Enhancing Critical Writing towards Undergraduate Students in Conducting Research Proposal

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Abstract: Critical thinking in writing for learners is needed to able to build a sense of crisis towards any issues. This capacity is required to create a framework based on reflecting, exploring, and solving some practical problems in their learning, work, and daily lives. This article aims to enhance critical writing towards undergraduate students in conducting research. The research method used is descriptive method with qualitative approach. The data used to analyze is gotten from many research articles in international journals discussing critical writing to conduct a research proposal. The research discussion and result state that learners’ capacity to be familiar with critical thinking writing is essential. It deals with brainstorming the problems of research topics, reflecting, and exploring the issues of research topics. Students should also have the capacity to write the research background, research problem, review of related literature, and research method based on the guidelines of the research proposal. The writing skill relating to the competence of organization, elaborating content, paying attention mechanics, language use, and vocabulary become the leading and supporting capital to be successful in conducting the research proposal.

Keywords: critical thinking, research proposal, writing

Cite as: Yamin, M, & Purwati, O. (2020). Enhancing Critical Writing towards Undergraduate Students in Conducting Research Proposal. Arab World English Journal, 11 (2)142-153. DOI: https://dx.doi.org/10.24093/awej/vol11no2.10
Introduction
Writing the research proposal for students in the final semester is required. The research proposal is considered the academic and intellectual activity in which each of them has the task to finish it. It is the subject the students learn to pass their undergraduate program requirement containing three chapters starting from chapter one, chapter two, and chapter three. Chapter one deals with background, research problem, objective, and the like. Section two discusses the related literature used. Chapter three talks about research methodology used and commonly completed with an instrument. Because writing research proposal is the obligation course for those who would like to finish the study academically, it is important to affirm that writing research paper should be viewed as an extraordinary academic task requiring the students to be able to write well. The well-established writing means that the learners should be able to use the scientific framework in designing the research proposal. Besides that, English as a Foreign Language (EFL) curriculum at university also provides this subject for students in the seventh semester under the thesis writing class or research proposal class. The average length of time for conducting research proposal is less and more than one semester; it relates to the process of consultation with research proposal advisor(s) (Arifani, 2016; Jensen et al., 2009).

The common perception is that writing proposal is the central part to prove competence the students master in their discipline. There is in line course between ability in subject and writing research proposal. It means that anybody who is involved in writing research proposal should be started through a comprehensive understanding dealing with writing. Writing a research proposal should be supported with the self ability to organize mindset, thought, idea, fact, and problem that should be formulated into the research problem. There will not be a research problem in the research proposal without mindset making to organize the idea, fact, and issue to question. Therefore, plan will be becoming while there is a problem to discuss. In writing the research proposal, it is essential to consider the position of critical thinking to be able to read and formulate a question with the research problem. Critical thinking should be viewed as the point of view on how the one faces the challenge and fact. Critical thinking is the way of looking at anything proportionally and objectively. On the other side, writing capacity is necessary to pay attention very much. By having writing capacity, it will support the goal of conducting the research proposal. It is expected that doing a research proposal cannot stand by itself because the task requires excellent writing competence and critical thinking capacity that will assist the learners in getting through the research proposal.

Good writing skill drives the learners in organizing the structure of ideas and thought to elaborate in a unit of the whole research proposal. Writing as a skill has the primary function in generating ideas. The writing competence the learners have will be the capital for them in writing the pre-research paper. Writing proficiency involves much more than the transcription of speech. As a result, the learners will be able to express their ideas in a better way and they write more effectively. The writing competence used by the learners in writing research study helps them to obtain the detail of knowledge dealing with the issue discussed. By writing, the learners are motivated to sharpen their interpretation ability in displaying their experiences in order to improve their understanding concerning the topic to write (Hartley, 2008). Therefore, the learners should be trained to write as the capital in conducting research paper. More and more trained the students are in writing, it facilitates them in producing qualified paper (Elashri, 2013).
Critical thinking should also be understood to help learners in getting ideas. The ability to obtain ideas can be measured effectively on how the learners use the critical paradigm. It deals with providing students with opportunities to reflect, to make any explorations, and to solve some practical problems in their learning, work, and daily lives (Zhang & Kim, 2018; Thonney & Montgomery, 2019). As the effort to build the area of teaching and learning that support the goal of cognition and intelligence development, critical thinking is required. It is the core of English achievement so that the learners can differentiate the word usage in different context and understand the language usage (Tosuncuoglu, 2018). By strengthening critical thinking capacity the learners have, it helps them to be active and productive life-long learners, and important problem solvers to lead for empowerment (Rezaei et al, 2011; Ku, 2009). Therefore, it is necessary to state that critical thinking has contributed towards shaping paradigm in reading text and context dealing with the ideas for research proposal interest.

Building critical thinking for students is necessary. The essential goal of critical thinking is creating the competence to identify the issues, to formulate the research problem, to analyze the problem, and to deliver the result analysis. In constructing critical thinking, it is important to get a comprehensive understanding of critical thinking itself as the set of skills and dispositions. It enables one to solve problems logically and to attempt to reflect autonomously through metacognitive regulation on problem-solving processes (Gotoh, 2015). These are based:

1) I pay attention to the information source (who wrote it);  
2) I pay attention to the information destination (who reads it);  
3) I pay attention to the information purpose (program);  
4) I assume information from an opposing point of view;  
5) I pay attention to a period of data (when it is made);  
6) I pay attention to inconsistencies and information missing;  
7) I pay attention to gaps in the argument;  
8) If necessary, I reserve judgment;  
9) If necessary, I make a conditional judgment.

It means that metacognitive regulations should be in line with critical thinking in which seven critical areas of critical thinking should be considered to sharpen the mechanisms in conducting the critical thinking process (Condon & Kelly-Riley, 2004):

1) Identification of a problem or issue;  
2) Establishment of a clear perspective;  
3) Recognition of alternative view;  
4) Locating a point within an appropriate context(s);  
5) Identification and evaluation of evidence;  
6) Fundamental assumptions implicit acceptance or stated by the representation of a problem;  
7) Implications assessment and potential conclusions.

Talking about critical thinking, it also deals with as a way of conveying opinions to other people. The ability to write effectively is a tedious process demanding a lot of effort that even many native speakers of English are unable to master the writing skill well (Celce-Murcia, 2001).
Writing is challenging for English Second language (ESL) learners who do not have the skills to write coherent and cohesive text. In institutions of higher learning, students should have the ability to write well-structured persuasive arguments (Butler & Britt, 2011). Many ESL students face difficulties in writing because they are not proficient in the language. Cheng and Chen (2009) find that writers are unable to convey their ideas clearly because they are weak in sentence structures. Therefore, building capacity for critical writing should be created step by step. Critical essay means the effort to jot the ideas from the environment into anything giving knowledge and meaning. Critical paper is coming from a vital mind made from critical writing. There will no be critical paper if there is no critical writing. Critical paper means the thought work that opens the new perspective and attends to deconstruct the old understanding into new understanding dealing with any topics. Because of it, there must be a capacity to find and interpreting and synthesizing content across sources in critical writing (Cooney et al., 2018). It means that the learners should have this capacity; they can have it by practicing in daily activities in critical writing. Each of them will be able to find, to interpret, and to synthesize content across sources because of being a habit. Critical essay should be based on the curiosity to answer the problem. Interest is the crucial point in learning to be able to write critically towards any topic. Therefore, keeping students active in class through writing activities in class will help students think critically. Writing activities in class dealing with issues in question will take the learners to be able to think critically. Through activities that are sandwiched between pre-writing, reflecting, and writing assignments, it contributes towards the process of critical writing. Improvements in building concept and in organizing the framework to write critically will be evaluated in-process and continuously by comparing learners’ pre-writing results with the final papers they make. Overall, developing hands-on activities increase critical thinking in writing, mainly when they write reflections in a journal shortly after completing an action (Piergiovanni, 2014).

In higher degree research (HDR) studies, research proposal (RP) is an admission requirement into a university and considered an essential step to finish one degree of study in higher education that will lead to a successful authoring of a higher degree thesis (Dunleavay, 2003). RP does not only display the research background and a research problem, but also elaborates the research design. RP highlights that failure to write a good research proposal may cause inability to be admitted into a higher degree research program or failure to be confirmed as the process of ending one degree of study in higher education (Kivunja, 2016). Consequently, writing research proposal should be viewed as a very complicated process involving several varieties of elements, such as introduction towards data analysis sections to yield convincing research proposal writing through reviewing worth-contributing journal articles (De Costa, 2018; Arifani, 2016; De Costa et al., 2011). Based on this consideration, this article aims to enhance critical writing towards undergraduate students.

Method
It is a descriptive method with a qualitative approach. The researcher takes the data from research articles talking about enhancing critical writing. There were five research articles relevant to the research problem-focused; the findings and discussion dealing with enhancing critical writing become the data source to discuss.
Enhancing Critical Writing towards Undergraduate Students

Yamin & Purwati

Descriptively and quantitatively, the display of findings were narrated as detail as possible to give elaboration dealing with enhancing critical writing in conducting pre-research. The discussions were displayed to explain the findings. The analysis technique applied was content analysis. It stated that the researcher positioned himself to get involved by reading the data critically, finding the main points of enhancing critical writing in conducting a research proposal, and synthesizing them into one single new perspective about the importance of enhancing critical writing in conducting a research proposal.

Findings and Discussion

Findings

It begins to expose several results on enhancing critical writing in conducting a proposal of research through several research articles. Those are shown in the tables below:

Table 1. Implementing a Grant Proposal Writing Exercise in Undergraduate Science Courses to Incorporate Real-World Applications and Critical Analysis of Current Literature

<table>
<thead>
<tr>
<th>Title</th>
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<tr>
<td>Implementing a Grant Proposal Writing Exercise in Undergraduate Science Courses to Incorporate Real-World Applications and Critical Analysis of Current Literature</td>
<td>Writing is an essential part of a successful career in science. As such, many undergraduate science courses have begun to implement writing assignments that reflect real-world applications and focus on a critical analysis of current literature; these assignments are often in the form of a review or a research proposal. The semester-long project described herein is a unique marriage of these two ideas: students first select a topic and conduct a literature review, and then choose an area of that same topic to investigate further in a peer-reviewed grant proposal. A modified version of this project, which incorporates peer-reviewed oral presentations, is also discussed. It is designed for an upper-level undergraduate course; it has 15-20 students. The approach (or parts of the approach) has been successfully incorporated in an advanced organic chemistry course, a biochemistry capstone course, and courses in endocrinology, as well as ecophysiology.</td>
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Source: (Cole, Inada, Smith, & Haaf, 2013)

Table 1 gives the detail elaboration that the writing competence should be practiced, and training to be able to write is supported by the students’ activities in line with the habit involved in the environment of writing. What is meant with writing environment is that every learner gets used to critical reading, creating critical analysis. Essential reading of texts will be the source for them to be able to be the ones who are active in finding the topics to write and to discuss. Good writing skill is obtained because of good reading skill. Because of it, the students will be able to think critically; what they write is the result of critical thinking.
Introduction to Research is a 4-credit elective course designed for first-year undergraduate students who have a strong interest in the chemical sciences and scientific research. The rich yet accessible field of gold nanoparticles was the theme connecting a multifaceted teaching/learning experience. In the first unit, students were introduced to the various research topics through searching, reading, discussing, presenting, and writing about primary literature. In the second unit, students carried out the synthesis and characterization of spherical gold nanoparticles using prescribed protocols to gain some general knowledge and hands-on skills. Writing a full laboratory report on the laboratory module helped students develop an intellectual appreciation of the discipline and greatly enhanced their scientific writing skills. In the last unit, each student pair carried out one research-style project to gain more comprehensive experience with the complex nature of the scientific inquiry. Students gained competency and confidence through working with a teammate and they came up with a research idea. It was followed by designing experiments, writing a proposal, conducting experimental work, learning laboratory safety, collecting, managing, analyzing data, problem-solving, revising experimental design, and presenting research findings to the class. To jump-start their research career on campus, each student arranged meetings with the instructor and another chemistry faculty, followed by a presentation on their research topics. This course has been offered two times in the spring semesters of 2016 and 2017. Course evaluations and postcourse assessment indicated positive short- and intermediate-term student outcomes.

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<td>Introduction to Research: A New Course for First-Year Undergraduate Students</td>
<td>Introduction to Research is a 4-credit elective course designed for first-year undergraduate students who have a strong interest in the chemical sciences and scientific research. The rich yet accessible field of gold nanoparticles was the theme connecting a multifaceted teaching/learning experience. In the first unit, students were introduced to the various research topics through searching, reading, discussing, presenting, and writing about primary literature. In the second unit, students carried out the synthesis and characterization of spherical gold nanoparticles using prescribed protocols to gain some general knowledge and hands-on skills. Writing a full laboratory report on the laboratory module helped students develop an intellectual appreciation of the discipline and greatly enhanced their scientific writing skills. In the last unit, each student pair carried out one research-style project to gain more comprehensive experience with the complex nature of the scientific inquiry. Students gained competency and confidence through working with a teammate and they came up with a research idea. It was followed by designing experiments, writing a proposal, conducting experimental work, learning laboratory safety, collecting, managing, analyzing data, problem-solving, revising experimental design, and presenting research findings to the class. To jump-start their research career on campus, each student arranged meetings with the instructor and another chemistry faculty, followed by a presentation on their research topics. This course has been offered two times in the spring semesters of 2016 and 2017. Course evaluations and postcourse assessment indicated positive short- and intermediate-term student outcomes.</td>
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Source: (Chen, 2018)

The main points presented in table 2 is about the importance of shaping the mindset in
1. Finding the topic to research;
2. Holding the review of related literature dealing with the issue;
3. Formulating the research problem;
4. Organizing the instrument to get the data;
5. Presenting the data and its analysis; and
Table 3. The Effect of the 6+1 Trait Writing Model on ESP University Students Critical Thinking and Writing Achievement

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<td>The Effect of the 6+1 Trait Writing Model on ESP University Students Critical Thinking and Writing Achievement</td>
<td>It aimed to determine the effectiveness of the 6+1 trait writing model on ESP university learners' critical thinking and writing achievement. It was considered that students who receive training using the 6+1 trait writing model would reveal greater gains in critical thinking and writing competence. Six instruments - designed by the researchers - included: (critical thinking skills checklist, writing skills checklist, critical thinking skills test, writing skills test and scoring rubric for critical thinking and analytic scoring rubric for writing) were used for data collection. Results revealed that the traditional method used to teach writing is not as effective as the 6+1 trait writing model that developed critical thinking and writing achievement. The experimental group outdid their counterparts in the control group in critical thinking and writing performance test scores. Source: (Qoura &amp; Zahran, 2018)</td>
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Strengthening learners’ capacity for critical writing in conducting a research proposal can be done through:
1. Critical thinking skills checklist;
2. Writing skills checklist;
3. Critical thinking skills test;
4. Writing skills test;
5. Scoring rubric for critical thinking; and
6. Analytic scoring rubric for writing.

Table 4. Rhetorics of Proposal Writing: Lessons for Pedagogy in Research and Real-World Practice

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<tr>
<td>Rhetorics of Proposal Writing: Lessons for Pedagogy in Research and Real-World Practice</td>
<td>Proposals are ubiquitous documents with challenges beyond the writing task itself, such as project management, strategic development, and research. This article argues for a shift in how proposals are taught and conceptualized. By coaching students on the wide range of rhetorical practices that proposals require rather than how to produce proposal documents, they can better prepare future. Source: (Lawrence, Lussos, &amp; Clark, 2019)</td>
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What elaborated in Table 4 describes the importance of coaching students to be able to write the research paper. Coaching starts from real-world practice. The learners will be able to write the research paper critically and academically because of an attempt to shape the habit in critical thinking, academic thinking, and writing. Critical thinking, academic thinking, and critical
writing are learning patterns to create a constructive atmosphere for building the environment in a research paper. Because those are the efforts to make the students get habit in an essay, it is necessary to confirm that the research paper writing competence is the obligation for students to follow.

Table 5. Engaging Postgraduates in a Peer Research Group at the Research Proposal Stage in a Malaysian University: Support and Challenges

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<td>Engaging Postgraduates in a Peer Research Group at the Research Proposal Stage in a Malaysian University: Support and Challenges</td>
<td>Due to the increasing workloads for supervisors and the challenges in research proposals for postgraduates, the study focused on engaging 15 postgraduates in a Malaysian public university in a peer research group. The data were collected from observations of the group meetings, video-recorded peer feedback and follow-up interviews. The qualitative analysis of the data indicates that the research group supported the postgraduates through peer feedback practices, learning how to present proposals and defend themselves and find directions in research proposals. Although their engagement was challenged by initial reservations of some postgraduates to present their proposals and provide feedback and issues related to provision, reception and reliability of peer feedback, these challenges were reduced through mentoring and instructional strategies. While peer research groups represent valuable pedagogical support that complements supervisors’ support to postgraduates in developing their research proposals, the value should be maximized by integrating supervisors in research groups.</td>
</tr>
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Source: (Saeed & Ghazali, 2019)

Teaching students in learning to write the research paper can be carried out in several ways. One of them is based on the findings by Saeed and Ghazali (2019) that states the necessity of the research group. Research group for students in learning to write the research paper is needed, as illustrated in Table 5. By research group, the learners in the group share their own experiences on how to determine the topic, formulate the research problem, to write the research background, to enrich the background with detailed research results dealing with the issue to research and to describe the research method used. In the research group, the learners do not only learn to shape the mindset, but also organize the ideas into the well-organized research paper. A well-organized research paper means that the students’ competence in language competence is needed and is to be trained. Although the ideas dealing with the topic to research is challenging and exciting, the students’ language use is weak; it will lessen the research paper quality from the language use itself. Critical thinking in writing a research paper should be taught and learned through practice to write. Practicing to write, gradually, will change the mindset from passive into active.
Discussion

The message in Table 1 delivers meaning that competence in conducting research proposal to determine problem research, background, and so forth or from the beginning up to end should be preceded with the critical writing capacity to produce a qualified research proposal paper. It means that when the students start to write the proposal by considering the well-established structure, organizing the thought into sentences from the beginning until the end. The indicator of a qualified research proposal is not only measured from the topic talked about, but also the writing framework in mapping background, research problem, and research methodology. Such skill appears in the research proposal when writing skill is well established.

It is in line with the message in Table 2 that principally, the researcher’s ability to use the literature for discussing the finding is important. Because the research paper is dealing with the written form, it is necessary to confirm that the writing competence in academics should be stated explicitly. The writing competence in the academic paper aims to support and complete the ability of scientific paradigm. The experimental paradigm with writing skill in academic paper will help the researcher-learner in formulating the research problem; it will produce the self-capacity in developing academic writing for research paper. When academic writing is internalized in the researcher-learner, it gives the path for researcher-learner to think critically dealing with the topic in question.

The result of researching capacity for writing the research paper is based on critical thinking; it can be considered as the extraordinary step to build the writing framework in critical thinking for research paper. The qualified research paper is successfully conducted because of critical writing attendance for a research paper. Critical writing itself is the process result of writing critically. Here, there is a context understanding of critical thinking and academic writing for research paper. It is necessary to deliver perception for all researcher-learners so that all learn for the goal.

The main point in Table 3 is that the critical thinking skill checklist helps to measure how critical the students are in formulating the research problem, elaborating the research background, writing the review of related literature, and research methodology. Writing skill checklist functions to find out the accuracy of learners’ writing starting from organization, mechanics, content, vocabulary, and language use. The critical thinking skill test is used to measure the critical level of the topic to discuss. Writing skills test is for mapping and finding out the qualified level of writing. The scoring rubric for critical thinking contains the writing assessment. Analytic scoring rubric for writing is used for counting the range of students’ competence in writing in detail so that this result scoring rubric can deliver the overall achievement the students have in writing the research proposal.

Such a thing that is called the 6+1 Trait Writing Model needs to be looked like an effort to improve the competence in writing the research paper. Writing competence for a research paper should be trained as sustainable as possible. Writing a research proposal is the fact when the students have a critical writing framework: critical thinking for writing. The writing competence attends and is inherent in learners’ capacity because of being accustomed to writing for research paper.
Therefore, Table 4 opens news understanding that writing needs habit; habit can be the fact while the students are required to be able to interact with the event and data. From the event, they collect the ideas to reformulate into topics to discuss in the paper. Paper will be meaningful and gives the additional value while research problem formulation is carried out correctly and rightly based on the academic mechanisms for research interest.

It is supported by table 5 that practicing to write contributes towards paradigm shift so that the students have the linguistic competence in using the language for training the open mindset. More practicing they do, it will drive the students to be able to find the topic quickly, to formulate the research problem clearly, and organize the thoughts in well-organized utterances in written from. The writing competence attends because there is practicing to write and elaborate on the ideas, issues, topics, and so forth. Principally, the students’ critical writing competence for a research paper can be embodied because of continuous and sustainable practice.

Conclusion
Critical writing strategies for conducting a research proposal become necessary and essential to state that writing critically dealing with a research proposal should be enhanced for undergraduate students. Improving those strategies mean to teach them to learn to find out the topics of research available with the passion of research topic. The availability of the students’ research topic passion will make them comfortable in conducting the research paper. Critical writing is not only viewed as the criticalness of finding the research topic, but also provides the students to be able to elaborate, to organize, and to formulate research background, research problem, review of related literature, and research method in well-organized text. Well-organized text is dealing with the organization, content, vocabulary, mechanics, and language use.

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https://doi.org/10.4304/jltr.2.4.769-777