

ความสามารถของนักศึกษาวิชาเอกภาษาอังกฤษในการให้เหตุผล English major students' ability to reason

จ่านง แก้วเนียม^{1*}, ปิยะวรรณ เจริญชัยวัฒน์², บุศรินทร์ เดชดำรงศรีปรา³ และ สิริพร บัองกงลาด⁴

Chamnong Kaewneam^{1*}, Piyawan Jaroenchaiwat²,

Busarin Detdamrongpreecha³ and Siriporn Pongkonglad⁴

^{1*, 2, 3} คณะศิลปศาสตร์, มหาวิทยาลัยเทคโนโลยีราชมงคลกรุงเทพ, กรุงเทพมหานคร

^{1*, 2, 3} Faculty of Liberal Arts, Rajamangala University of Technology Krungthep, Thailand

⁴ คณะศิลปศาสตร์, มหาวิทยาลัยเทคโนโลยีราชมงคลพระนคร, กรุงเทพมหานคร

⁴ Faculty of Liberal Arts, Rajamangala University of Technology Phra Nakhorn, Thailand

Received: May 11, 2023 Revised: June 28, 2023 Accepted: July 3, 2023

บทคัดย่อ

งานวิจัยนี้วัดความสามารถในการให้เหตุผลของนักศึกษาวิชาเอกภาษาอังกฤษ โดยมีผู้ประเมินจำนวน 3 ท่านเป็นผู้ตรวจให้คะแนนความเรียงเชิงโต้แย้งของนักศึกษา นักศึกษาเขียนตอบคำถามแสดงความเห็นด้วยหรือไม่ในประเด็นที่ว่ามหาวิทยาลัยควรจัดการเรียนการสอนแบบออนไลน์แทนแบบต่อหน้า โดยนักศึกษาต้องให้รายละเอียดและเหตุผลประกอบการแสดงความเห็นอย่างเฉพาะเจาะจง ระบุแหล่งอ้างอิงที่นำมา และเขียนความเรียงที่มีความยาวประมาณ 450-500 คำ การประเมินความเรียงนี้ดำเนินการแบบเชิงรวมที่ละย่อหน้าจากระดับ 1 (ต้องปรับปรุงมาก) ถึงระดับ 5 (ยอดเยี่ยม) โดยพิจารณาความเกี่ยวข้องของเนื้อหากับประเด็นที่ถาม โอกาสที่เนื้อหาจะได้รับการตอบรับเมื่อคำนึงถึงมุมมองของสาธารณชนทั่วไป ความน่าเชื่อถือของข้อมูล ความเป็นไปได้ที่จะจูงใจให้ผู้อ่านเห็นด้วยกับจุดยืนของผู้เขียน งานวิจัยนี้พบว่าความสามารถในการให้เหตุผลของนักศึกษาวิชาเอกภาษาอังกฤษกลุ่มนี้อยู่ระหว่างระดับต้องปรับปรุงถึงระดับดีมาก โดยเฉลี่ยนักศึกษามีความสามารถอยู่ในระดับดีพอสมควร นอกจากนี้ ยังค้นพบข้อเสนอแนะสำคัญสำหรับการศึกษาวิจัยต่อไปให้คำนึงถึงความตรงไปตรงมาและความชัดเจนเข้าใจง่ายของเหตุผลเมื่อมีการประเมินคุณภาพของการให้เหตุผล

คำสำคัญ: การให้เหตุผล การโต้แย้ง ไทย วิชาเอกภาษาอังกฤษ ความสามารถ

Abstract

This study measured Thai English major students' ability to reason when writing argumentation. Their argumentative essays were evaluated by three evaluators. The students were asked to write an answer to one argumentative question: Do you agree with this statement? Universities should replace face-to-face degree programs with those done completely online. They were required to give specific details and reasons, cite given sources, and write approximately 450-500 words. The essays were evaluated holistically by paragraph on a scale of 1 (much improvement needed) to 5 (excellent). The evaluators chose the degree

*Corresponding author. Tel.: 085 901 3083

Email address: chamnong.k@mail.rmutk.ac.th

to which the reasons given in the paragraphs were relevant to the question asked, credible, persuasive to readers about the writer's position, and acceptable considerations from the general public's perspective. It was found that the English major students' ability to reason ranged from improvement needed to very good levels, with an average ability falling to a pretty good level. The results suggested two more important concerns regarding the quality of reasoning for further instruction and investigation, that is, directness, and clarity of the reasons.

Keywords: Reasoning, argumentation, Thai, English majors, ability

Background

The ability to reason is crucial for English major students. This ability is always measured as independent tasks in high-stake English standardized tests, including TOEFL and IELTS. In one example, IELTS test takers are asked to present an argument regarding whether they believe that formal examinations are a fair means of assessment of a student's ability. They are required to give reasons for their answer, use their own ideas, knowledge and experience, and support their arguments with examples and relevant evidence (Hawthorn English Language Centres, 1997). In this scenario, test takers must have full knowledge of the specifications: *reason*, *argument*, *evidence*, and a type of composition – *argumentation*.

According to Cambridge Dictionaries Online (2019a), argument is “a reason or reasons why you support or oppose an idea or suggestion, or the process of explaining them”. The definition indicates that the ability to reason is closely connected with the ability to argue. When it comes to arguing, another term deserves attention, that is, argumentation. According to Cambridge Dictionaries Online (2019b), argumentation is “a set of arguments used to explain something or to persuade people...”. This definition suggests another important attribute to argumentation or reasoning, and that is persuasion.

Actually, argumentation originated in ancient Greece, when Aristotle classified the means of persuasion into *ethos*, *pathos*, and *logos*. The terms refer to appeals to authorities, appeals to emotion, and appeals to logic, respectively (Deane & Song, 2014). This classification has meant that when argumentation is written, the important intent is to win readers' decision (Toulmin, Rieke & Janik, 1979). The interest in argumentation became widespread in 1958, when Stephen Toulmin extended its concept to embrace ideas that do not agree with the writer. Nowadays, argumentation is understood to include six important elements, that is, claim, data, counterargument claim, counterargument data, rebuttal claim, and rebuttal data (Toulmin, 1958; Toulmin, Rieke & Janik, 1979; Qin & Karabakak, 2010; Ramage, Bean & Johnson, 2010). Following Qin & Karabakak (2010) and Stapleton & Wu (2015), Kaewpet (2019a), defines the terms as follows.

Claim	Writer's position/viewpoint
Data	Evidence for the writer's position
Counterargument claim	Opposing position from the writer
Counterargument data	Evidence for the opposing position

Rebuttal claim	Rebuttal statement
Rebuttal data	Evidence for the rebuttal statement

(Kaewneam, 2022, p. 4)

As we can see, evidence plays a significant role in the process of argumentation. It can give weight to persuasion, and it may support or undermine the writer's position. Weidaucer (2000) recommends five kinds of evidence: statistics, examples, logic, anecdotes, and quotations. Qin & Karabakak (2010) give another set of evidence: facts, research studies, expert opinions, definitions, analogies, and logical explanations. In addition, Qin & Karabakak (2010, citing Ramage & Bean 1999), suggest that opposing evidence should also be used for rebuttals, for example, logical fallacies, insufficient support, invalid assumptions, and immoral values.

Appropriate use of evidence would result in compelling reasoning. However, argumentation is the most challenging type of writing, when compared with others such as description, narration, and exposition (Yang & Sun, 2012). Martin (1989) points out that progress in mastering a new kind of text would move from narratives and procedures to argumentative essays. The difficulty of argumentation lies in its nature. To be successful, one needs to build it with all of the six elements effectively. Dean & Song (2014) portray steps that skilled writers might take in an argumentation cycle, which may not necessarily occur in a fixed order: 1) understanding the stakes, 2) exploring the subject, 3) considering positions, 4) creating and evaluating arguments, and 5) organizing and presenting arguments. Indeed, giving reasons in argumentation would not be an easy task for beginning writers – not to mention English as a foreign language (EFL) learners.

Thai students, in general, may not perform well on argumentative tasks as evidenced by their English standardized test results. According to a TOEFL report, the total writing mean score of students whose first language is Thai was 20 out of 30 (ETS–TOEFL 2017). Likewise, according to an IELTS's record (2017) the writing mean band score of test takers achieved by test takers whose first language is Thai was 5.5 out of 9. Obviously, there is a lot of room for improvement in writing scenarios. Nevertheless, it is worth noting that the reports are based on the total writing scores, not independent tasks. Further investigation is necessary to learn more specifically about Thai students' ability to reason.

Thai English majors studying at Thai universities usually train in argumentation or skills in giving reasons, but that cannot guarantee satisfactory results. To the best of my knowledge, argumentation is rarely investigated in the Thai context. In one example, Ka-Kan-dee & Kaur (2015) interviewed two lecturers who taught argumentative writing to Thai university students. The lecturers found a consistent problem regarding insufficiency of knowledge about argumentative features, the ability to produce a clear thesis statement, difficulties in organizing ideas and supporting the ideas with solid evidence. In addition, Kaewpet (2018a, 2018b, 2018c) and Kaewpet, Duangpattra, Ackaradejruangsri, & Na Phairee (2019) researched on a criteria and scale for evaluating argumentation, quality of argumentation models, quality of students' argumentative essays, and influence of reasoning and writer's voice on quality of argumentative essays. Only the last study explored reasoning especially. The study suggested that the ability to reason would influence the overall quality score of argumentative tasks, particularly those completed by beginning

learners. Therefore, this study was interested in measuring the results of training, taking quality of reasoning into account. The focus of this study was narrowed down to the quality of individual sets of reasons presented in English major students' responses to an argumentative question. It is believed that the overall quality of argumentation will be satisfactory when the reasoning is also of good quality. Knowledge gained from this study will be applicable to future instruction regarding how to improve the way to teach argumentation as well as reasoning skills.

Research purpose

To measure Thai English major students' ability to reason when writing argumentation.

Related literature

Understanding about the ability to reason in this study is underpinned by two areas of knowledge—that is related to evidence and that is concerned with quality of reasoning.

Evidence in reasoning

Evidence is the heart of the reasoning process. The evidence can be used to support claims, rebuttal claims, or the writer's position, and it can be used to devalue counterargument claims, or the opposing position of the writer. It is called 'data' in the classical six elements of argumentation (see **Background**). Training in the elements will help with the quality of reasoning. Inclusion of counterarguments and rebuttals in particular positively correlated with the score of argumentation. The conclusion is based on many studies. For example, Morgan & Beaumont (2003) employed chat rooms to engage Australian school students in argumentation. As a result, the students were more logical in their argumentation, offered cases that were more sharply to the point, and they were able to provide detail that was improved in both quantity and quality. Liu & Stapleton (2014) examined argumentative essays written by Chinese students. The students received instruction in argumentation which included counterarguing and refuting. It was found that the inclusion of counterarguments and rebuttals was positively correlated with the overall score of the argumentative essays.

Based on Weidauer (2000) and Qin & Karabakak (2010), Kaewpet (2019) demonstrates the use of evidence by a student who wrote a response to a question as to whether traffic jams should be taken as a unique tourist experience as follows.

Facts	Bangkok is the capital city of Thailand. It is one of the most congested cities in the world.
Statistics	TomTom Traffic Index (2008–2017) reports that if you travel during evening peak, you will have to add 118% to regular free-flow travel time; or 91%, 65%, 40%, to the peaks in the morning, on non-highways, or on highways respectively.
Anecdotes	A tourist shares his experience about traffic jams in Bangkok on Tripadvisor (2017). He wanted to visit one of the best restaurants for lunch. The

	restaurant was open from 12.00–2.00 p.m. He boarded a taxi from his hotel. He was caught in traffic jams. When he reached the restaurant, the lunch hours had already closed.
Research studies	According to the Global Traffic Scorecard survey conducted by Inrix, an American-based transportation analytics company, Bangkok ranked 12th among the most congested cities in the world in 2016 (Cookson, 2017).
Expert opinions	Dr. Vallop Suwantee, chief adviser to the Bangkok governor, considers that despite the Inrix’s statistics, Bangkok’s traffic conditions are getting better when compared with five or ten years ago (Lee 2017).
Definitions	‘Free flow’ is referred to an ‘uncongested’ condition of traffic (TomTom Traffic Index 2008–2017).
Analogies	Travel during peak times in Bangkok might be a nightmare for some people.
Logical explanations	Another tourist suggests on Tripadvisor that one can avoid traffic jams and get around the city comfortably to plenty of good restaurants by the sky train or the underground (2017). Actually, he can enjoy the world going by and learn something from Bangkok’s traffic problems by watching them from the sky train or a walking bridge.
Logical fallacies	The unhappy tourist writes: “Bangkok is plagued by such perpetually bad traffic that it would literally RUIN your WHOLE holiday experience” (Tripadvisor, 2017). This comment suggests that he had other good holiday experiences in Bangkok. Unfortunately, he takes the unhappy experience seriously.
Insufficient support	The bad experience about the traffic is probably only one among the many good experiences during his stay in Bangkok.
Invalid assumptions	While the congested conditions might cause a tourist discomfort, it is probably overstated to say that it can ruin one’s whole holiday experience in Bangkok. Tourists can do a lot more things to suit their preferences and fulfill their holiday. In fact, traffic jams are part of a new experience that one can only get from Bangkok.
Immoral values	This post is part of a review of the busy Sukhumvit Street, which is actually connected to both the sky train and the underground. There are 369 comments about the area in total (Tripadvisor 2017). Based on an exploration of the first 25 posts, the majority of them, except two, give good recommendations for the street. All of them are interested in other topics rather than traffic jams. Therefore, Bangkok remains a charming tourist destination with or without the congested traffic conditions.

(Student A in Kaewpet, 2019a, p. 30-31)

Quality reasoning

Interest in the quality of reasoning arises from the observation that structuring argumentation with six elements of argumentation is essential, but argumentation with a good surface structure does not necessarily indicate good reasons. The argumentation is often found to lack concrete examples and detailed analyses that provide a holistic understanding of the problem when the data or

evidence is manifested (Stapleton & Wu, 2015). In this context, the substance or adequacy of the reasoning is key to success. The data or evidence should be accurate, relevant, and logically adequate (Sampson & Clark, 2008; Stapleton & Wu, 2015). Otherwise, the argumentation may remain unpersuasive and readers may remain unconvinced. In addition, quality of reasoning can be measured by looking into characteristics like acceptability, relevance, sufficiency/adequacy, credibility, and effectiveness of the reasons. Definitions of some characteristics are given. For example, the data or evidence that is acceptable, relevant, and sufficient or adequate is the data or evidence that can be accepted as true, that serves the conclusion, and that provides enough support to justify the belief of the writer (Bickenbach & Davies, 1997; Hughes & Lavery, 2008; Stapleton & Wu, 2015). Acceptability is also defined to mean the logical structure and the degree of realism of the data or evidence (Schwarz, Neuman, Gil & Ilya, 2003). Adequacy is identified to be concerned with an appropriate amount of the data or evidence (Weidaucer, 2000).

For PBS LearningMedia (2014), the data or evidence should be relevant, effective, credible, and related sources cited. Relevant evidence is closely connected with a topic under discussion. Effective evidence will produce a desired result. Credible evidence will convince readers. When an idea is taken from a source, the source should be cited. Below is an example checklist for measuring the quality of evidence given by PBS LearningMedia.

Claim	Evidence	Quality checklist
Producing genetically modified foods can cause environmental and health problems.	As pesticide use increases chemicals such as glyphosate make their way into food and water supplies. earthopensource.org	<input checked="" type="checkbox"/> Is the reasoning relevant? <input checked="" type="checkbox"/> Is the evidence effective? <input checked="" type="checkbox"/> Is the evidence credible? <input checked="" type="checkbox"/> Is the claim cited?
Eating genetically modified foods can be dangerous to people's health.	Increased instances of Soy allergies after the introduction of GMO Soy. responsibletechnology.org	<input checked="" type="checkbox"/> Is the reasoning relevant? <input checked="" type="checkbox"/> Is the evidence effective? <input checked="" type="checkbox"/> Is the evidence credible? <input checked="" type="checkbox"/> Is the claim cited?

(Adapted from PBS LearningMedia, 2014)

In conclusion, when evaluating the quality of argumentation, the first thing that should be examined is whether the provided data or evidence is relevant to the problem in question. Other criteria should include acceptability, credibility, and persuasiveness of the reasons. Acceptability is concerned with appropriateness of the reasons. Because one of the important intents of argumentation is to win an argument from readers, the reasons should also be those appropriate and acceptable by the general public. Credibility deals with whether the reasoning given is believable, perceived as true, and/or a source is cited. Finally, the degree of persuasiveness can be greater when the data or evidence given is sufficient and effective.

Research methods

Population and samples

This study was carried out at a Thai university, where Thai English major students were studying argumentative writing as part of their program. The population of this study was a group of 21 students. One of the argumentative essays written by seven of the students were randomly selected to be evaluated for their quality in this study, taking a percentage of 33 samples in total. After the students completed all of the assignments, the lecturer informed the students that some of their essays might be selected randomly to be research materials. The research results would help improve the instruction of argumentative writing. They were ensured that the use of their work would not affect their study results, and their names would not be presented in the research report.

Research materials

This study was carried out before the COVID-19 pandemic, when many online programs were offered to students around the world. The English major students were asked to write an answer to one argumentative question: Do you agree with this statement? Universities should replace face-to-face degree programs with those done completely online. They were given two extracts from the Web – one supporting face-to-face programs, and the other encouraging online channels. They were required to give specific details and reasons, cite the given sources, and write approximately 450–500 words. All of the students had one introductory paragraph and one concluding paragraph in the responses. Three of them had four body paragraphs; three students, three paragraphs, and one student, only two paragraphs. Before they wrote an answer to the question, they were given a model response to an issue on marine parks by Daly (1997). This model essay was regarded as having a good surface structure, including all of the six elements and supporting the arguments with solid evidence. The students analyzed the surface structures and the content of the model essay before writing up their own argumentation on the given question. The example had one introductory paragraph, four body paragraphs, and one concluding paragraph. Three of the four body paragraphs begin with counterargument claim, and counterargument data, then, switch to rebuttal claim and rebuttal data. The last body paragraph is dedicated to the writer's position without opposing views – it contains claims and data only.

Data collection

The students' answers to the argumentative question – the seven argumentative essays – were placed on a Google form by paragraph. Three evaluators were invited to participate in the research. They were Thai lecturers teaching English reading and writing to English majors as well as other majors in two universities. They evaluated the students' ability to reason through the essays. They chose the degree to which the reasons given in each of the paragraphs were, holistically, relevant to the question asked, acceptable considerations from the general public's perspective, credible, and persuasive to the reader about the writer's position. The students were given 1 point when the reasoning in the paragraph needed much improvement; 2 needed improvement, 3 when it was pretty good, 4 very good, and 5 excellent. The introductory paragraphs were not measured, because they were not a place for detailed reasons. The

reasons were spelled out in the remaining paragraphs, including the concluding paragraph. The evaluators were also asked to give some feedback or comments on the students' answers as they wished. This section was optional, aiming to yield only important concerns from the evaluators regarding an effective way to reason.

Data analysis

The scores of the seven essays measured by the three evaluators were calculated for means and interpreted as follows: 1.00–1.44 much improvement needed, 1.45–2.44 improvement needed, 2.45–3.44 pretty good, 3.45–4.44 very good, and 4.45–5.00 excellent. After that, recommendations on a way to reason effectively were drawn from the feedback and comments given by the evaluators.

Results and discussion

Three major findings can be discussed in relation to the students' ability scores, individual sets of reasons, and the evaluators' suggestions about an effective way to reason.

Reasoning ability

Table I presents the ability of the seven students to reason.

Table I Mean scores

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7
Paragraph 1 (Introduction)	-	-	-	-	-	-	-
Paragraph 2 (Body)	3.33	2	1.67	3.33	3	2.67	2.33
Paragraph 3 (Body)	2.67	2.33	2.33	3.33	4.00	3.67	2.00
Paragraph 4 (Body)	3.00	2.33	2.67	3.00	4.33	3.67	2.67
Paragraph 5 (Body/Conclusion)	3.33	2.33	3.00	4.33	-	3.33	3.00
Paragraph 6 (Conclusion)	3.00	-	-	4.00	-	-	2.67
Means	3.07	2.25	2.42	3.60	3.78	3.34	2.53
Interpretation	Pretty good	Needs improvement	Needs improvement	Very good	Very good	Pretty good	Pretty good

3.00
Pretty good

The English major students' ability to reason ranged from improvement needed to very good levels – two needed improvement (2.25, 2.42), three were pretty good (2.53, 3.07, 3.34), and two were very good (3.60, 3.78). On average, the students' ability fell to a pretty good level (3.00).

The findings reflected a common picture of an English classroom – students are more often than not of mixed abilities, and most students' scores spread in the middle of the scale. In this study, no essays

were judged to be of the lowest or highest levels. This is due to the fact the students had been trained in argumentation; therefore, a positive training effect can be expected to some extent. In a study completed in a Chinese context, for example, after a group of students were trained in building counterarguing and refuting into their argumentation, the effectiveness of their argumentative essays was scored higher (Liu & Stapleton, 2014). However, it also revealed, like other studies, that argumentation is a hard type of writing (Martin, 1989; Yang & Sun, 2012) for both speakers of English (Deane & Song, 2014) and EFL learners, including Thai (Ka-kan-dee, 2015). In America, it was found that college students were not very effective at producing written arguments. They failed to include a thesis, reasons, evidence, or did not present the elements clearly. The supporting evidence was not sufficiently developed, and the students did not recognize or respond to alternative viewpoints (Deane & Song, 2014).

Individual sets of reasons

When looking at individual paragraphs, the two best were from two different students (4.33). The best paragraphs are presented in Figure I. The first was a body of the response and it included only claims and data, which were reasons supporting the writer's position. The writer argued for face-to-face learning in response. The other was a concluding paragraph supporting the writer's position – the writer also preferred face-to-face learning to online learning. In addition, it was found that one of the paragraphs received a much lower score than the others, which fell into the improvement needed level (1.67). The paragraph receiving the lowest score is not reported here considering possibly accidental mistakes observable from the paragraph, resulting in the lowest score.

Scores	Part of Essays	Reasoning
4.33	Body (claim, data)	There are still many downsides of online learning, such as the students' commitment to the lesson. Some people wake up late and fall asleep while the teacher is giving lectures, it makes them unable to understand the lesson and their grades will deteriorate. Another thing is a question to asking the teacher in various doubts. Face-to-face questioning can be explained more clearly because students can see the teacher's expressions and feelings. (Student 4)
4.33	Conclusion	In conclusion, universities should not replace face-to-face degree programs with those completely done online. Studying online cause many different effects as mentioned above. It affects routine life, work life balance, health, internet issues, and communication. So, I think face-to-face degree programs are more efficient than studying online. Teachers will also be able to see if the students are willing to study or not and able to properly assess students. However, maybe in the future there might be a better way to learn online and more efficient. So, I think universities are not ready for that yet. (Student 5)

Figure I Highest and lowest scores

The first best paragraph suggests that arguing for only one side of position – in this case, the writer’s position – is an easier task than when also writing for the opposite side but refuting the opposing side to win the writer’s arguments. The students actually wrote such complex paragraphs containing counterargument claim, counterargument data, rebuttal claim and rebuttal data, but their paragraphs did not receive high scores. This is the reason why many scholars strongly recommend that the skill in taking the opposing side of views from the writer and the skill to refute them should always be taken into account, when students train in argumentation (Toulmin, 1958; Qin & Karabakak, 2010; Ramage, Bean & Johnson, 2010; Stapleton & Wu, 2015; Kaewpet, 2019a).

How to reason effectively

Feedback and comments on the students’ responses suggest useful recommendations on how to reason effectively.

1. All of the information given should be related to the issue in question.
2. The writer’s position should always be clearly stated.
3. The writer should present his/her ideas in the clearest way possible – argue for or against an issue in question.
4. Ideas and examples given should always be adequate and rich.
5. Correct language use will result in better understanding.
6. Simple vocabulary may help with comprehension when writing argumentation.
7. Effective coordinators can help with the quality of reasoning.

The suggestions confirm a number of important criteria for evaluating argumentation. Number 1 is concerned with relevancy, as emphasized by Stapleton & Wu (2015) and Kaewpet (2018a). Numbers 2 - 3 highlight the most important information in argumentation, where controversies about, that is, the writer’s position. The writer must announce his/her position regarding a controversial situation, as suggested by all argumentation schemes (Toulmin, 1958; Toulmin, Rieke & Janik, 1979; Qin & Karabakak, 2010; Ramage, Bean & Johnson, 2010; Stapleton & Wu (2015). Number 4 promotes adequacy or sufficiency of the reasons. Appropriate and effective amount of evidence will result in persuasive reasoning (Bickenbach & Davies, 1997; Ramage & Bean 1999; Hughes & Lavery, 2008; Stapleton & Wu, 2015). Numbers 2 - 3 also reflect directness of reasoning that is stressed in most criteria for evaluating argumentation. Directness might not be encouraged culture in many areas of communication, but it is important in argumentation. In addition, writers are always required to provide specific examples and reasons to complete independent tasks such as IELTS and TOEFL (ETS–TOEFL, 2023) and IELTS (2023). Numbers 5-7 demonstrate another criterion for evaluating argumentation, that is, language use. Correct grammar use, good word choice, and effective selection of conjunctives are always considered when it comes to evaluating writing. However, this study suggests that the use of simple words may facilitate the overall comprehension of the reasoning, because this process is already complicated in itself in terms of the elements of argumentation.

Conclusion

The focus of this study was on the quality of reasoning observed from English major students' written argumentation. Like Toulmin (1958), Qin & Karabakak (2010), Ramage, Bean & Johnson (2010), and Stapleton & Wu (2015), this study suggests that instruction of argumentation should take the surface structure, including claim, data, counterarguments, and rebuttals, as well as quality of reasoning in the process of argumentation into account. Instruction may not guarantee immediate quality; however, studies have reported that training influences better quality (e.g., Ritchie & Black, 2012; Domenech & Krah, 2014; Noroozi, Biemans & Mulder, 2016). Through reasoning, university students can develop critical thinking, understand issues in questions more deeply, engage in more complex and controversial situations and sources of knowledge, and make decisions that are based on good reasons (Deane & Song, 2014). As for evaluation criteria, examination can be concerned with the same considerations as this study, that is, relevance to an issue being discussed, acceptably in terms of the general public's perspective, credibility, and persuasiveness of the reasons to the reader about the writer's position. In addition, an extended definition of quality can cover clarity and directness, as the evaluators suggested. Argumentation is taught, learned, and evaluated in classrooms around the world – in America, China, Malaysia (e.g., Bipinchandra, Shah, Puteh, Din, Rahamat & Aziz, 2014; Dean & Song, 2014; Liu & Stapleton, 2014). Thai students should keep up with the academic challenge regarding quality of reasoning.

Acknowledgement

We would like to express our sincere thanks to English major students studying at Faculty of Liberal Arts, Rajamanagla University of Technology Krungthep, who contributed their argumentative essays to this study. Thank you very much.

References

- Bickenbach, J.E. & Davies, J.M. (1997). *Good Reasons for Better Arguments: An Introduction to the Skills and Values*. Broadview Press.
- Bipinchandra, J. S., Shah, P. M., Puteh, S. N., Din, R., Rahamat, R. & Aziz, J. A. (2014). User Needs Analysis in Learning Argumentative Writing via Mobile Platform. *Procedia Social and Behavioral Sciences*. 118: 198–205.
- Cambridge University Press 2019a. Argument. <https://dictionary.cambridge.org/dictionary/english/argument> (19 October 2019).
- Cambridge University Press 2019b. Argumentation. <https://dictionary.cambridge.org/dictionary/english/argumentation> (19 October 2019).
- Daly, B. (1997) Writing Argumentative Essays. <http://www.ltn.lv/~markir/essaywriting/modelmp.htm> (27 October 2022).

- Deane, P. & Song, Y. (2014). A Case Study in Principled Assessment Design: Designing Assessments to Measure and Support the Development Argumentative Reading and Writing Skills. *PsicologiaEducativa*, 20, 99–108.
- Domenech, M. & Krah, A. (2014). What Familial Aspects Matter? Investigating Argumentative Competences of Learners at the Beginning of Secondary Schooling in the Light of Family-based Resources. *Learning, Culture and Social Interaction*, 3: 77–87.
- ETS–TOEFL. (2023). The TOEFL Test. <https://www.ets.org/toefl> (30 April 2023).
- Hawthorn English Language Centres. (1997). *IELTS to Success*. John Wiler & Sons.
- Hughes, W. & Lavery, J. (2008). *Critical Thinking: An Introduction to the Basic Skills*. Ontario: Broadview Press.
- IELTS. (2023). About Us. <https://www.ielts.org/> (30 April 2023).
- Kaewneam, C. K. (2022). *A Guild to Practice Argumentation: Reasoning Tasks*. KpKn.
- Kaewpet, C. (2018a). Criteria and Scale for Argumentation. *Theory and Practice in Language Studies*, 8, 564–569.
- Kaewpet, C. (2018b). Quality of Argumentation Models. *Theory and Practice in Language Studies*, 8, 1105–1113.
- Kaewpet, C. 2018c. Quality of Argumentative Essays Written by Thai students. *Proceedings of CreTech 2018*. 24–26 July, 217–222. Rajamangala University of Technology Krungthep.
- Kaewpet, C., Duangpattra, K., Ackaradejruangsri, E. & Na Phairee, N. (2019). The Influence of Reasoning and Writer’s Voice on the Overall Quality of Argumentation. *Proceedings of CreTech 2019*. 19–21 June: 168–174. Rajamangala University of Technology Krungthep.
- Kaewpet, C., (2019a). 1 214 403 *Argumentative Writing*. Faculty of Liberal Arts, Rajamangala University of Technology Krungthep (photocopied).
- Ka-Kan-dee, Maleerat & Kaur, Sarjit. (2015). Teaching Strategies Used by Thai EFL Lecturers to Teach Argumentative Writing. *Procedia Social and Behavioral Sciences*, 208, 143–156.
- Liu, F. & Stapleton, P. (2014). Counterargumentation and Cultivation of Critical Thinking in Argumentative Writing: Investigating Washback from a High-stakes Test. *System*, 45, 117–128.
- Martin, J. R. (1989). *Factual Writing: Exploring and Challenging Social Reality*. Oxford University Press.
- Morgan, W. & Beaumont, G. (2003). Using a Chat Room to Develop Early Adolescent Students’ Argumentative Writing. *Journal of Adolescent and Adult*, 47, 146–157.
- Noroozi, O., Biemans, H. & Mulder, M. (2016). Relations Between Scripted Online Peer Feedback Processes and Quality of Written Argumentative Essay. *Internet and Higher Education*, 31: 20–31.
- PBS LearningMedia. (2014). Argumentative Essay: Citing and Analyzing Evidence. <https://www.pbslearningmedia.org/resource/6c92dbfe-e060-48a6-b3ac-14064b8132ec/argumentative-essay-citing-and-analyzing-evidence/> (22 January 2019).

- Qin, J. & Karabacak, E. (2010). The Analysis of Tomlin's Elements in Chinese EFL University Argumentative Writing. *System*, 38, 444–456.
- Ramage, J. D., Bean, J. C., & Johnson, J. (2010). *Writing Arguments: A Rhetoric with Readings*. Pearson Longman.
- Ritchie, M. & Black, C. (2012). Public Internet Forums: Can They Enhance Argumentative Writing Skills of Second Language Learners? *Foreign Language Annuals*. 45, 349–361.
- Sampson, V. & Clark, D. B. (2008). Assessment of the Ways Students Generate Arguments in Science Education: Current Perspectives and Recommendations for Future Directions. *Science Education*, 92, 447–472.
- Schwarz, B.B, Neuman, Y., Gil, J. & Ilya, M. (2003). Construction of Collective and Individual Knowledge in Argumentative Activity. *Journal of English for Academic Purposes*, 12, 219–256.
- Stapleton, P. & Wu, Y. (2015). Assessing the Quality of Arguments in Students' Persuasive Writing: a Case Study Analyzing the Relationship between Surface Structure and Substance. *Journal of English for Academic Purposes*, 17, 12–23.
- Toulmin, S. (1958). *The Uses of Argument*. Cambridge: Cambridge University Press.
- Toulmin, S., Rieke, R. & Janik, A. (1979). *An Introduction to Reasoning*. Macmillan.
- Weidaucer, M. H. (2000). *Tapestry Writing 3*. Heinle & Heinle.
- Yang, W. & Sun, Y. (2012). The Use of Cohesive Devices in Argumentative Writing by Chinese EFL Learners at Different Proficiency Levels. *Linguistics and Education*, 23, 31–48.