

HOW DIFFICULT IS CLAIMING KNOWLEDGE? A STUDY FROM COGNITIVE DOMAIN PERSPECTIVE IN WRITING INTERNATIONAL SCIENTIFIC ARTICLE

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ABSTRACT

This research examined and elaborated the challenges in claiming knowledge faced by students relating to writing in the international scientific article in English. The participants were 20 English master students from one of the universities in Indonesia. The researchers used a questionnaire to find out the coverage level of the difficulties regarding knowledge claim in writing for publication. The researchers also chose purposive sampling technique because the chosen respondents had the adequate experience in writing international scientific article. The researchers find that knowledge explication that considers the writer to use complex thinking is the most difficult stage of thinking in writing the international scientific article. Surprisingly, knowledge analysis is the easiest one for the participants. Despite this, the researchers hope that the findings lead to useful insight into how the students claim the knowledge well. Eventually, discovering the exact method to improve students' competency in claiming knowledge will be the further study.

Keywords: *claiming knowledge, cognitive perspective, international scientific article*

INTRODUCTION

Flower and Hayes in Manchón (2009) has stated that writing is a cyclical cognitive activity in which the writers formulate the ideas into language and transcribing the idea into writing. As a thinking process, the writer can draw the concept of writing and then can give unlimited revisions before the writer publish the work (Brown, 1994). Thus, it leads to a paradigm that if the writers write well, they need to know what they are talking about without underestimating knowledge in writing. It means that in writing, the writers bring knowledge into being, and they record and preserve it. However, in term of high-level education, many people argue that students' and scholars' mind look like an empty bucket to be filled by many sources of knowledge such as books, articles, lecturers, and tutorials that will support them in their writing process. Agreeing with this surrounding, undeniably, students in tertiary education are required to construct the idea from the expert's perspective in their writing. However, they are not considered as the expert on the related topic because of their high quality of writing (Tardy, 2010). It is important to realize that the students or the writers, in this case, need to learn and to write to make the good article. The students must be aware at the

outset in particular fields of knowledge that they have never studied before, they can bring certain method. It is usually mentioned as preconceptions, prejudices, a certain amount of disjointed knowledge, and a certain facility (Taylor, 2009).

Writing for publication becomes a prominent academic work in higher education which can be assumed from Ware in Lilis and Curry (2010). It is stated that academic writing for research publication takes place around the globe, involving 5,5 million scholars, 2,000 publishers, and 17,500 research/higher education institutions. Many graduate students try writing process to complete the paper assignment, write for an international conference, or prepare a manuscript to publish in the reputable journal as the requirement of study. In language education, writing for publication can be seen as a good way to gain the professionalism in the competitive world. Casanave and Vandrick (2008) have argued that writing international scientific article becomes a critical issue for those in language education. It is becoming the inevitable corollary of the apparent purpose of securing and keeping an academic position. Moreover, researching and writing about the related topic in teaching area lead to the increase of professional and intellectual academics to share their

knowledge. They probably become better practitioners in the process of critical thinking in writing.

Additionally, writing for publication is not considered as the easy project for students in a college. In another word, there are many challenges in the writing process. Collins (2015) has summarized that the most common barriers for graduate students in writing for an article. It includes lacking adequate training for writing, having the concept of writing is not for me, feeling like they do not have adequate knowledge, mismanaging the time, allowing the others to involve in their project, and discounting the origin of writing. However, it is difficult for faculty to support or give the necessary attention to all students to develop their writing skill. Roberts (2016) has stated that to make writing for publication becomes easier, it is started by getting a draft and continued by putting anything down, developing the idea, revising, and refining. This case seems highly possible to be concerned for the writer. Zhu as cited in Jiang, Borg, and Borg (2017) have found that many Chinese scholars prioritize publications in the international journal as the current trend. The scholars in Indonesia should follow this trend too.

Rathert and Okan (2015) have agreed that writing for publication is not only for teacher learning but it also could improve the quality of teaching in the classroom and inform research. However, writing for publication is rather challenging for relevant parties. Salager-Meyer (2014) has explained that the teacher in this case as the researchers face the difficulty in writing academically. They conduct valid and reliable research on the basis of international publication for the loose of sense in writing communicatively. Then, the teachers sometimes avoided taking up writing due to unfavorable working conditions.

Next, Borg as cited in Rathert and Okan (2015) has assumed that writing for the international scientific article is not regarded as a core duty of teachers. Additionally, the psychological distance between teachers and research might be based on teachers' concerns that research is potentially parasitical. The researchers often believe in serving their needs by exploiting the teachers' contexts (Cochran-Smith & Lytle in Rathert & Okan, 2015). The exclusion of teachers from participation in educational discourse is often promoted institutionally to prevent them from raising their voices in decision-making processes beyond the classroom (Perrillo in Rathert & Okan, 2015). For the most part, these are categorized as the problem appearing from teachers' paradigm.

Therefore, Salager-Meyer (2008) has analyzed the main problems that are faced by most peripheral journals and national role states in scientific activities in developing countries. The challenges involve the discursive (language related) and non-discursive problems that are faced by peripheral researchers. She finds that non-native writers are rejected in the elite journal because their weaknesses in using English, providing their argument, and lacking facilities such as internet connection. Moreover, Flowerdew (1999) in Hongkong finds that there are many difficulties faced by Chinese students in writing for international publication. One of the difficulties is the way to claim knowledge. The point could be noted from the research is the possible alternative to claim knowledge easily. The other research is Karimnia (2013) who explores the researchers of TEFL in Iranian universities. It is found that they face the difficulty in embedding the knowledge, describing their work accurately, and arranging their claim effectively due to problems with vocabulary.

Comparing to these researches, the similarity of this research is it investigates the difficulties that are faced by the non-native writer in writing the international scientific article. One of the difficulties is how the participants use their knowledge in writing. However, the focus is different. This current investigation uses five stage of the cognitive domain. Meanwhile, the previous researches focus on language, discourse organization, and vocabulary.

Another perspective about claiming knowledge should be discussed from Byers (2016). He has argued that there is undeniably a relevant concept for cognitive development. It could be gained through a critical appraisal of a particular way of conceptualizing or characterizing (exemplified by the above question) as a tool for scientific inquiry. Furthermore, he adds that claiming knowledge is what a person is known about the use of various forms of the verb 'know' (as well as related verbs such as to understand, to be aware, etc.) accompanied by a propositional expression of what is known. He offers the study of claiming knowledge of children's to the cognitive development. He attempts to characterize the children's knowledge regarding claiming knowledge. It is repeatedly invalidated by children's inconsistently normative uses of counting. The children attempt to infer the hidden structural or generative basis for behavior such as the underlying conceptual structures that guide children's use of numbers and counting. This is in line with a cognitivist goal of going inside the black box and inferring the hidden mechanisms of thought and behavior.

Moreover, characterizing children's knowledge regarding propositional knowledge claims such as propositional statements involve the verbs 'know' or 'understand'. For example, she knows the meaning of number three. Propositional claiming knowledge is commonly made in everyday life, and might also be found in psychological research. Elsewhere, it has been claimed that these approaches commit a sort of category error insofar they conflate descriptions of developmental processes. Then, he argues that claiming the descriptions of capacities have been misapplied as descriptions of knowledge in the form of internal representations (Byers, 2016).

Furthermore, in claiming knowledge in design, Beck and Stolterman (2016) have discussed the possibility that it might be an effective way to distinguish the design discipline from other disciplines. It compares the kinds of claiming knowledge that is made in journal publications from the natural sciences, social sciences, and design. In this context, it can be distinguished as an intellectual culture by its object of study. For instance, the natural sciences learn the natural world, the social sciences learn the social world, and design research learns the artificial world. Studying the artificial world can be meant learning the way designers think about possible futures and designed artifacts or theorizing the design process or other topics.

Studying these topics necessarily requires a repertoire of research. Each approach potentially produces different kinds of knowledge. It can be seen that this repertoire manifests in the variety of research backgrounds and training in the design discipline that is likely to possess. A shortlist of backgrounds can include the cognitive science, linguistics, management science, design, and the humanities. These backgrounds can potentially lead to research that produces different kinds of knowledge. For instance, a cognitive scientist likely produces factual knowledge that can be shown to be true or false. Meanwhile, humanities scholars may produce value knowledge, which cannot be proven true or false. Another way to distinguish an intellectual culture

may be to look at one of the products of its inquiry, claiming knowledge.

Linking between making knowledge and second language, Matsuda and Silva (2005) have shown an example of meta-disciplinary historiography. It is based on careful and critical processes collection, corroboration, and interpretation of historical data. Then, during formative years of second language studies and its constituent fields, a number of scholars make serious attempts to take stock of the past to understand the present and consider the directions for the future. Then, there is the argument that social scientific research method is the dominant mode of knowledge making. Christopher (2016) has shown the wider context of claiming knowledge which could be seen at narrative research in education. He argues that it is commonly administered in research methodology. In narrative research, researchers capture the testimony of the participants relating to several topics. As an illustration, researchers explore the opinion from participants about how they feel about teaching. Such testimony in narrative educational research commonly relies on teachers. They provide explanations of how their background, knowledge, and expertise have shaped them to teach in the manner in which they do teach.

Relating to claiming knowledge, Bereiter and Scardamalia as cited in McNif (2015) have summarized that in writing for publication, the writer should use the cognitive domain as an extended model in claiming knowledge. There are five models appeared. First, knowledge telling refers to the description of the author regarding what she/he has been done in work. Second, knowledge transformation is when the author considers how the message of the study is transferred and shared with the reader communicatively. Third, knowledge analysis means the author has to reflect critically on the knowledge that they embed on the research. What they write has to be considered in a communicative way. Fourth, in knowledge synthesis, the author has to explain their work communicatively so the readers could understand it. Fifth, knowledge explication is considered as complex thinking. The author has to elaborate the work in detail and conclude the theory that they adopt from practice critically.

Based on several previous types of research, the gap is the previous investigation on the writers or participants' skill in claiming knowledge in writing the article is in a general way. To fulfill the gap, the researchers will investigate it by using the cognitive domain perspective to explore the participants' problems. Then, to conduct this research, the researchers figure out some university students that have an academic work to write the international scientific article. Thus, the researchers choose 20 university students who have special characteristic from English master degree in one of the universities in Indonesia. It is to find out the level of difficulty of claiming knowledge in writing the international scientific article. Then, to reach the objective of this research, the researchers formulate the research question. It is how difficult "claiming knowledge" is in writing for the international scientific article based on cognitive domain perspective.

METHODS

The purpose of this research is to identify the level of difficulty faced by university students at claiming knowledge in writing the international scientific article.

It is examined by using cognitive domain perspective of students. The concern of this research does not only figure out the problem in particular section of research but also examines the difficulty in claiming knowledge on the general part of an academic article.

This research uses quantitative approach by counting the mean of difficulty options from each indicator. It aims to find out the level of difficulty. The participants involved are 20 university students (14 females and 6 males) from one of the universities in Indonesia. All participants are students of English master degree who have the assignment to write the international scientific article in an academic writing class. They are chosen by using purposive sampling since they have particular characteristics such as educational background. The most considerable thing is their experience in facing the process of writing an international article that is suitable for this research. Based on the surrounding, they are highly considered as the representative of the Indonesian university students of master degree level.

Moreover, a closed-ended questionnaire is considered as the best technique to find out the difficulty level of this research. It provides several questions and options. According to Fraenkel and Wallen (2009), this technique allows participants to select the answer from a number of options. Therefore, it is easy to use, score, and code to analyze. The questionnaire is self-constructed by considering the questions from research by Azizah and Budiman (2017). The questionnaire consists of 10 questions classified from five indicators of cognitive domain perspective. Then, it is categorized on three levels: not difficult, moderately difficult, and strongly difficult. The questionnaire is distributed using google form. Ary et al. (2010) have stated that questionnaire is constructed and placed on the website to allow the respondents to answer the questions and submit it easily. This way is considered as an effective and efficient technique since the researcher and respondents are not necessary to meet face to face. Then, literature triangulation is used in analyzing the findings. Thus, some theories are involved in the discussion.

RESULTS AND DISCUSSIONS

The questionnaires are distributed to the students to figure out the level of difficulty at claiming knowledge based on cognitive domain perspective in writing for the international scientific article. After the data are collected, it shows the percentage. Then, mean of the difficulty level is displayed as the benchmark of describing the data. The result is in Table 1.

Table 1 Percentage of Students' Responses on Difficulty Level

Statements	Not Difficult	Moderately Difficult	Strongly Difficult
Sometimes I am confused to draw the concept of my research.	15,8	15,8	68,4
I often get difficulty to explain what I have done in my research.	0	36,8	63,2

Table 1 Percentage of Students' Responses on Difficulty Level (Continued)

Statements	Not Difficult	Moderately Difficult	Strongly Difficult
I find it is difficult to convey my perspective from other related articles.	10,5	36,8	52,7
I do not find the proper way to convey the idea to the reader.	0	63,2	36,8
I find that it is difficult to give my critical thinking in my writing.	15,8	26,3	57,9
I argue that it is hard to put my knowledge communicatively in my writing.	5,3	52,6	42,1
I find it is difficult to conclude some related articles.	0	57,9	42,1
I think that the process of summing up the related article is not easy to explain in communicative way.	0	31,6	68,4
I find that it is difficult to explain my perspective toward theory in detail.	5,3	10,5	84,2
It is difficult to think and comment critically the theory I want to embed in my research.	10,5	15,8	73,7
Mean	6,32	34,73	58,95

It is revealed that 68,4% participants agree that statement 1 is strongly difficult. The students find the difficulty in drawing the concept of research. Similarly, statement 2 remains the same as statement 1. It reveals that explaining what students have done in research is strongly difficult that reaches 63,2%. Moreover, statement 3 follows the previous statement that 52,7% of students feel it is strongly difficult to convey their perspective from other related articles. Meanwhile, statement 4 is categorized as the moderately difficult level with 63,2% of participants choose this difficulty level to convey the idea to the readers. It seems to have a different perspective on the previous statement. In statement 5, it shows that students feel it is not easy to give critical thinking in writing with 57,9% of students choose strongly difficult.

In statement 6, the students agree that putting the knowledge communicatively in writing is not too difficult. It can be seen that the highest rate of 52,6% is at the level of moderately difficult. Moreover, it shows that percentage of moderately difficult increases slightly by 5,3% in statement 7 with 57,9% of students agree that concluding some related articles is not a considerable problem in writing. Next, statement 8 is categorized as the strongly difficult level by

students. They have the problem in explaining the conclusion of related articles in a communicative way. Then, it can be seen that the highest peak is at strongly difficult with 84,2%. The students agree that explaining a theory based on their perspective is highly difficult. Statement 10 is classified as the strongly difficult level. The students find it is really hard to comment critically the theory they want to embed in the writing. It reaches 73,7%.

Table 2 shows the conclusions of 10 statements from Table 1. Each question is combined, and the mean is counted. It can be seen that statement 1 and statement 2 are categorized as the first indicator in cognitive domain perspective, namely knowledge telling. Meanwhile, statement 3 and statement 4 are categorized as the second indicator or knowledge transformation. Then, it is sequentially from statement 5 to statement 10.

Table 2 Percentage of Difficulty from Cognitive Domain Perspective

Domains	Not Difficult	Moderately Difficult	Strongly Difficult
Knowledge telling	7,9	26,3	65,8
Knowledge transformation	5,25	50	44,75
Knowledge analysis	10,55	39,45	50
Knowledge synthesis	0	44,75	55,25
Knowledge explication	7,9	13,15	78,95
Mean	6,32	34,73	58,95

Overall, based on the data, it can be assumed that English master degree students face the difficulty in claiming knowledge based on cognitive domain perspective. It is the highest level. To claim knowledge in their work, it can be classified as the strongly difficult process. Beck and Stolterman (2016) have concluded that the difficulty of making the knowledge claim could be considered from several aspects. Those are the social construction, the status, and the relationship between claiming knowledge within and across disciplines. Meanwhile, Parkinson (2011) has examined that particularly claiming knowledge in the discussion section in an article could be argued and proven by using the lexico-grammar. The writers' role in the discussion section is embedding the data, method, and reference argumentatively to construct knowledge. Therefore, prominent features in such argument are the expression of causal, conditional and purposive meaning, ways of asserting proof, and mental and verbal processes. It allows readers' insight into the thought processes of the author or directs the reader's thoughts.

Claiming knowledge as socially designed has a rich history in the sociology of science. Because of this, claiming knowledge in an article must be readable by the readers worldwide. This is why the researchers need to consider the using of language as Bloch (2003) has argued that the use of evaluative language in scientific discourse is the effective way to make the reader of an article in an interaction indirectly. However, there may be a tendency to think of claiming knowledge in a given publication as designed by the researchers mentioned. The discussion about knowledge claims as having high or low status means that individual authors do not determine the status of their claims. Colleagues and peers decide whether the claims

are acceptable, and these acceptable claims are significant. Moreover, claiming knowledge builds on or around other claiming knowledge. The researcher's concern that new scientific theories must have greater explanatory power than its predecessor theory. In this sense, new scientific theories are better than its predecessors because it has greater explanatory power. However, it is apparent that the same criteria do not apply for horizontal knowledge growth. In horizontal knowledge structures, new additions can complement existing knowledge claims, or they can forge new ground.

CONCLUSIONS

The current issue of writing for publication leads to an obligation for the academics to write international scientific article intensively. It aims to increase the academic position and status that is necessitated in the education. From this research, it is found that claiming knowledge has the high level of difficulty. It is concluded that claiming knowledge still becomes a challenge faced by English master degree students. After exploring the issue of claiming knowledge, it can be assumed that it involves many subjects of the field. In another word, it is considered as the important part of multidisciplinary since it will affect the result of particular research in which every writer must embed their knowledge.

However, it should be understood that knowledge as something that must be created and renewed through interaction with physical objects, a communicative act with other actors or artifacts representing knowledge, or reflective accomplishments in one's mind. The latter may also be characterized as a communication process where ego enters into dialogue through the act of taking on the role of a generalized alters towards her/him. Accordingly, the readers are expected to be more skilled to claim knowledge in the research since it is a crucial part to meet a communicative text/passage scientifically.

This research implies particular suggestion that can be conducted for education designer in Indonesia. It suggests that between teachers and students who are categorized as the researchers in higher education must pay attention to several important aspects of writing for publication to have the reputable article. This shows that the high written quality can support the academic status. Moreover, it will be more useful if students are given certain guidelines to write the proper article. Eventually, discovering the proper method to develop students' ability in claiming knowledge will be the further study.

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