Need Analysis Teaching Materials in Scientific Writing for Student in University

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Abstract. The purpose of this study is to explain the need for academic papers writing materials for students of the Indonesian language and literary education program in Muhammadiyah using qualitative research, is showing that the need for textbooks in the based learning model is required in the learning process. The data shows that the average demand for textbooks is 46% fully agreeable, 41% agree, 6% disagree, and 0% completely disagree. From the data obtained, students it can be concluded that they need a textbook to write scientific papers.

Keywords: materials in scientific writing

1 Introduction

Talking about education in the university can not be separated from the process for writing scientific papers. Writing is a process started from getting an idea which is then organized in the form of written text. Accordingly, the concept can be communicated with others [25]. The element in writing, namely the idea, must be organized first so that the concept can be communicated properly with others. Writing scientific papers is a significant part both for university students and lecturers. Writing scientific papers becomes a compulsory material that must be student by university student.

Low writing skill of student is not only caused by learning element at school but also influenced by internal and environmental factors. The internal factor from students has a more significant influence in determining the success in writing. University students must have a high sense of interest and enthusiasm to obtain successfully writing skills. There are some influencing factors in this case. For instance, the learning model used is not appropriate. This situation causes the students to feel sleepy and bored during the teaching and learning process. [20]. Problem-based learning is an evolution of curriculum and teaching methods that puts students in an active role as problem solvers and faces unstructured problems in the real world. [19]. Problem-based learning is an approach that creates a curriculum that contrasts, students with issues and practices when there is an incentive to learn. [5]. Problem-based learning is a learning method that challenges students to study in groups and learn how to work to find solutions to real problems. [26]. Problem-based

Learning is one of the educational strategies that help students reach conclusions and communicate for success [13]. Problem-based learning is a learning method that encourages students to find solutions to real problems. [24].

The belief that all genuine education comes through experience does not mean that all experiences are genuine or equally educational [12]. Project-based learning (PBL) requires a professional educator with the skills needed to design a learning experience that maximizes student potential. Therefore, ineffective PBL, teachers must experience high-quality professional development to learn how to develop high-quality experiential learning activities. -9. Not all continuing education activities are created equally [11], and not all regulations meet the expectations of quality continuing education [6], [7]. Project-based learning has been around for years and has been done in the medical, engineering, education, business, and business sectors. Project-based learning is often abbreviated as PBL, but this acronym is often confused with problem-based learning. The two terms are not synonymous. Project-based learning (PBL). A poorly defined task with well-defined results. This is a context-rich task in which students need to solve multiple problems, and together show the acquisition of students with different concepts in different subjects. Project-based learning here is the use of projects that often lead to a variety of learning outcomes in addition to what is expected. Learning is dynamic because students explore projects using a variety of processes and methods. Projects are generally informative, but the driving distance is minimized. Information abundance is often directly related to the quality of learning and the level of student participation.

In solving the problem, students construct the knowledge and develop the problem-solving skills, and also the skills to learn with their direction in finding out the solutions. Hung emphasized that learning must involve the student to be more active during the learning process in concern to solve problems. Therefore, based on the above opinions, it can be concluded that a problem-based learning model is a learning model that directly involves students and takes an active role in solving problems. Students are also able to complete and find the steps that must be taken in solving a particular issue. Educations take the position in providing information, subject matter, and in guiding and directing the students to find, investigate and solve the existing problems.

Students get bored of school, which seems to be a universal norm. But the basic premise is that students will not get bored if they work harder or study harder. Studies suggest that bored and engaged students learn less often [4]. Surprisingly, other studies have shown that even students who are very successful with standardized tests are bored [10]. By the cease of the twentieth century, by the end of high school, the problem was identified that students had acquired only superficial knowledge. Even the best school students do not have a deep understanding of conceptual knowledge. [16] Learning science points out possible solutions to these problems. Project-based learning is the basic design of a learning environment. The project-based learning environment has five basic characteristics [25]6. You start with the problem you need to solve, and the learner explores the driving questions by engaging in research. Learning stakeholders include learners, teachers, and the entire community to find answers to problems to be solved. Students have access to technology that is usually beyond their normal capabilities. Students develop specific answers to driving problems. The role of the teacher in the classroom is at the forefront. It is subordinate to the student's role and continues to promote student-centered learning. This means that the teacher tells the students to find the answer themselves, gives them a topic, and then expects the students to ask

questions, study, and develop projects [25]7. In this way, they can develop new skills, learn and deepen their knowledge.

The teacher's main goal is not to inform the student, but to provide the student with a project to discover the information and develop a practical body of knowledge. [25]7. Teachers are active in the classroom and provide a framework for learning and developing student learning strategies. [23]. Therefore, it is important for facilitators to monitor learning goals and allow students to focus on those learning goals [23]. This helps teachers attract quiet students when moderating, keeps the project process uninterrupted, keeps students at work, confirms understanding, and supports student learning without complementing them in other ways. It means that. King's College London looked up the literature on formative assessment in the classroom. Two aspects of the result stood out. It is a way to give feedback to students and their perspectives on their role in the evaluation process (such as self-assessment and reflection of performance) [3]. Although her research assessments are not unique to PBL assessments, there are many in her reports that are useful for programs.

In this study, researchers (authors) analyze the need for teaching materials when writing scientific papers using a problem-based learning model for students of the Indonesian Language and Literature Education Problem at Muhammadiyah University Purwokerto. Writing is a process that started from getting an idea which is then organized in the form of the written text so that it can be communicated with others [25]. Writing is an art/ action of creating a creative design in which meaning is not only created through words, but also by visual layout [8]. Scientific word is a tool to communicate scientific knowledge and is intended for scientists and other readers, who are familiar with a particular subject [20]1. This statement is in line with the definition of scientific work from Scientific paper is usually intended for the scientific community [2]. The purpose of scientific writing is to nurture/ maintain the desire to discover something and to ask more questions related to knowledge [20]3. The primary purpose of making a scientific paper is to write scientifically [15]. Classified scientific work into work-related writing for the academic assignment [20]5. The types of scientific words involved in a short report, long essay, and dissertations [1].

2 Research Method

This research is conducted on the student of the Indonesian Language and Literature Education Program at Muhammadiyah University Purwokerto. This research is qualitative. Research and qualitative, naturalistic, or interpretive definitions and adaptation of educational clues and methods to infer them to collect data [9]. In qualitative research, it is necessary to collect the data being interpreted. The research sample in this study is taken using a purporting sampling technique. Quantitative research aims to study, discover, explain, and explain the quality and characteristics of social impacts that cannot be defined, measured, or explained by a quantitative approach [20]8. The sampling method in question is not only affected by the suitability of the sampling strategy used in the study but demonstrates the quality of the study [20]9. Naturalistic qualitative qualities consist of social reality, experience, and social phenomena that can be interpreted in many ways, sometimes inconsistent, and accessible to us through social interactions [19]0. A targeted sampling technique was used when sampling in the survey. The sampling method of interest is the quality of the survey

and is influenced not only by the suitability of the methodology and survey tools but also by the suitability of the sampling strategies used in the survey. [20]9.

3 Result and Analysis

The researchers (the writers) interview with Lectures of the Scientific Writing Couse. Some interviews are also shown on the students of the Indonesian Language and Literature Education Program at Muhammadiyah University Purwokerto. The researchers (the writers) take note of the interview results and analyze the need for teaching materials in writing a scientific paper. To support the interview, the researchers (the writers) also observe the online learning process of the Scientific Writing Course. Here are the interview results and observations conducted by the researchers (the writers) on the Indonesian Language and Literature Education Program of Muhammadiyah University Purwokerto.

Table 1. Online Class Observation Results

Component	Data
Lectures	1. Lecturers motivate students for being more enthusiastic in attending the class/ lectures. 2. Lecturers provide the teaching materials on writing a scientific paper. 3. Students are given the same assignments by the lecturers. 4. Lecturers give feedback on the work done by students. 5. Some students are active in delivering questions during the learning process in the class, but some of them are passive. 6. There are only a few students who are turning the camera, and some of them turn off the camera. 7. The lecturers give individual assignments.
Learning Model	1. The learning model used by lecturers the learning method and students listen to the lecturers

	2. Lecturers guide students to make a presentation and a question and answer session (and a session)
Material	1. Excellent and correct writing (the usage of the capital letters) 2. Systematichics of writing a scientific paper 3. Ethics of scientific writing
Learning media	Powerpoint
Textbooks and resources	Do not use textbooks, students are intended to find their reference books.
Assignment	1. Writing argumentative sentences in several paragraphs 2. Make an article
Evaluation/ assessment	Lecturers give assessments and feedback on sentences made by the students.

Table 2. Data of interview results from lecturers

Component	Data
Learning to write a scientific paper	Students are given both the assignments to write a sentence which is then developed into several paragraphs, and make an article. Then, lecturers give feedback on the projects. Students are very enthusiastic during the learning process. While one student gives a presentation, the other students give responses and actively deliver come questions. Students come to be more active when they are given assignments or direct

	practices lecturers create both group and individual projects.
Learning model	1. Lecturers teach the class using the learning method 2. Students make a presentation in a group 3. Students give responses to the presentation 4. Lectures give feedback
Material	Indonesian Spelling Guidelines Systematics of writing a scientific paper Ethics of scientific writing
Learning media	Powerpoint
Textbooks and resources	1. Do not use textbooks, students, are intended to find their reference books. 2. Teaching materials are particularly needed in writing scientific words/papers. 3. Developing the textbook is needed not only for combining some reaching materials but also in expanding the activities for students since the available books used by lectures do not provide any activities. Some examples are required for students in writing scientific words/papers.
Assignment	1. Writing argumentative sentences in several paragraphs 2. Make a scientific article
Evalution/ assessment	Give an assessment and feedback on sentences made by the students.

Table 3. Date Analysis of students Need Questionnaire

Number	Items	Strongly agree	Agree	Disagree	Strongly disagree
1	1	50	44	6	0
2	2	50	50	0	0
3	3	54	44	2	0
4	4	46	44	10	0
5	5	44	40	14	0
6	6	44	30	26	0
7	7	42	44	14	0
8	8	40	34	26	0
9	9	46	40	14	0
Average		46%	21%	12%	0%
10	10	4	10	74	12
11	11	4	8	64	22
12	12	0	22	60	18
13	13	0	40	60	0
14	14	0	26	70	4
15	15	22	78	0	0
Average		5%	31%	55%	9%

Based on the data obtained, it can be seen that the need for teaching materials in writing scientific papers for PBSI students at Muhammadiyah University Purwokerto is 94% students, 98% students need the teaching materials completed with some examples and exercises si that the materials can be easily understood. About 74% of students need exciting teaching materials and easily understandable materials. About 74% of students need textbooks that can be easily read wherever and whenever they are required. Based on the data obtained, there are only 14% of students acknowledge writing scientific papers. It leads to the need for developing a textbook to fulfill the student's needs. As a result, Students may have a better understanding of their studies.

The academic Literacies approach can be effectively applied to the learning of writing a scientific paper for students [19]1. The similarity of research conducted by our and Blythman is that they both examine the ability in writing scientific papers. The difference can be found that the investigation is conducted by Dysthe stated Integration Model can be effectively applied on the learning of writing scientific papers for students. The similarity of a study conducted by Dysthe is that the researchers examine the ability in writing scientific papers. However, there is a difference that the research was conducted at a university using university students as the objects and applying Integration Model [14]. The study undertaken by Hegelnund and Kock focused on the learning of writing scientific papers by applying The Macro Toulmin Way Model. This model is effective can be used by teachers in supporting students to write a scientific paper. The similarity of this research is the research examines the ability to write scientific research. The difference is in the freedom of students to write scientific papers based on the chosen genre and in using the Macro Toulmin Way Model [20].

Rienecker and Jorgensen examined the use of Model Examples in learning to write, especially in large classes. The study found out that the learning strategy using Model examples can provide pedagogical and economic benefits while applied to learning to write for large classes. The similarity of the research is on studying to write scientific papers. The difference can be found that the analysis is applied on larger types (on class consisting of 60 students or more) using the Example Model [14]. Get used to PBL to estimate potential changes in student attitudes towards the environment. Students living in Turkey were asked to attend an "environmental education" class and carry out a group project on actual environmental issues. He found that the PBL course boosted research, promoted lasting learning, and helped students define environmental issues more clearly than before the course. Students also selected more active tasks during the resolution process outlined in the project [19]3.

4 Conclusion

In this study, it is shown the need for textbooks in writing scientific papers is needed/ demanded in lectures. According to the data, the average requirement for textbooks is 46% overall, 41% agree, 6% disagree, and 0% disagree at all. From the date of receipt, students can conclude that they need a textbook to write scientific papers. Textbooks on writing scientific papers need to be developed to assist students in having a better understanding of the skill to write a scientific paper. Students need to include teaching materials completed with materials, examples and hopefully, the books can be easily opened when they are required.

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