted on the final week of the experiment after the NNES learners completed their delayed post-test papers. The participants were asked

if they still found difficulties using Toulmin elements in their argumentative essays. Most expressed that they do.

Interviewer: You think four? Okay (laughs). Alright, uhm, ok. Alright, uhm, next question. Uhm, okay, uhm. Is or are there any argumentative elements that… you… still find… difficulties with, you know using in your argumentative writing?

Janey: Yeah, yes. The qualifier and the rebuttals… Because, it's complicated and it takes too long… Takes too long time for me, ah… To find answer… but, it was practicing a lot so, I can remember them.

Figure 4.4: Participant's response regarding retention of Toulmin elements after instruction

In Figure 4.4, Janey shared in the interview that she still found qualifiers and rebuttals difficult to remember, emphasising that it took her some time to write her arguments. Similar to this experience, two participants also stated that they struggled to remember how to rebut statements and specify qualifiers to their claims. One participant claimed that he still had challenges remembering the elements when the new topic was introduced in the delayed post-test week. He added that trying to remember how to counter arguments took him longer than usual to write.

During the final writing task of the experiment, the participants were being observed to monitor their writing performance. The researcher observed that the participants took some time to start writing their arguments. One participant took over an hour before she began writing. Another participant asked the researcher to define and explain a few of the Toulmin elements once again for comprehension but, was denied as it would have compromised the result of the study. However, during the interview, all NNES learners

claimed that they consistently reviewed the functions and application of the elements in order to remember them for future argumentative writing tasks.

4.4.2.3 NNES learners' perception of the influence of Toulmin elements to their argumentative writing

The overall reception of the NNES participants of the present study to Toulmin's model was generally positive. The NNES learners expressed that they were able to improve their argumentative writing process throughout the instruction weeks. They claimed that they learned to write systematically and in addition, enhanced their ability to write argumentatively. The responses given by the learners regarding their perceptions of the Toulmin model are shown in the following page:

Interviewer: Okay, alright, second question uhm, during the instruction of the argumentative elements, uhm, when I… was going through all of the argumentative elements, uhm, during the second, third, uhm… and fourth week. Ah, what were your thoughts and opinions about the model being taught? Uh, did you face any difficulties understanding the model?

Lipton: On my opinion about this, uhm… I'm having this tools, like, or elements, it's ah… it helps a lot to build points, the main ideas and use the model for elements as a process by process, in any procedures that we're going to make. And then… of course, yes. I found it difficult 'cause before we don't know how to use the model in a statements or arguments…

Chris: Uhm, certainly yes. I liked the model and understood it well, and to be honest it was clear, uhm… and helpful. It really helped me because I was able to arrange my arguments correctly. Ah, but at first it was a bit difficult because I have lack of points to explain the model, and all… and wants all things to be explained and to repeat the points.

Janey: Actually, I like the model. I think it's good to have because it makes easier for me… to know that write… uhm, but, I think it was hard to understand because I can't, uhm… understand… the explanation to the element before. When we review every week, ah, I can understand better.

Riya: Yes, it actually helped a lot. Uhm, because I c- I can see my essays so good now after you see me, uhm, after you show me the five essays so, I think it has worked quite well after I follow… the steps given in the model. Because, uhm… we can, ah, because, I can, ah, set the model as the guideline. So, when I actually, wanted to train oh how to talk to, to give – to deliver an argument speech, I can actually use the guidelines more, uhm., more precisely. It actually makes my argumentative essays more- my argumentative speech more effective.

Figure 4.5: Participants' responses to their overall perception of Toulmin's model

As shown in Figure 4.4, Lipton believed the introduction of reasoning elements allowed him to identify the facets of argumentation and organise his reasoning based on the model. This may be attributed to his newfound understanding of how argumentation can be structured, as his previous experiences of argument consisted of basic systematization with unclear descriptions of reasoning functions. He further indicated that he believed the instruction of Toulmin elements was useful in the improvement of his knowledge of argumentation and his skills in reasoning and argumentative writing. Chris claimed that prior to the instruction of the model, he did not know how to explain what argumentative features he used. After the instruction however, he understood the reasoning elements and their functions clearly. Lipton and Chris shared similar awareness of the use of these elements before the instruction however, they did not know how to describe and label them. It would seem that exposure to Toulmin's model enhanced their understanding of the reasoning elements and how to further use them to their already pre-existing knowledge of argumentation. Janey and Riya also stated that their argumentative writing has improved due to their better understanding of the functions of the reasoning elements. The argumentative essay of both participants had indeed improved, not in regards to frequency count, but the quality of the reasoning features they used. During the initial weeks of the study, it was found that they used warrants excessively and even used them a data. However, following the instruction of Toulmin elements, they were able to use the secondary set of complex elements, as well as improve their primary reasoning features. The students also expressed that they found the learning of the reasoning elements eased as the weeks of instruction continued, this can be contributed to the reviewing strategy used during the instruction in order to assist the participants in retaining information of the argumentative features.

Aligning with the results found in Qin's (2013) study, the NNES learners stated that after the instruction of Toulmin elements, they were able to differentiate data from personal and biased opinions. Before the instruction, some participants used warrants as evidence and as they progressed, they learned to critically evaluate the strength of statements that were to be used as data. In Jin & Yusun's (2017) study, they have found that Korean high school students were able to strengthen their arguments by applying data to every claim they made, even when they lacked use of other reasoning elements. It was also stated that the evidence used by their participants to solidify claims were diverse.

In Qin & Karabacak's (2010) and Jin & Yusun's (2017) results, the learners in their study indicated that they were able to hone their argumentative writing skills further by learning and applying reasoning elements in their essays. Similar to this result, the quality of the NNES learners' argumentative papers were improved due to their enhanced use of basic elements and exposure to secondary elements, which allowed them to generate more complex and relevant arguments.

Overall, the NNES learners communicated positive perceptions of Toulmin elements, generally stating that they believed they were able to improve their argumentative writing, as well as their understanding of how arguments are evaluated, analysed, structured, and applied.

CHAPTER 5: CONCLUSION

5.1 Introduction

The goals of this study were 1) to assess the argumentative writing essays produced by NNES learners to find the problems that occur during their writing performance, 2) to determine to what extent the instruction based on The Toulmin Model of Argument affect the NNES learners' argumentative writing performance, and 3) to uncover the NNES learners' perspectives on how the instruction of the Toulmin elements impact their argumentative essays.

In Chapter 4, the findings and discussions related to the effect of instruction of Toulmin elements in the argumentative writing performance of four NNES learners were discussed. Moreover, the findings regarding the NNES learners' perspectives of Toulmin elements and its instruction were also deliberated.

In this final chapter, the summary of the findings, the methodological implications, and the pedagogical implications will be discussed. The present study will also provide suggestions for future research.

5.2 Summary of The Findings

In reference to Figure 5.1, the pre-test findings revealed that the reasoning elements claim, warrant, and backing were present in the argumentative essays of all NNES learners. The remaining elements data, qualifier, and backing were only present in two of the participants' essays.

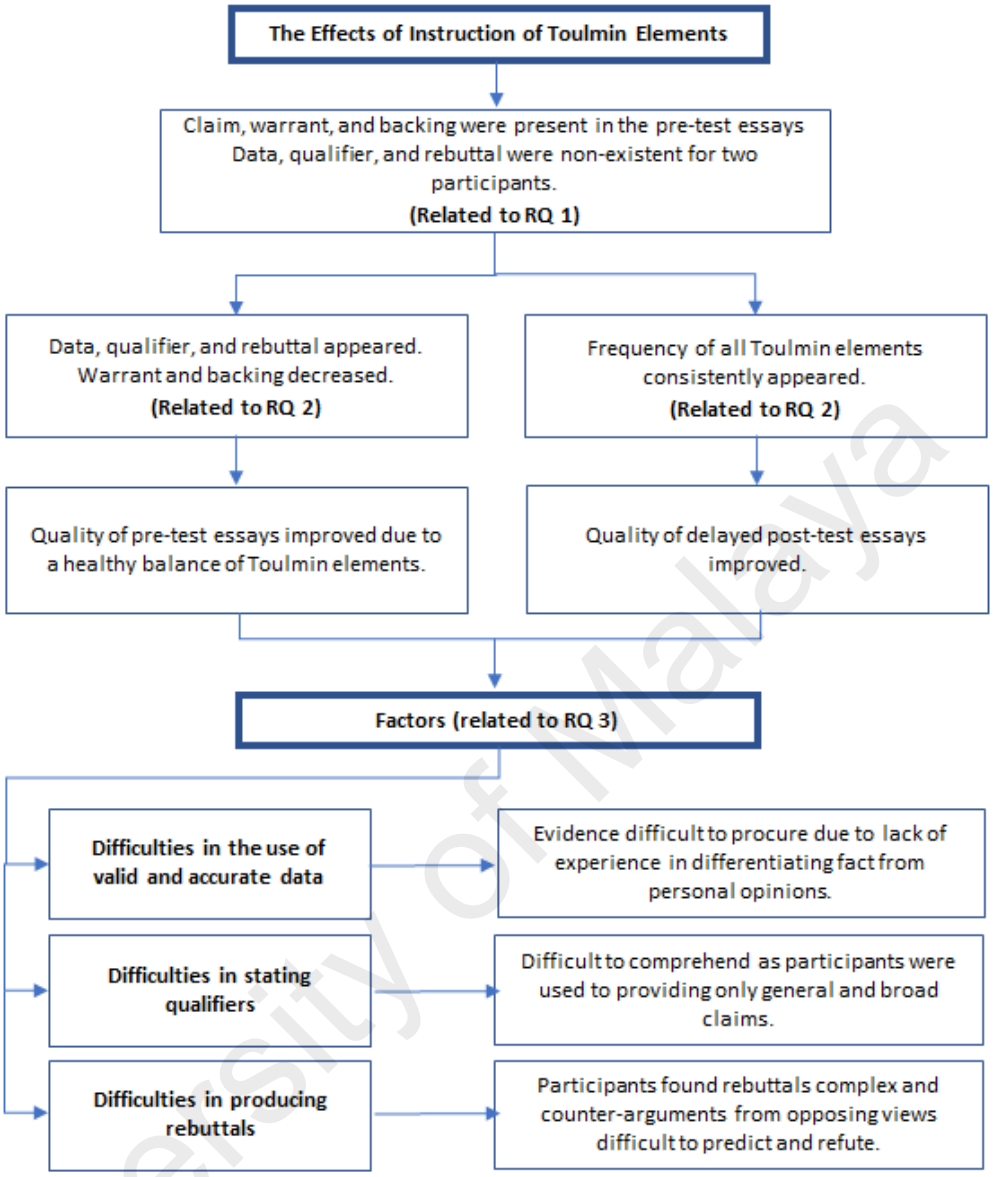

Figure 5.1: Summary of Findings

The post-test findings showed the frequency of warrant and backing reduced in the post-test as other Toulmin elements such as data, qualifier, and rebuttal appeared and increased. Additionally, the quality of the reasoning elements used by the NNES learners had improved compared to their pre-test argumentative essays. Due to this, their argumentative writing became effective in terms of argumentative complexity and depth and breadth of reasoning.

The results of the delayed post-test revealed that the NNES learners have consistently used all Toulmin elements in their argumentative essays. The quality of the used Toulmin elements were consistent with the post-test in which they were appropriately and relevantly utilised. In general, the results of the delayed post-test revealed a more mature and refined reasoning in all of the NNES learners' argumentative essays.

Based on Figure 5.1, the results gathered from the semi-structured interviews revealed three themes relating to the NNES learners' perceptions of the Toulmin elements and its instruction. Firstly, the NNES learners found it difficult to use valid and accurate data. They expressed that prior to the instruction of Toulmin elements, they were used to using warrant-type statements, as well as personal beliefs and opinions as substantiation to their claims. They also stated that they were not versed in using appropriate evidence as they do not know how to procure such information. Secondly, the NES learners expressed difficulty in stating qualifiers. They communicated that the qualifier was one of the most difficult reasoning elements in Toulmin's model to understand and apply into their argumentative writing. The participants stated that trying to narrow and specify their claim's extent was a challenging task as they were accustomed to asserting broad theses. Moreover, one participant expressed that he was initially more concerned in representing his general thesis than stating a specific area of his claim. Lastly, the NNES learners found it difficult to produce rebuttals. The participants stated that it was challenging to predict an opponent's counter-argument and refute them. Overall, the NNES learners' reception to the instruction of Toulmin elements were positive. They believed that the reasoning elements helped improve their argumentative writing in terms of creating structure in their argumentation, identifying the type of information needed to support their assertions, and giving them a better understanding of the reasoning elements and their functions.

5.3 Methodological Implications

The present study adapted Qin & Karabacak's (2010) 5-scale scoring rubric in order to assess the quality of the NNES learners' argumentative essays from the pre-, post, to the delayed post-test essays. The rubric included three assessment categories which determined the quality of each essays' content, structure, and language use. The scoring rubric provided the study with a set of detailed criteria that is to be met by an argumentative essay. However, it was found that Qin and Karabacak's (2010) scoring rubric had a restrictive nature. Due to this, some participants may not fit a particular scale due to the differences of the strengths and weaknesses of their argumentative papers. For example, one participant may excel in argumentative content, but not in language use, and vice versa. The scoring rubric does not account for these differences and therefore, does not appropriately award the participants of an accurate assessment score. Another implication is that the scoring rubric is prone to impressionable marking as the assessment scheme is not detailed enough to render complete objective marking. Furthermore, the rubric does not showcase content related to Toulmin elements and instead assesses argumentative essays broadly based on general structure and language. Currently, there is no available scoring rubric specific to the assessment of Toulmin elements in argumentative essays, more specifically, a scoring rubric that is tailored to assess argumentative essays based on Toulmin elements. Nonetheless, the scoring rubric helped the researcher identify features and requirements that are missing in the NNES learners' essays.

The small sample size and short duration of experiment was also an implication to the present study. The number of participants and duration of the study provided limited quantitative and qualitative findings, therefore limiting the amount of data.

5.4 Pedagogical Implications

Argumentation is a required ability in the tertiary education level as students are expected to exhibit critical thinking skills verbally and in written form. Unfortunately, most NNES are not armed with the strong knowledge to reason with structure and complexity due to a lack of exposure to effective argumentative writing models from their previous years of education. Exposure to Toulmin's Model of Argumentation can help NNES learners learn argumentative features needed to analyse, evaluate, and create arguments. NNES learners should be made familiar to reasoning elements in order for them to improve their argumentative essays, as well as their critical thinking skills. Knowledge in identifying and stating a clear claim with specific qualifiers will help students focus on an area of an issue, eliminating gaps in reasoning. Learning the function of data will allow students to identify factual and valid information to be used as evidence, providing accurate justification to their claims without the risk of eliminating credibility. NNES learners should be made aware of appropriate and relevant warrants and backing to be used in argumentation to provide a strong foundation for their arguments. They should also learn how to defend their arguments by foreseeing possible contentions from opposing sides and refuting them using counter-arguments that relevantly supports their claims and qualifiers. Learning the Toulmin elements will help NNES learners create strong and accurately supported arguments, which will benefit their writing development needed for educational advancement.

Practitioners will benefit from learning Toulmin's model as it will help them teach students effective argumentative writing models to facilitate further development of their critical thinking skills in relation to argumentation. In addition to this, by learning Toulmin's model, practitioners will have a better understanding of how to assess their students' argumentative essays effectively.

5.5 Recommendations for Future Research

Firstly, future research that will examine the quality of argumentative essays should adapt or modify Qin & Karabacak's (2010) 5-scale scoring rubric to devise an all-encompassing assessment scheme. Minimizing gaps in argumentative essay assessments will help provide a more detailed and sophisticated criterion that places consideration on the strengths and weaknesses of students, not just in structure and language, but also in content and critical thinking skills. Furthermore, by adding more scale levels to the scoring rubric, it minimizes the generality of the rubric as additional scale levels will have a more specific benchmark for students to achieve. This will also put greater ease for the practitioner in regards to assessing argumentative essays and reduces impressionable marking.

Secondly, a recommendation for future research would be a larger sample size. This could benefit future studies in order to accurately investigate the effects of instruction of Toulmin's reasoning elements. A larger sample size can provide more rich and varied results that can help identify other issues and problems concerning argumentative writing. In addition to this, tertiary students, specifically, should be targeted for future studies to investigate and assess their current trend in argumentative writing and find solutions that can be integrated into the students' curriculum frameworks.

Lastly, a longitudinal study involving the instruction of Toulmin's model and its argumentative features would be a recommendation for any researcher who aims to further investigate the effects of introducing Toulmin elements to NNEs learners. This type of study can provide answers in the field of research as to how it affects the argumentative writing process of students in the long-term and whether or not it improves the quality of their argumentative essays. For example, an action research of Toulmin

elements can help provide solutions in helping students write argumentative essays and papers, as well as adapt or modify Toulmin's model to better fit the needs of the students.

5.6 Conclusion

Students must foster critical thinking skills at an earlier stage in their academic life. In order to do this, they should be introduced and exposed to effective reasoning to nurture critical thinking. Argumentation improves critical thinking by offering continuous consideration and synthesis of other perspectives. This also provides support and emphasis on contemplative ability and capability to integrate other's viewpoints into one's own. The major problem of students in regards to argumentative writing is their lack of ability in identifying, evaluating, synthesizing, and communicating their viewpoints. Students must be challenged and encouraged to adapt various modes of thinking in order for them to be analytical and critical. What is lacking in most writing classes is the provocation of autonomous thinking and proper argumentative writing guidance. Students are taught to follow a set of rules when writing an argumentative essay, which is mainly derived from non-complex writing genres such as expository, and informative essays. Argumentative essays require critical thinking skills that are not necessitated in other writing genres therefore, students must learn how to tackle argumentative writing by exposing them to crucial argumentative features. In addition to this, argumentative writing models and reasoning features must be introduced to students at an earlier stage in order for them to reach an expected standard of reasoning required in tertiary education levels. Practitioners can help students achieve this by utilising Toulmin's Model of Argument to promote critical thinking proficiency for their students, specifically in argumentation, to help them develop advanced reasoning skills and write arguments effectively. Furthermore, Toulmin's model can also act as an assessment

guideline for practitioners to determine the quality of their students' argumentative essays in the future.

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