

Toulmin Elements In Pakistani Students' Argumentative Writing: A Comparative Analysis

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Abstract

In various academic and professional writing genres, argumentation skills are considered essential. Writing an argument is an integral part of academic writing and indicates the proficiency of a student's language skills. It is more complex than other language skills because writing skills measure one's ability to use language. It is essential that students develop argumentation skills to succeed in academics and their social lives, as these skills are manifestations of higher-order thinking and critical thinking. The present study aimed to investigate argumentation elements in essays written by Pakistani undergraduate students based on the Toulmin model (1958, 2003). The research adopted a quantitative approach. For the selection of essays, a total population sampling was used. The adapted tool for this study is comprised of six elements (claim, data, counterargument claim, counterargument data, rebuttal claim, and rebuttal data). The data were analyzed using descriptive analysis. The data used by the students was correctly cited, and the most frequent type of data was the daily practice in both sectors. The least frequent data type in the public sector were personal experience, laws for women's protection, quotations from scholars, constitutional articles, and laws for women's protection in the private sector. Results revealed that students in both private and public sector universities used all six Toulmin elements when writing argumentative essays. Several pedagogical implications can be drawn from the results of the study. This article stresses the importance of argumentative skills in writing to make students' writing logical and persuasive.

Introduction

The process of writing involves memory, reasoning, and verbal commands to succeed (Geiser & Studley, 2002; Hyland, 2003; McCutchen, 1984; Nickerson, Perkins, & Smith, 2014). Writing reflects your ability to use language, which makes it more complex than other language skills (Liu & Braine, 2005). In many countries, including Malaysia (Li & Razali, 2019), Ethiopia (Adugna, 2019), Mainland China (Xiao & Chen, 2018), and Indonesia (Ilyasa, 2013; Widiati & Cahyono, 2001), writing skills are highly valued, particularly for scholarly communication and purposes. Several research

studies have examined the challenges faced by L2 writers (Dar & Khan, 2015; Graham & Perin, 2007; Haider, 2012; Hyland, 2003) over the past 20 years, highlighting the increasing importance of writing as a method of communicating ideas effectively. Students may experience various writing difficulties during different phases of their educational journey. They experience difficulties with structural components because ineffective structures complicate the meaning and comprehension of a text, requiring the reader to engage in mental processing (Quintero, 2008; Nik et al., 2010). Despite mastering the syntactic, lexical, and grammatical aspects of a text (Rico,

2014), incoherence also reduces learners' confidence. Therefore, developing a method for using a second language that is based on structural accuracy and communication potential is one of the most challenging aspects of learning a second language (Dar & Khan, 2015; Hyland, 2003; Mahboob, 2014).

Importance of Argumentation Skills

It is also essential that students develop argumentation skills to succeed in academics and their social lives, as these skills are manifestations of higher-order thinking and critical thinking. Consequently, argumentation or the use of arguments is a prerequisite for the development of critical thinking and understanding of complex issues and ideas. At the tertiary level, graduates must possess critical thinking skills for critically judging, evaluating, and proposing ideas. For that, various methods have often been used to express their opinions, views, and stances in writing. Educators, researchers, and linguists consider academic writing an important genre, and scholars have devoted considerable attention to its analysis. University students are expected to write arguments as part of their academic workload (Oshime & Hogue, 2006). Argumentative writing requires the writer to state a position on a controversial issue and provide rational arguments supporting that position. This will enable them to convince the reader of their position's validity. It is recommended by Refnaldi (2010) that the topic of argumentative writing must be controversial, disputable, and arguable and that the thesis be supported by evidence. However, the opposing viewpoint must also be acknowledged and rebutted. Argumentative writing aims to convince the reader of the central proposition (Schneer, 2014). Since argumentative writing requires students to possess linguistic knowledge, master vocabulary and syntactic patterns, and employ effective, cohesive devices,

it is often regarded as the most challenging skill (Toulmin, 2003).

According to Wolfe & Britt (2008), argumentative essays can be challenging. EFL students have trouble organizing ideas, and they often misuse cohesive devices when writing essays (Yeh, 1998). Mostly the arguments made by students were not strong; even the rebuttal was rarely used, while others provided weak or no refutations. While analyzing argumentative essays written by Chinese students at EFL University, Qin & Karabacak (2010) found that students used at least one claim substantiated by data, but few other elements were presented. In their study, Stapleton & Wu (2015) claimed that students provided weak claims and sometimes used irrelevant reasons in their explanation essays. This revealed poor reasoning skills among students. A lack of experience in writing academic texts in their first language may also explain why students need help writing argumentative essays. It is evident that essay writing is a complex activity, particularly argumentative writing, which requires higher-order thinking skills (Toulmin 2003).

According to Ismigul et al. (2016) findings, English-speaking students are also often reported to struggle with argumentation skills. Using 36 argumentative essays written by American sixth, eighth and 10th graders, the study investigated whether the students from different cultural groups are able to integrate contrasting ideas from sources and their ability to use Toulmin elements. A study by Cranmond (1998) demonstrated that students used basic argumentation structures in their reports; however, only proficient students could use all argumentation elements.

Similarly, McCann (1989) found that students used ideas according to their level; for example, 9th and 12th-grade students performed better

when using counterarguments and rebuttals rather than claims and warrants. During Wingate's (2012) observation of undergraduates in London, he observed that they needed more evidence and analysis in their writings and that their argumentation skills needed to be improved. However, in the case of EFL students, the situation is exacerbated. In addition, Cooper et al. (1984), Page-Voth and Graham (1999), and Ferretti et al. (2000) examined the argumentative structure of American students. They discussed the structural characteristics of argumentative structures to improve the quality of argumentative writing.

English language proficiency includes the ability to write for academic purposes in countries where English is not the native language. Pakistan, for example, is characterized by a need for more teaching resources, many students in classrooms, a highly content-laden curriculum, and demotivated teachers (Faize, 2011). The Pakistani research community has conducted some research on scientific argumentation. For instance, Faize (2015) introduced scientific argumentation into teaching ethical-based topics. Hussain et al. (2017) involved elementary students in scientific argumentation, and Faize & Dahar (2017) developed argumentation skills among undergraduate students. According to these studies, scientific arguments have been

shown to be effective in improving academic performance and students' interest in learning. However, studies have yet to explore the use of argumentation skills among Pakistani undergraduates. This study aims to analyze the argumentative essays written by Pakistani undergraduates in accordance with Toulmin's model.

Toulmin Argument Model

Toulmin's model provides a basic framework for writers to develop ideas that can be transformed into complete arguments. Toulmin developed this model in 1958 and revised it in 2003 as the Toulmin Argument Pattern (TAP). The model has been modified by communication theorists, discourse analysts, and lecturers/teachers (Andrews, 2005). Including argument components in the model allows argument meaning to be conceptualized more effectively (Simon, 2008). Moreover, Hegelund & Kock (1999), as well as Blair (2004), suggest that Toulmin's (2003, p. 87-100) argument layout model can assist students in addressing genre and task definition issues when composing academic papers. Toulmin's argumentation model consists of six elements, which are employed in this study: claims, evidence, counterclaims, counter-data, rebuttal claims, and rebuttal data.

Table 1 Toulmin Argument Model with Examples

Claim	The purpose of this statement is to summarize the speaker's argument, or thesis. It should be clear, brief, and specific.	For example, "The minimum wage should be increased to \$15 per hour to reduce poverty."
Data	These are the facts, statistics, or other evidence the speaker or writer uses to support their claim.	In this case, data might include studies that show the positive effects of increasing the minimum wage on reducing poverty, as well as examples of individuals who struggle to make ends meet on the current minimum wage.

Counter claim	This is a statement that presents an opposing viewpoint to the claim.	For example, someone might argue that increasing the minimum wage would lead to job loss and economic instability.
Counter data	These are the facts, statistics, or other evidence that support the counterclaim.	In this case, counter data might include studies that show the negative effects of increasing the minimum wage on businesses and employment rates.
Rebuttal claim	This is the speaker or writer's response to the counterclaim. It should acknowledge the validity of the opposing viewpoint while presenting a counterargument.	For example, the rebuttal claim might be: "While it's true that some businesses may struggle to adjust to a higher minimum wage, the overall benefits to workers and the economy make it worth pursuing."
Rebuttal data	These are the facts, statistics, or other evidence that support the rebuttal claim.	In this case, rebuttal data might include studies that show that the benefits of increasing the minimum wage outweigh the potential negative effects, as well as examples of successful implementation in other states or countries.

A compelling argument must combine all these components at the same time to be effective. While teaching students how to write convincing academic papers, this model can also be used to analyze educational documents to explain the genre requirements for academic papers (Hegelund & Kock, 1999). As Toulmin (2003, p. 87 - 100) describes, the components of this model are explained and how they combine to determine whether academic texts develop persuasive and complete arguments.

Research Questions

1. What are the elements of argument structures found in the English argumentative essays of university students in accordance with the Toulmin (1958, 2003) model?
2. (a) What types of data (evidence) have students used to support their viewpoints in essays?

- (b) What data types were frequently used by students?
- (c) Are the evidence properly cited?

Methods

This section describes the profile of the participants, followed by the details of the writing task and data collection procedure. The remaining part covers coding and data analysis.

Participants

A total of 28 females and 28 males from private and public universities participated in this study, ranging in age from 18 to 20. Each student studied English as a compulsory course in Engineering and Psychology disciplines. The English I course lasted three credit hours, so students met three times a week. Students learned different writing genres in the tenth week of the semester and were introduced to argumentative writing. First, students were taught how to write opinions on controversial topics. Topics were

then assigned, reading materials were provided, and students were instructed to practice writing their opinions.

Writing task:

The participants completed several writing tasks in class as part of their English I course. During one of the sessions, the teacher researcher introduced the research study in progress and taught participants how to apply argumentation skills effectively. After practicing forming opinions and expressing them in writing, students were asked to write an argumentative essay on the topic assigned. As part of the assignment, participants were instructed to write an argumentative essay on the topic of gender equality and to express their personal opinions and views about it. Besides using external sources, they were also allowed to draw on their personal or background knowledge of the topic. To avoid plagiarism, the teacher-researcher instructed participants to outline the relevant material, provided a 20-minute brainstorming session, and provided 40 minutes for writing.

Tool

Adapted from Karabacak & Qin (2010), the six elements of the Toulmin model were used to assess the student's performance. Due to the extremely low frequency of warrants, backing, and qualifiers in the students' papers, the study did not consider those elements. Stapleton (2001) identified several phrases that can be used to locate Toulmin elements. For instance, the phrase "I think" or "in my opinion" can be used to locate the claim. Toulmin elements can be identified based on semantic and linguistic structure. A claim can take many forms, such as a proposal, a definition, or an evaluation. Reasons or evidence are statements that are used to support claims. The use of indicator words or phrases such as

"because", "for this reason," and "for one reason" often helps to identify them.

Further, evidence can take many forms, including personal experiences, research studies, statistics, citations of authorities, comparisons, and analogies. Also, it is essential to point out consequences, facts, and logical explanations and define words and sentences precisely that correspond to each of these evidence forms. Third, the opposing point of view runs counter to offering alternatives to claims, and in refutation, the writer addresses the opposite end of the statement. A counterargument or rebuttal can be identified by indicator phrases, such as "it is said that... but", "some people claim that... However,", "even though, despite, even though..." The research analyst must also consider that sometimes the student implies their position or viewpoint without using these phrases or indicators. Therefore, they must use their knowledge and judgment to locate Toulmin's model elements.

Finding and discussion

1. What are the elements of argument structures found in the English argumentative essays of tertiary students in accordance with the Toulmin (1958, 2003) model?

Toulmin's model of argumentation was utilized as the basis for examining the overall use of structural elements in essays written by students at public and private universities. In both groups' essays, Toulmin elements were tallied, and their means and standard deviations were compared. The results indicated that all six Toulmin elements were used in argumentative writing. Based on the results of the public and private sector essays, table 1 provides the mean score of claims, data, counterargument claims, counterargument data, rebuttal claims, and rebuttal data.

Table 2 Descriptive analysis of Toulmin elements in public and private sector essays

Toulmin elements	Public		Private	
	Mean	SD	Mean	SD
Claim	2.28	1.43	1.5	0.83
Data	3.07	2.12	2.62	1.32
Counterclaim	1.0	0.69	1.3	0.56
Counterargument data	1.89	1.72	2.5	1.7
Rebuttal claim	0.64	0.55	0.75	0.68
Rebuttal data	1.46	0.96	1.82	1.72

On average, public and private students use claims, data, counterargument claims, and counterargument data as structural elements. As a result, these elements received average scores of 2.28, 3.07, 1.0, 1.89, 0.64 and 1.46 in essays from the public sector. It should be noted that the claim must be supported by relevant data; otherwise, it will be regarded as a personal opinion (Stapleton, 2001). As a result, when analyzing the writer's statement, only data that supported that statement were considered claims. Therefore, data are always linked to the author's claim (a few quotes from the papers are provided below in Example 1). On average, in essays written by public sector students, two or more claims were made, and three pieces of data were presented. Private sector essays scored 1.5, 2.6, 1.3, 2.5, 0.75, and 1.82. The paper implied that at least one claim, two pieces of data, one counterargument claim, and two

counterargument data were included in the paper. In accordance with Qin (2010), who found that basic argument structure was the predominant organizational structure in Chinese EFL university argumentative writing. This finding indicates that most participants comprehended the essential elements of argumentative writing. However, the mean scores for rebuttal claims were the lowest among all of the elements, measuring 0.67 and 0.75 in public and private essays. Furthermore, it is worth pointing out that ten public and nine private students have used rebuttals or data in their essays. Similarly, Qin's 2010 study indicated that students were less likely to use rebuttals and data in their essays. The following excerpt has been adopted from a student's paper on gender equality in Pakistan. (Note: In the following excerpts, the Toulmin elements' examples are italicized; their data types appear in brackets immediately following.)

Table 3 Example of Toulmin Elements in Student's Argumentative Essay

Elements	Examples
Claim	Pakistan is the second worst country in the world in terms of gender parity.
Data	<ol style="list-style-type: none"> 1. Pakistan is ranked 148 out of 149 countries in the 'Global Gender Gap Index 2018' report released by the World Economic Forum (WEF). (Survey) 2. It has been witnessed that almost all factories hire male workers. Women are mostly expected to take care of household chores and nurture children. (Everyday practices)
Counterargument claim	Women's participation has always played a significant role in the political sector.

Counterargument data	1. Fatima Jinnah, sister of the founder of Pakistan, Muhammad Ali Jinnah, whose active role in politics during the Pakistan government has inspired all the women in Pakistan. (Influential Personalities)
Rebuttal Claim	However, we see that many issues still need to be addressed regarding gender equality in Pakistan.
Rebuttal Data	<ol style="list-style-type: none"> 1. A report by HRCP (2013) says that around 1300 women in Pakistan faced severe levels of violence in 2013. Three hundred forty-seven of those cases even lead to the victim's death. (Survey) 2. As Pakistan has its roots embedded in culture and traditions, male members are considered the primary bread earners and expected to seek employment. In contrast, women are not favored to leave their houses and take up a job. When situations pressure a woman to seek employment, she is allowed to look for a job, but the next hurdle comes when there are not equal job opportunities for women as men. (Traditional Rituals)

2(a) What types of data(evidence) have students used to support their viewpoints in essays?

An integral part of judging argumentation is assessing appropriate, relevant, and adequate evidence to support one's claim (Sampson & Clark, 2008; Schwarz et al., 2003; Zhang, 2018). In ESL contexts, only some studies have examined L2 learners' actual use of evidence in writing argumentation. Packer & Timpane (1997) identified seven categories of evidence: expert opinion, statistics, examples, personal experiences, common sense, logical analysis, and analogy. Hoeken & Hustinx (2003) demonstrate that arguments consist of four types of evidence: individual examples, statistics, causal explanations, and expert opinions. Anecdotal evidence is considered less persuasive than expert, causal, and statistical evidence in terms of persuasive power.

Consequently, Zhang (2018) examined six types of evidence for further analysis, including expert,

anecdote, common sense, statistics, logical analysis, and analogy. Participants in the present study used data from personal experiences, everyday practices, religious references from the Quran and sayings of prophets, influential women, renowned scholars, articles from the Constitution of Pakistan, sociopolitical movements, surveys, and statistics, welfare trusts, non-governmental organization laws for women's protection, and examples from the educational, economic, political, and healthcare sectors to create essays in public and private sectors.

In their argumentative essays, students utilized a variety of data types to support their arguments in relation to the data type given in their essays. In the types of data used by the students, it was evident that they were aware of the various types of evidence or data that could be used to support their positions. Students at both public and private universities provided sufficient evidence and a greater variety of data types. Table 2 illustrates the data types used by students.

Table 4 Example of Data Types

Data	Public sector Examples	Private sector examples
Personal Experience	It's a baby girl again, oh sad! But it's ok better luck next time.	Having hijab doesn't mean that women is not free it is her right to have hijab and if someone say no hijab is freedom then he/she is actually devastating her resect and right.
Everyday practices	When my grandmother was alive. My mother served lunch to me and my younger sister, she was munching on the chicken leg piece whereas I was served chicken wings. The act enraged my grandmother who slammed my mom for defying gender norms of society. According to her, the male child was prospective head of the family who deserves nothing but the best in everything.	In the villages of Punjab and KPK, pregnant women were forced to give birth to a boy and were tortured if a girl was born.
traditional Rituals	In some of the areas the customary act of SWARA is largely prevalent especially in It is a practice in Khyber Pashtun Khwa and Baluchistan in which, rather than offering blood money as "Badla -e- Sulha", an accused family offers their girl in marriage to an aggrieved family as a means of settling the dispute.	There are many customs and tradition in rural areas that gives women lower status and position in the society. They have practices of Vani, Jirga, Karo-Kari, honor killing, and the list goes on and on.
Religion	Pakistan is Muslim country. Islam gave equal rights both men and women almost fourteen centuries ago. The fourth Surah of Quran "NISA" means "WOMEN". The Quran ememphasizesany times that both men and women deserve equal abatement and reward: "Never will I allow the loss of work of any worker among you, male or female; you are one another."	As stated in Quran, Ch. II (Al Baqara), V. 228, both men and women have equal rights. "Every person is equal in eyes of god." "And for women are rights over men, similar to those of men over women." Quran (2:228)
Influential Personality	Pakistan produces stars in every field of life. These great personalities are not only male but also females. If we have Imran khan in politics once, we had Benazir Bhutto. If we have Abdul Qadir Khan, then we have Malala Yousif Zai. In cricket if we have Wasim Akram and Younis Khan so how can we forget first number female bowler Sana Mir. So, in every field we can see women alongside with men.	Our country has numerous examples of women who have conquered the world with their abilities and untiring efforts: Benazir Bhutto, Asma Jahangir, Bushra Maneka, Arfa Karim, and Abida Parveen are just a few examples.
Quotations	Emma Watson, UN Women Goodwill Ambassador, said during an event to promote	It was said by the Founder of Pakistan, Quaid-e-Azam Muhammad Ali Jinnah, "no nation can

	the HeForShe campaign, "It is time that we all perceive gender on a spectrum not as two opposing sets of ideals."	rise to the heights of glory unless its women stand side by side with its men. "
Articles from Constitution	According to the 1973 constitution, article 25(2) states, "there should be no discrimination on the basis of sexes" in Pakistan.	According to article 25(2) of the Pakistan constitution, "There shall be no discrimination on the basis of sex."
Sociopolitical movements	Nil	The Aurat March of last month was a great manifestation of the shariah of Islam, and only a few open-minded ladies were able to change or diverge minds among our responsible women.
Surveys	The UN Demographic and Health Survey 2012-2013 report indicates that approximately 4.9 million women of Pakistan in the age group of 18-39 are experiencing poverty in the following four development areas: poverty in the area of child marriage, poverty in the area of education, poverty in the area of healthcare, and poverty in the area of employment.	It is estimated that Pakistan ranks 148 out of 149 countries in terms of gender equality, making it the second worst country in the world based on the 2018 Global Gender Gap Index Report.
Statistics	One finding has revealed that Sindh rural areas 65% of the residents preferred more boys than girls, 27.4 % of them had no preferences, while only 6% wanted to have more girls than boys.	In Pakistan, only 25 percent women are involved in the workforce, a figure which is far less than the world average figure of 48.7 percent.
Laws for women protection	To protect women from sexual and other forms of gender-based violence, Pakistan ratified the Committee on the Elimination of Discrimination Against Women (CEDAW) in 1996.	In the year 2006, President Pervaiz Musharraf passed the protection act of women.
Trust and NGOs	With the Government of Pakistan and development partners, USAID aims to increase women's access to economic opportunity, increase girls' access to education, enhance maternal and child health, combat gender-based violence, and increase women's civic involvement. In order to empower women and achieve gender equality, UNDP supports government and civil society partners.	Or Organization such as the USAID have been working with government of Pakistan to improve the conditions of women in Pakistan. More than 6,000 scholarships have been awarded to young women to receive higher education, health services have been provided to 9.8 million women and children and guidance and help have been given to women in the role of election observers, workshops, teaching and more.

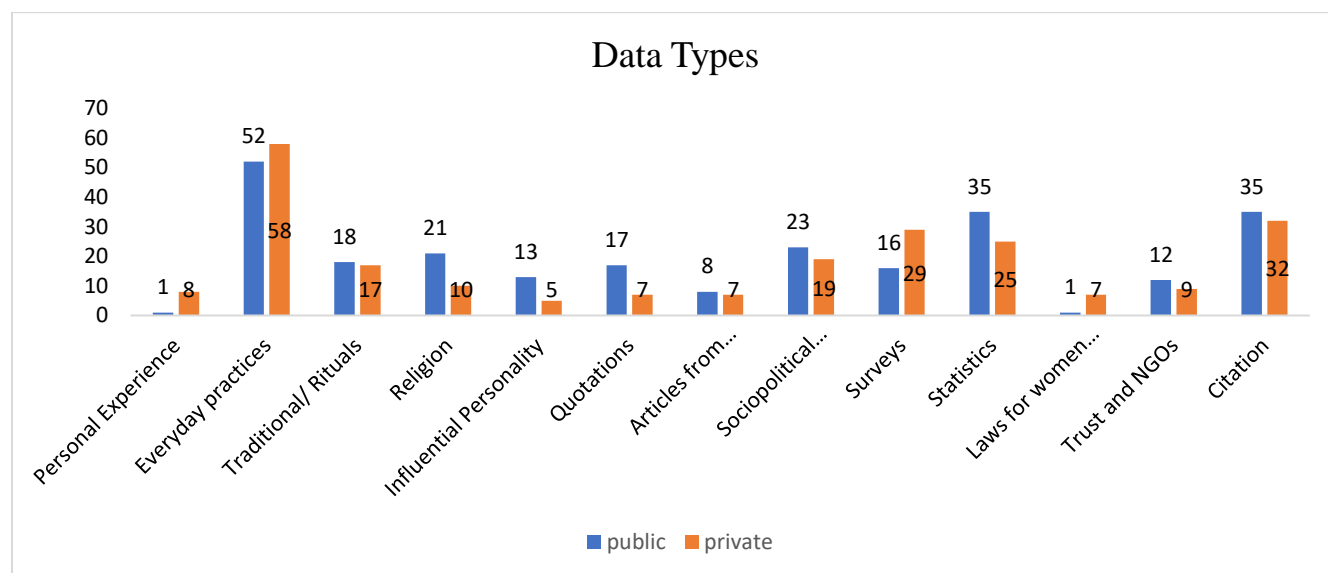
2 (b) What date types were frequently used by students?

In order to investigate the types and numbers of evidence used by the participants, a descriptive

analysis was conducted. The most frequent type of data was the everyday practice (see Fig 1) in both sectors. The least frequent data type in the public sector were personal experience and laws for women's protection. On the other hand, the least frequent data types in private sector essays were quotations from scholars, constitutional articles, and laws for women's protection. Sundari & Febriyanti (2021) also mentioned the types of data used by Indonesian students. The most

frequent types were logical analysis and explanation, and the least frequent were statistics, expert opinion, definition, observation, and experience. According to Qin (2011), Turkish EFL university students often rely on their personal experiences as evidence to support their viewpoints; other forms of evidence, such as research articles, statistics, and citation authorities, are rarely consulted by academics.

Fig 1 Data types Used in the Study



2 (c) Are the evidence adequately cited?

While analyzing data types, it was also revealed that students used a number of citations in argumentative essays. Both private and public sector students used citations to refer to the information they took from different sources, with a minimal difference of 3 %. It can also be interpreted that students were aware of how to cite sources, as there were altogether 67 instances of citation in both private and public sector essays. As opposed to previous studies (Mahmood 2020), our results support the assertion that several English language learners

are unable to properly reference and cite their sources due to a lack of research-based learning at the college level. According to Wallace et al. (1999), this issue is caused by a lack of awareness and excessive filling of details. A significant amount of research and citation assignments are not assigned at the school and college levels in the Pakistani education system. Therefore, students entering universities for research-based degrees need help referencing and correctly citing outside sources. This creates a significant challenge for their academic writing at the higher education level.

Conclusion

The present study was conducted to investigate the elements of Toulmin's Argument model used in private and public sector university students' argumentative essays. The study has shown that private and public sector students used all six elements of the Toulmin element with varying frequency; however, there was comparatively less occurrence of rebuttal claims in students' essays. It also found that students used a variety of data types to support their viewpoints. This has been the first comprehensive attempt to thoroughly investigate the students' ability to state a claim, counterclaim, and rebuttal claims in Pakistan students' argumentative essays. Although the current study is based on a small sample of participants, the findings contribute to the contemporary literature in several ways. The article emphasizes the value of argumentative writing skills to improve students' ability to write logically and rhetorically. Second, ESL teachers could provide some cues or stimuli to help develop rebuttal claims so students are better able to point out logical fallacies, insufficient support, and invalid assumptions. Lastly, ESL teachers at the tertiary level should introduce the Toulmin Model to enhance the quality of students' argumentation skills.

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