

Logical Fallacies in Social Media: A Discourse Analysis in Political Debate

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Abstract—In the light of the growth of social media, information is easily available and accessible. When receiving information, social media users are likely to take information for granted without being aware of flawed arguments. This qualitative descriptive study aims at encouraging social media users to use critical thinking skills to reasonably evaluate the strengths and weaknesses of arguments by highlighting logical fallacies. By employing fallacy taxonomy, fallacious arguments are identified from a transcribed political debate among Indonesian political figures in a forum of discussion Indonesia Lawyers Club – an Indonesian tv program which is available and accessible on YouTube Channel. Four fallacious statements were successfully spotted, namely fallacy by manipulating through language, fallacy by manipulating through emotion appeal of fear, fallacy by manipulating through distraction red herrings, and inductive fallacy through fallacy inconsistencies and contradictions. Discussion is limited to judging fallacy without actually discussing the acceptable counterparts for fallacies listed. The transcribed debate is solely analyzed in terms of the presence of logical fallacies; it is regardless of the stance toward the issue or the overall discussion. Nevertheless, employing fallacy taxonomy as a framework strategy to spot fallacious arguments could be seen as a practical step to bridge the gap in the knowledge of logic. The results of this study can, therefore, be useful for pedagogical implications to do the possible practical steps to alert logical fallacy in everyday life and language teaching and learning as well.

Keywords—logical fallacies, political debate, social media

I. INTRODUCTION

Social media becomes everyone's favorite because they allow information to be readily available and accessible. Social media platforms will enable users to connect and share their thought with other people, exchange ideas, and convey persuasive ideas. Within the pedagogical approach, social media are reported to be useful in the process of teaching and learning. The use of social media is reported increasing critical thinking skills since it allows developing higher-order thinking skills by making judgments on the credibility of sources of information [1]. In the context of English language teaching and learning, many existing studies suggest that developing the ability to think critically remains a concern to be addressed in many existing studies [2][3]. Further, online materials help demonstrate college students' critical thinking skills through the SFL-based design of online materials in the context of EFL [4].

Meanwhile, existing works of literature provide strong evidence that the 21st century is the century of digital literacy, technological advances, multicultural societies, social

networking, and global communication. In response to this matter, recent works of literature have shifted its attention to the demand for 21st-century skills due to the fact that the 21st century has significantly changed all aspects of life, including education. Thus, preparing 21st-century students for a skills-oriented workplace becomes a necessity in today's changing globe [5].

Even though social media benefit a lot in promoting critical thinking, many existing studies also report that social media play significant role in promoting logical fallacies [6][3]. The fallacy remains a broad topic and it has been the primary concern of various studies from different perspectives. In this sense, existing works of literature do not provide a direct definition of fallacy; however, there are several definitions of fallacy provided in several contexts.

In the context of education, fallacy associates with problems of critical thinking skills as the ability to evaluate claims and arguments is a key element of critical thinking skills. In this context, fallacy is a misleading or unsound argument [7]. Meanwhile, fallacy refers to the process of issuing a defective argument intended to support and strengthen a previously issued for purposes of persuasion in the context of political discourse [8]. Taking as an example, straw man fallacy to what is called as fallacious in reasoning is used in political debate. Within the pragmatic context, straw man fallacy is a pragmatic winner as a prestige-gaining device [9]. By using straw man fallacy in argument, a person attacks a position that the opponent does not hold. Hence, straw man fallacy is the type of logical fallacy that is reported to be effectively used in debates. Interestingly, the presence of logical fallacies in reasoning is not widely explored within the context of language learning [10].

Presumably, the presence of logical fallacies in reasoning has not been widely explored in language learning. Thus, it is urgent to address logical fallacies in arguments that can promote critical thinking skills in evaluating claims and arguments. This article highlights logical fallacies that social media users are likely to encounter in social media through a political debate among Indonesian political figures posted on YouTube. Thus, this article aims to alert logical fallacies in the arguments encountered in social media. Pedagogical implications are outlined for providing possible practical steps to alert logical fallacies in everyday life and language teaching and learning as well. In fact, the literature has highlighted a wide fallacy classification, and they are as follows:

II. LITERATURE REVIEW

Fallacies are errors in reasoning, whether deliberate or inadvertent, that weaken an argument and the quality of the statements contained in the argument. Fallacious arguments seem dishonest whether or not the writer intends them to be. Existing works of literature provide strong evidence that the conception of fallacy associates with political discourse. Nowadays, political debates are reported misleading because personal attack, inflammatory language, and emotional demagoguery which do not belong to a democratic country are used in debates [11]. Logical fallacies are tactics that people usually include in their arguments while having a debate with others. When people use fallacies, they are not necessarily related to the content of their speech, but to the methods, people use to argue. In other words, logical fallacies often reside in the strategies people use while arguing. Unfortunately, citizens are not aware of the use of logical fallacy as tactics. Therefore, fallacies are needed to be informed to citizens because a rational, respectful, and democratic environment needs to be reintroduced into the political world [11].

The existing study has examined type of fallacy from political debate in the period of American political history. The study specifically addresses a new type of logical fallacy named *ad socordiam* on an argument in a political debate. Conducted within the American context, the study aims at shedding light on fallacy theory to illustrate the application of fallacy theory [12]. Furthermore, the study turns to an aspect of political debate in a different period of an important historical debate from the early American Republic. The debates are about the history of freedom of speech in the United States within the context of a distinctive feature in American political culture.

Meanwhile, a current study concerning problems of education in the 21st century suggests that one of the prescribed standards of correct argumentation is non-fallacious or good reasoning [13]. The study argues for the claim that a person trained in critical thinking skills starting in their youth will be able to tell a difference between good and bad arguments, and committing fallacies might have destructive consequences for society. The analysis of the study shows that one step leading to the improvement of the education system would be to include critical thinking skills in the teaching and learning process to avoid fallacies.

Despite the fact that the above-mentioned studies have a similarity in which the studies rely on the researchers' judgments when identifying and classifying the fallacies within political discourse, however, not many existing studies up to present have addressed logical fallacy within the Indonesian political setting.

The studies of logical fallacies are still limited. There are only a few studies, predominantly with a focus on the American setting. In the previous research within the Indonesian setting, there is an existing study that has addressed logical fallacies on Indonesian presidential debates produced by a presidential candidate [14]. Unfortunately, the study mostly focused on the number of fallacies committed during the debates and it emphasizes only the frequency of occurrences to figure out the types of fallacies. No further explanation is given to justify whether words, phrases, or sentences contain fallacious arguments.

To fill in the gap, therefore, this present study aims at addressing logical fallacies committed by Indonesian political figures with brief explanations on how to spot and justify whether words, phrases, and sentences contain fallacious arguments by employing fallacy taxonomy as proposed by Mayfield. This study is specifically intended for preparing social media users with the knowledge of logical fallacies. In the end, the results of this study can, therefore, be useful for pedagogical implications to do the possible practical steps to alert logical fallacy in everyday life. In fact, the literature has highlighted a wide fallacy classification, and they are as follows:

A. Fallacy Classification by Hatch

Most of the fallacies are related to logos, but there are fallacies of ethos and pathos as well. Fallacies of ethos or known as ethical fallacies work in two ways [15]. In the first case, a person misuses ethos by misinterpreting his or her authority. An author might try to win the trust of audiences by presenting himself or herself as knowledgeable or trustworthy when in reality he or she is just trying to take advantage of the audiences' trust. In the second case, an author might attack an individual who really is credible in order to destroy that individual's authority.

Fallacies of ethos occur when an author uses emotions to obscure an issue, diverts attention away from the real issue. Particularly in persuasion, emotional play an important role in moving people to act on their convictions. Fallacies of logos are defined as arguments that look rational, fair, and valid, but are not [15]. In this sense, fallacies of logos are also well-known as logical fallacies.

B. Logical Fallacies by Mayfield

The number and variety of logical fallacies are reported to be out of more than 300 kinds of fallacies [11]. And among them, the most popular one that is most frequently used in political debate is *ad hominem*, which means attacking personal issues. However, to make it practical, logical fallacies are classified in a fallacy taxonomy and distinguished into 4 broad categories, namely fallacy manipulating through language, emotions, distraction, and inductive fallacy [16]. The following is the fallacy taxonomy:

TABLE I. FALLACY TAXONOMY

Types of Fallacies	Definition
Manipulating through language 1. Word ambiguity 2. Misleading euphemism 3. Prejudicial language	1. Uses vague or undefined words 2. Hides meaning by creating words which make less acceptable idea seems positive 3. Uses loaded words that convey bias
Manipulating through emotions 1. Appeal to fear 2. Appeal to pity 3. Appeal to false authority 4. Appeal to bandwagon 5. Appeal to prejudice a. Personal attack b. Poisoning the well	1. Seeks to persuade by arousing fear 2. Seeks to persuade by arousing pity 3. Seeks to persuade by citing a fake or inappropriate authority 4. Seeks to persuade by appealing to the wisdom of popular momentum 5. Attacks a person's character on matters irrelevant to the issue

	b. Seeks to prejudice others against a person, group or idea so that their arguments will not be heard on their own merits
Manipulating through distraction 1. Red herring 2. Pointing to another wrong 3. Straw man 4. Circular reasoning	1. Diverts attention to other issues 2. Claims that similar actions went unnoticed unpunished 3. Attacks a minor point in an argument, then claims this maneuver invalidates the whole argument 4. Repeats the same conclusion in different words
Inductive fallacy 1. Hasty generalization 2. Either-or fallacy 3. Questionable statistics 4. Inconsistencies and contradictions 5. Loaded questions 6. False analogy 7. False cause 8. Slippery slope	1. Draws a conclusion from insufficient sampling 2. Asserts there are only two (extreme) choices while actually there are many 3. Presents unknown or unsound statistics 4. Uses claims that contradict one another 5. Uses a biased question 6. Ignores significant differences when comparing two things 7. Presents unreasonable claim of causal connection 8. Presents unwarranted claim that one event would lead to the chain reaction

Table 1. is the fallacy taxonomy employed as a framework strategy to spot fallacious arguments from transcribed political debate. It is used to identify fallacious arguments in this present study. Nonetheless, one thing that is noted in this study is the fact that defining logical fallacies as well as discovering famous people making laughable mistakes is not this present study is aimed at. Rather, the study is limited to the fallacious arguments regardless of the Indonesian political figure's stance toward the issue or the overall discussion. In other words, it is only for the purpose of pedagogical aspects to raise awareness of flawed arguments encountered in social media. Thus, it aims at helping social media users use their critical thinking skills to reasonably evaluate the strengths and weaknesses of arguments, by specifically addressing logical fallacies encountered in arguments posted in social media.

III. METHOD

This study is qualitative descriptive research since the data in this present research are analyzed in the form of description and explanation. Data are in the forms of words, phrases, and clauses that contain logical fallacies. The logical fallacies are identified from a political debate among Indonesian political figures in a forum of discussion Indonesia Lawyers Club an Indonesian tv program which is available and accessible on YouTube Channel. Data, then, are collected from the transcribed political debate. For collecting the data, the length of each topic is calculated by counting the video duration to limit the analysis and make it more focused.

In this present research, arguments from the transcribed political debate are collected, marked by underlying them, and then identified. Then, a conceptual framework of logical

fallacies proposed by Mayfield is employed to figure out the types of logical fallacies encountered in the political debate. The topic discussion of the political discussion is about radicalism entitled "Apa dan Siapa yang Radikal?". However, the focus of this study is limited to the identification of logical fallacy in the statements uttered by the politician regardless of the stance toward the issue or the overall discussion.

The existence of fallacy taxonomy is beneficial in helping to learn about the concept of fallacy and to avoid making fallacious reasoning in the arguments. By understanding types of logical fallacies, pedagogical implications go directly to the awareness on how to evaluate persuasive ideas through critical thinking skills and later would give birth to the practical steps to alert logical fallacies in everyday life.

IV. FINDINGS AND DISCUSSION

This study is successful in identifying fallacious statements in the transcribed political debate among Indonesian political figures. Referring to the classification of logical fallacy proposed by Mayfield, flawed arguments are identified and classified from transcribed political debate. The following are some of the logical fallacies committed by an Indonesian political figure:

A. Findings

1) Fallacy by manipulating through language

"Tetapi perlu dipahami bahwa Negara juga punya aturan. Boleh dong misalnya Negara ingin membuat peraturan bahwa ASN itu boleh celananya sedikit di atas mata kaki. Tapi kalo cingkrangnya sampe 3/4 kan itu **terlalu modis** juga bung Karni. **Aneh** gitu ya kalo pegawai negeri celananya cingkrang sampe 3/4. Kan **gak lucu**. Terus pake sepatu pentofel lagi. Kan keliatannya **gak matching** gitu ya."

Translation

"But it must be understood that the State also has rules. It's possible, for example, the State wants to make a regulation that ASNs can have pants slightly above the ankle. But if they are wearing Capri pants (also known as three-quarter legs) then it's **too fashionable**, bro Karni. **It seems strange** if the civil servants are in Capri pants ¾ in length. **It's not funny**. Then, they are wearing loafers as well. It looks like **it doesn't match**."

The above sentences contain emotive languages such as *terlalu modis*, or *too fashionable* *aneh* or *strange* *gak lucu* or *not funny*, and *gak matching* meaning it is not matching which all of words are not considered neutral.

2) Fallacy by manipulating through emotion

"Yang kedua misalnya temen-temen yang pake cadar, ya saya menghargai bahwa itu hak pribadi. Hak pribadi yang harus kita hormati karena agama. Karena apa namanya imannya kepada agamanya. Tetapi juga perlu dipahami juga bahwa misalnya menjadi ASN, ASN tuh pelayan masyarakat loh, bang Karni. Pelayan masyarakat. Dia harus melayani masyarakat. Nah kalo gak keliatan siapa yang melayani, misalnya begitu, **kan yang dilayani juga takut**. Nah kan ini juga yang jadi problem maka kemudian pemerintah bikin aturan-aturan."

Translation

"Secondly, for example, my friends wearing the veil for covering the face. I appreciate that because of personal rights.

Personal rights that we must respect because it is related to religion. Because of what is called faith in religion. However, it also needs to be understood that, for example, becoming an ASN, ASN is a public servant, bro. Community servants. He must serve the community. So if it does not look like those who serve, for example, **those who are served are also afraid**. Now, this is also the problem. That's why the government makes rules for that matter."

In the fallacy taxonomy, the reason presented by the Indonesian political figure falls into the category of appeal to fear. In the example, the politician tries to win support from a similar group of audience who share the idea that covering the face is something frightening for certain people. The findings appear that the politician seems spreading fear among the audience to finally agree with her.

3) Fallacy by manipulating through distraction

"Kalo semua orang gak pake, harus semua orang gak boleh pake cadar, saya gak setuju. Itu melanggar ranah privat. Gak setuju. Karena Allah saja memberikan pilihan, masa Negara gak memberikan pilihan."

Translation

"If everyone does not use it (veil for covering face), that everyone must not wear the veil; I do not agree on that statement. It violates the private sphere. Do not agree. **Because God alone gives choices, how come the State does not provide choices.**"

In the example given by the politician, the politician tries to draw the debate away by switching the topic through red herring. Rather than engaging on the relevant issue on how such a rule would violate one's private life, the politician redirects the audience that God, himself, provides a free-will to choose for humankind.

4) Inductive fallacy

"Hanya saja karena kita bernegara maka ada aturan Negara yang harus juga kita laksanakan. Gak boleh juga hanya aturan agama saja. Boleh kita pilih. Mau memilih aturan agama maka kemudian carilah jalan agama. Kan begitu. Carilah jalan agama. Seperti misalnya Jalaludin Rumi misalnya."

Translation

"Now it is just that because we are as a nation, **we have State rules that we must also implement. It is also not permissible for only religious rules to be followed. We may choose.** Preferring the rules of religion, then look for religious paths. That's the way. Look for religious paths."

In the fallacy taxonomy, the bold statements lead to fallacy inconsistencies and contradictions. At first, it appears that the politician suggests there are rules made by county and religion in which both are needed to be disciplined by citizens. Then, the politician leads the audience that it is not allowed to discipline rules in religion only, over the rules in country. However, in the final statement, the politician states that the citizens are allowed to choose one between the two by taking a famous religion-related figure who prefers religious path as an example

B. Discussion

The purpose of this qualitative descriptive research is to describe as well as to explain fallacy taxonomy with a particular focus on Indonesian political discourse. The goal is

to collect factual evidence and information that gives social media users insights into the knowledge of logical fallacies. Therefore, the discussion is limited to judging fallacy if a statement is fallacious or not without actually discussing the acceptable counterparts for fallacies listed.

The transcribed debate of Indonesian political figures involved in the data collection is solely analyzed in terms of the presence of logical fallacies; it is regardless of the stance toward the issue or the overall discussion. Thus, data which are in the form of words, phrases, and clauses containing logical fallacies are analyzed in the form of description and explanation.

As a starting point of discussion, existing studies have provided some of the definitions on the concept of fallacies in which sometimes they are overlapped. However, it is vital to gather a serious definition to construct the definition of fallacy. Fallacies are errors in reasoning which could be used to deceive which are known to have a psychological dimension in the pattern of illusions and deceptions [17][18]. Within this concept, existing works of literature provide strong evidence that the conception of fallacy associates with political discourse. In a more depth conception, fallacies are tactics that people usually included in their arguments while having a debate with others [11]. However, when people use fallacies, they are not necessarily related to the content of their speech, but to the methods, people use to argue. In other words, logical fallacies often reside in the strategies people use while arguing. This is in a similar vein with the results of this present study. In this case, the Indonesian political figure seems leading on the audience by using logical fallacies in her arguments as methods that are used to argue.

In general, a distinction is made within the concept of fallacy: formal fallacy and informal fallacy [19]. In this sense, there are two basic types of fallacies. Formal fallacies are invalid arguments due to mistakes in the reasoning or the logic occurring independently from the actual content of the arguments. In other words, formal fallacies are simply invalid or unjustified deductions or conclusions; meanwhile, informal fallacies are invalid arguments due to mistakes in reasoning that are related to the content of the argument. In this present research, the arguments are regarded as flawed arguments by identifying the content of the arguments. Hence, the logical fallacies committed by an Indonesian political figure fall into informal fallacy known as mistakes in reasoning related to the content of arguments.

Within informal fallacy, the mistakes in reasoning are reported whether it is intentional or unintentional [20]. In this case, the mistakes in reasoning are intentional when the authors deliberately intend to mislead their audiences and manipulate the language used for the purpose of creating a certain response. On the other hand, the mistakes in reasoning are regarded as unintentional when the authors do not realize that their arguments are flawed. In this sense, this present study, unfortunately, does not go any further to identify whether the mistakes in reasoning are committed in an intentional or unintentional way. This present study is limited to figuring out the fallacious statements committed by an Indonesian political figure for the purpose of gaining the knowledge of fallacy to prevent from making mistakes in reasoning.

By employing Mayfield fallacy taxonomy model, this present study is successful in identifying four fallacious reasoning in the arguments committed by an Indonesian political figure. The logical fallacies committed are fallacy by manipulating through language, fallacy by manipulating through emotion appeal of fear, fallacy by manipulating through distraction red herrings, and inductive fallacy through fallacy inconsistencies and contradictions. The fact that there are only four types of logical fallacy successfully identified, it is believed due to limited duration that is focused. In this study, the duration of the video is taken only for about 10 minutes from minute 48: 35 to minute 58: 53. Had it more time allocated, more fallacious statements eventually were able to be spotted.

Ultimately, the results of the present study suggest that an Indonesian political figure still commits logical fallacies. As the existing literature suggests, the mistake in reasoning committed by the Indonesian political figure might be intentional or unintentional. In political discourse, logical fallacies seem to be used as tactics in debate. Nevertheless, to figure out whether logical fallacies are committed intentional or unintentional, further researches, therefore, are needed to be conducted to reveal the findings in a more in-depth study. In the end, the existence of fallacy taxonomy is beneficial in helping to learn about the concept of fallacy and to avoid making fallacious reasoning in the argument. Once social media users are well-equipped with a solid knowledge of logical fallacies, then, they are able to reasonably evaluate the strength and weaknesses of arguments by using their critical thinking skills when receiving information.

V. CONCLUSION AND SUGGESTION

This present study provides information on the notion of logical fallacies in argument within political discourse. As used in this sense, the word "argument" means not a quarrel as when people get into an argument. Instead, the argument is a piece of reasoning in which one or more statements are offered as support for some other statements. Therefore, introducing fallacy taxonomy by observing examples of the sentences containing logical fallacies produced by an Indonesian political figure could be seen as a practical step to bridge the gap in the knowledge of logic.

The understanding of logical fallacies would help social media users to be more critical in giving judgment on somebody else's statements. In the end, the results of this study can, therefore, be useful for pedagogical implications to do the possible practical steps to alert logical fallacy in everyday life and language teaching and learning as well. As for pedagogical aspects, students would be made aware of several categories of logical fallacies so that they are able to produce sound reasoning in their arguments. As a final thought, the results suggest that educators should be more concerned in helping students to produce sound reasoning in their arguments rather than just focusing on the label to the fallacious statements.

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