

Constituent Characteristics Of Academic Research Writing: A Literature Survey

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Abstract

Academic research writing (ARW) continues to be at the center of teaching and learning in higher education institutions (HEI's). However HEIs lack in commitment towards preparing novice postgraduate students an academic writing, although at the postgraduate level research writing is a requirement for successful graduation of students. In the effort to contributing to solving this problem, a research is currently conducted and this paper reports a part of the research project by highlighting the constituent characteristics of academic research writing that essentially need to be considered while training and preparing novice researchers (NRs) to become members of the academic research community. The constituent characteristics were identified through an extensive structured literature review. This paper concludes that due consideration should be given to the constituent characteristics of academic research writing while preparing curriculum with the purpose of training NRs and addressing their anxiety to establish their identity as members of academic research communities.

Keywords: Academic research writing, constituent characteristics

1.0 Introduction

The phrase Academic Research Writing (ARW) is composed of three components, academic, research and writing. The first two of these words carries heavy connotations. The word academic indicates to the literate practices of generating and producing scientific knowledge. The word, research, indicates to the process of systematically collecting and analyzing data on a specific topic, where the researcher is involved in the process of examining, comparing, and contrasting literature in the field with the results procured out of the data collected on that specific topic.

Writing is a unique cognitive process. Thorough writing, writers attempt to develop knowledge, and express their messages to the audience. While trying to express meaning, they not only translate their own knowledge, but also they choose correct language and structure for writing. Writing ability depends mainly on the imagination and creativity of writers in transforming the knowledge to readable form of language (Linda Flower and John R. Hayes, 1981).

The academic research writing is “a crucial instrument for collaborative knowledge creation” (Lonka et al., 2014, p. 246) to the academic research community. This study aims on

identifying constituent characteristics of ARW, which any writer, especially the novice researchers (NRs) need to master. Different studies have identified various types of such characteristics related to writing form and structures, for example, context, content, language, and writing structure, academic discourse communities and knowledge transforming. Linda Flower and John R. Hayes (1981), for instance, propose writing as involving three main elements, which are: the task environment, the writers' long-term memory and the writing process. NRs therefore need to utilize the form and functions related to constituent characteristics of academic research writing communicating their ideas and while engaged in the cognitive process of writing. After an in-depth review on available literature, authors conclude that the constituent characteristics of academic research writing lies on four main elements, which is general writing skills, discursive writing skills, formal/technical writing skills and writing in English. These elements were analyzed as most accurate as constituent characteristics of academic research writing. Further discussion therefore focus on these characteristics that should be implemented in the process of learning to be scholars.

2.0 Literature Review

This study, based on the available literature, attempts to appraise constituent characteristics of academic writing. First it summarizes the conclusions researchers made after reviewing the relevant literature. They arranged accordingly to the characteristics such namely context, content, language, writing structure, academic discourse communities and knowledge transforming.

2.1 Context

Writing context refers to subject of the study or circumstances surrounding any writing situations, with regards the purpose of writing within academic discourse community. The audience are scholars. Academically, scholars will conceptualize discussions within the conventions of the particular field. Hence, NR need to understand the specific context academic discourse to ensure that they make advancement of knowledge and meet needs of audience, and thereby they ought to have clarity on the purpose of writing.

2.2 Content

In academic research writing, the content involving literature review and/or empirical research is distinguished from other types of writing by its application of critical thinking, scholarly references, adoption of particular styles of formatting, and the process of writing which underpins communication and development of ideas (Björk, & Räisänen, 1997). Additionally, it also goes through peer reviews and continuous revision process to ensure the validity of what has been written and develop a strong argument with robust conceptual analysis (Lassig and Lincoln, 2009).

In content aspect of academic research writing, certain regulations should be taken into consideration. Being innovative and original in developing the writing content is one of them. Completeness and thoroughness in what is being written is another characteristic from the angle of the article content (Zhang, 2014). The paper should not lag into additional ideas and knowledge which are not supposed to be included in the current research work. It will make a negative impression in readers that the writer lacks focus in what he is writing. Moreover, sufficient details on the already mentioned

concepts cannot be discussed once further. Hence, instead of providing extra information in the content, the author should establish the mentioned ideas with supporting data.

Furthermore, while developing content, writers should be cognizant of the normative functions of research writing i.e., accomplishing an epistemic role involving the construction and transformation of knowledge (Bereiter & Scardamalia, 1987; Galbraith, 1999). In this respect, the paper can be regarded as contribution to a particular field (Overholser, 2011). Contribution, which is also to be considered as an element of article content, refers to an idea that the research work helps by any means in advancing the existing knowledge in the field.

Integration of versatile ideas within the same domain should be also considered as among the regulations in developing the content (Halpern et al. 1998). It brings audience a clear picture of different dimensions and current discussion trends in the knowledge field. It thus helps readers connect their existing knowledge to a variety of angles with which they may not be familiar. With regards to the author, such integration would be helpful in the cognitive process of his academic writing whereby he has to do analysis of the present knowledge by distinguishing, categorising and comparing them followed by a proper assessment and comprehensive conclusion. This cognitive process is proposed by Butler (2006) while contending on argumentative writing in academic field. To him writers with cognitive burden feel they do not get ideas to connect and get their work moving; they are unable to transform knowledge by coming up with different concepts and thoughts. The dissemination of scientific information will occur once the ideas are interlinked and thus the content is properly referred to future thoughts and speech.

2.3 Language And Writing Structure

Studies conducted by Cherkashin et al. (2009) and Jaroongkhongdach et al. (2012) have identified language as a major area of problem faced by novice researchers. In the case of postgraduate students using English as second language, it has been seen that they are unable to get along with proper language conventions in their writing (Haas, 2011).

With regards to the language barriers for the post graduate students, academic English writing has been observed as one of the most problematic things in their life (Zubaidi, 2012). Once they feel difficult in writing and expressing their views through a comprehensive medium of language, it is almost impossible to have a trend of knowledge construction which is one of the constituent characteristics of scholarly writing. The process of constructing knowledge needs a deep cognitive action, which is difficult to acquire especially for novice writers (Smith and Deane, 2014). If the cognitive action does not take place due to the lack of enough language skills, it is even hard to review one's paper using critical mind.

The significance of expertise in linguistic aspects should not be underestimated (cf. Benfield, 2007; Benfield and Feak, 2006; Coates et al., 2002; Hewings, 2006; Langdon-Neuner, 2006; Man et al., 2004). Ferguson (2007) asserts that for some scholars who are well-versed with different languages, linguistic dimensions comprise an additional hindrance to negotiate on the way to academic publication. Among the problems, the relationship between poor linguistic skills and high paper rejection rate prevail often. Coates *et al.* (2002), for instance, clearly show that papers written in poor language mostly correlate with big chances of rejection and that, even though a lot of

other factors could influence the rejection of an article, chances for the paper, written poorly, to be accepted also go on par with those factors. For the purpose of academic writing, it thus takes time and is much expensive to learn how to read and write in English to a high level (Benfield and Howard, 2000; Ferguson, 2007; Vasconcelos, 2006). However, the structural aspects should not be considered as same with content.

2.3 Structural Elements

Following the language rules, awareness of the structural aspects of the writing task is important for NRs as it reflects on the feedback form the readers. Poor placement of the content without following the structural pattern might confuse the readers. That is to say, even though the content is worth, lack of structural uniqueness will cause audience to reject the whole work. Chances for misinterpreting the content, and leading the readers away from the intended target are also high once the structure is lost (Shah *et al.*, 2009). It is the structure through which the coherence and cohesion of a paper could be created; the flow of ideas, writers' specific intentions in relating these ideas, the sentential and ideational connection within the text and overall organization of a text into a recognisable flow depend upon the writing structure followed by an author (Butler, 2009). NRs face difficulties in making a distinction between content and structure, which according to Shah, Shah, and Pietrobon (2009) is critical for academic research writers. A well-structured research article help dissemination of scientific information, whereas the content and interpretation assist readers to make decisions. Studies conducted by Cherkashin *et al.* (2009) and Jaroongkhongdach *et al.* (2012) have identified language and writing structure as a major area of problem faced by novice researchers. Problem of the deficit in writing structure has been identified by Min *et al.* (n.d.) while they studied some of the common issues and mistakes related to academic writing practices of Malaysian NRs by analyzing postgraduate students' manuscripts. They found that many new researchers admittedly lack research writing awareness, and when it comes to structuring their papers into a journal manuscript format, most of the them make mistakes in developing abstract, introductory part, and reference. For instance, as they found, most of the abstracts were poorly structured without including the needed information in order to have an awareness, coherence, justification and clarity in writing. Some of the researchers did not come up with any justification by mentioning the study background, while others were not properly aware of coherence and clarity, as they could neither introduce their research well nor conclude it in a specific format and structure. The finding implies that improvement in academic writing practices of postgraduate students identifying all of its characteristics including structure dimensions is a need of time in academia.

2.5 Academic Discourse Communities

Academic discourse communities is a group that have goals and use communication to achieve this goals. The group involves experts who engage in the process of filtering information for dissemination whether the information should be disseminated through publication, internet and other mode of communication. Academic writing mainly focused on the abilities of writers in communicating their ideas and findings accurately and effectively according to readers expectations that will be cited by others and would serve as a future reference to others.

2.6 Knowledge Transforming

Construction and transformation of knowledge are regarded as among the general yet fundamental constituents of academic writing (Bereiter & Scardamalia, 1987; Galbraith, 1999). Prior to starting to write a journal article, the author should be concerned about 'interactive knowledge construction' -an action referred to the accumulation of all available data that leads to transformation of knowledge rather than re-telling or reproducing it (Schnotz and Pass, 2009). It is worth noting that construction of knowledge in an interactive manner is a primary step to the transforming process. It is a difficult when it comes to a continuous attempt to gather available data for the purpose of writing, for the cognitive load which is used for this particular endeavour is in increase.

The main fact that distinguishes a novice researcher from those experienced is that the former might be aware of writing in his own styles but he may have only the skills of reproducing or retelling the knowledge. That is to say, the skills for creating and transforming knowledge are to be nurtured eventually in order for NRs to excel in academia.

3.0 Writing Models

In this section, a review of the structure of writing models framework proposed by Linda Flower and John R. Hayes, (1981) is done. From this review, writers found that the cognitive process model proposed is related to the elements of constituent characteristics of academic research writing mentioned above.

Lloyd Bitzer as cited by Flower and Hayes (1981), urges that writing instructors aim answering the rhetorical problems faced by NR and writers. Writing instructors should NRs' exigency or demands of NRs in translating knowledge to be delivered to the targeted audience. While, James Britton considers writing as abilities of choosing lexically correct form and ability of writers in synthesizing the information to the readable forms.

3.1 The Task Environment

The first elements discussed by Flower and Hayes (1981) is task environment, which includes the rhetorical problem the writers face, that urge them to produce a written text in addressing audience needs. The rhetorical problems, besides addressing the targeted audience and the knowledge on a specific topic, also depends on the purpose of writing or writers own goals to achieve the intended outcomes. Writers own goals, can only be solve if the writers able to interpret their rhetorical ideas accurately. If the writers unable to interpret the rhetorical problem, Flower and Hayes (1981) believe that the writers will not able to produce the end-product.

Other than rhetorical problems, Flower and Hayes (1981)believe that the text produce are effected by the abilities of writers in choosing the appropriate words in expressing the content of the paper and the topic sentences to ensure that content knowledge were transcribe in a readable form to the discourse communities. Apart from that, the long-term knowledge and writers plan in addressing the rhetorical problems will also effect the improvement of produced text. The deficiency in choosing proper text to translate their knowledge gives an impact on the production of quality writing.

3.2 The Writer's Long-Term Memory

This study mentioned that the writers long term memory as knowledge or understanding of the writers about the situated-context of academic research writing, it includes the knowledge of topic and audience, writing plans in addressing the rhetorical problem and problem representation. This long-term memory not limited to the writers own knowledge but it also related to any kinds of knowledge that can be obtained by the writer from his/her surroundings.

3.3 Writing Processes

This elements will be discussed on the process of conducting research which will be discussed on the process of planning, translating and reviewing.

The writing model calls for attention of writers to planning and preparing outlines before starting writing. Flower and Hayes (1981) propose certain technique of pre-writing to helps writers in improving their writing abilities. This planning process involves the abilities of writers to generate ideas by retrieving the relevant information and expanding the knowledge to generate new knowledge. The planning process is heavily affected by the goals set-up by the writers on the writing process. Setting goals known as a process of being-creative since the research process will follow major goals writers intended to achieve. The goals of writers depend on the purpose of writing at the early stage of writing or change the goals in after the process of learning in act of writing occurs to the writers.

After the process of planning, writers will organize the task based on the goals. The organizing parts will effect the choosing of wording, the structural or style of writing that essentially will helps in generating standard for writing in English since Flower and Hayes (1981)believe that 'the act of composing itself is a goal-directed thinking process, guided by the writer's own growing network of goals'.

Later, writers have to translate the finding to the readable forms, Translating is a process of converting the ideas to the readable forms of writing, which mean writers should able to translate the meaning of their ideas to a visible language. As Ellen Nold urge that the writers should able to convincing the readers in generic and formal form of words through syntactic and lexical piece of English writing.

Once writers convert the ideas to the written text, writers start to reviewing their text to evaluate the ideas or further expand the ideas to be accepted by the discourse communities as an acceptable reading to be cited. As a conclusion, Flower and Hayes (1981), concludes that the writing process proposed could be interrupt with one another without following the flow. The writing process should be monitor from one stages to another stage to determine 'writers moves from one process to another'.

4.0 Discussion

Based on the extensive literature review conducted, the present study categorizes the constituent characteristics of academic research writing into four main elements, namely generic writing skills, discursive writing skills, formal writing skills and writing in English. This was also supported by M. Castelló, O. Kruse, and M. Chitez (2015). All the elements discussed before therefore can be categorized into these four elements.

4.1 Generic Writing

The focus of the generic writing is on making the understanding possible. Here, the focus was given to meet the needs of discourse communities. In this elements the scholars will conceptualize that idea to achieve the intended goals set-up in the earlier stage of planning to interpret the rhetorical problem the writers have to solve to produce the end-product of academic research paper. In generic writing proposed by M. Castelló, O. Kruse, and M. Chitez, (2015) the abilities of writers in choosing an appropriate text to produced written text to expand the knowledge require some basic skills of filtering information, communicating their ideas and findings accurately and effectively according to readers' expectations.

4.2 Discursive Writing

Instead of general knowledge in developing the academic research paper, writer needs a specific knowledge of academic discourse to address the needs of academic discourse communities. Discursive writing skills were used to engage in the process of conducting research, related to generating ideas, understanding the content-knowledge, synthesizing information and disseminate the information to be cited by scholars.

As discussed earlier, these skills are required to write the content of academic research paper by applying the skills of critical thinking, reading and writing. Additionally, development of strong arguments should be taken into consideration since clarity of paper presentation being another characteristics of research paper content. Integration of versatile ideas within the same domain should be also considered as among the regulations in developing the content (Halpern et al. 1998). Such integration would be helpful in the cognitive process of his academic writing, the content could be properly disseminate if the authors able to interlinked the ideas with the available information.

Castello, et al. argue that the teaching of academic writing should be meant for helping students construct new knowledge. When engaged in academic writing, writer is in fact engaged with the mental process of making meaning (Ivanič, 2004). Which Linda Flower and John R. Hayes (1981) categorize as the abilities of writers in organize the information to convey the meaning-making of information to readable form of research paper, this process required writers to have long-term memory as discussed by Linda Flower and John R. Hayes (1981), in which writers needs to collect data or have some ideas about the audience and rhetorical problem before their organize the information and translate it to the written text.

4.3 Formal Writing

Formal writing is more about technical text management and structuring skills. Chances for misinterpreting the content, and leading the readers away from the intended target are also high once the structure is lost (Shah, et al., 2009). Structural aspect of writing is important to consider as inability to structure the written text will lead to poor citation among the discourse communities. Also, Poor placement of the content without following the structural pattern might confuse the readers. It is the structure through which the coherence and cohesion of a paper could be created. The flow of ideas, writers' specific intentions in relating these ideas, the sentential and ideational connection within the text and overall organization of a text into a recognizable flow, etc., depend upon the writing structure followed by an author (Butler, 2006). That is to say, even though the

content is worth, lack of structural uniqueness will cause audience to reject the whole work. Chances for misinterpreting the content, and leading the readers away from the intended target are also high once the structure is lost (Shah *et al.*, 2009) Besides, in formal writing students are expected to understand the structural elements of the paper, such as inserting tables, diagrams, etc., in text.

Linda Flower and John R. Hayes (1981) believe that the text produce are effected by the abilities of writers in choosing the appropriate words in expressing the content of the paper and the topic sentences to ensure that content knowledge were transcribe in a readable form to the discourse communities.

4.4 Writing in English

Ivanič (2004) argued that ‘writing consists of applying knowledge of a set of linguistic patterns and rules for sound–symbol relationships and sentence construction.’ However, NRs using English as second language are unable to get along with proper language conventions in their writing (Haas, 2011). Once they feel difficult in writing and expressing their views through a comprehensive medium of language, it is almost impossible to have a trend of knowledge construction which is one of the constituent characteristics of scholarly writing. This means that good writing quality are measured based on the correctness of writing.

Thus, English language skills can be categorized as one of academic research writing dimension. This is also because, English has dominated as an academic communication language at the international front in academia. Here, the abilities of writers to write their ideas critically should be consider in helping them to be apart of discourse communities.

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