



IJE
International Journal of Education

Journal homepage: <https://ejournal.upi.edu/index.php/ije/index>



EXPLORING THE PROFILE OF SCIENTIFIC ARTICLE WRITING ABILITY AMONG TERTIARY STUDENTS: INSIGHTS FROM FIVE INSTITUTIONS IN INDONESIA

Hernawan*, Dadang Anshari, Syihabuddin, and Yeti Mulyati
Universitas Pendidikan Indonesia, Bandung, Indonesia

*Corresponding author's E-mail address: hernawanasgar78@gmail.com

ABSTRACT

The motivation for this study stems from the observation that the culture and ability of tertiary students to write scientific articles are at a low level. This study aims to describe the profile of students' scientific writing abilities. A descriptive method was used to gather data from five tertiary institutions in West Java. This study used a qualitative approach. The samples included 5 lecturers and 211 students. Data were collected using student needs questionnaires, interviews with lecturers, and analysis of student scientific articles. Data collection techniques included questionnaires and interviews and were analyzed using descriptive data analysis. The findings indicate that students' ability to write scientific articles falls within the sufficient category. Despite this reality, the questionnaire results reveal that students still encounter difficulties in writing scientific articles and require a learning model that makes the process easier and helps to overcome problems in writing. The analysis of interviews with lecturers of scientific writing courses suggests that students' ability to write scientific papers is adequate. Lecturers have implemented various learning methods during lectures because not all students like writing scientific articles. Moreover, most students are still confused about writing scientific articles correctly, and their motivation to read is low.

ARTICLE INFO

Article History:

Received 11 May 2023

Revised 3 Jul 2023

Accepted 10 Aug 2023

Final proof 21 Aug 2023

Available online 30 Aug 2023

Keywords:

learning to write, scientific articles, writing ability, writing learning model

To cite this paper (in APA style):

Hernawan, Anshari, D., Syihabuddin, & Mulyati, Y. (2023). Exploring the profile of scientific article writing ability among tertiary students: Insights from five institutions in Indonesia. *International Journal of Education*, 16(2), 157-166. <https://doi.org/10.17509/ije.v16i2.57357>

1. INTRODUCTION

New knowledge must emerge in higher education, with one of the students conducting research to fulfill their final assignment, build a research-based classroom, and support quality in higher education (Hanafiah, et al., 2021). Writing skills are one of the productive language skills to convey ideas, feelings, and experiences to others using language (Haryadi, 2022). Writing is one of the language skills that is very important for students to master. Writing is a process (Richardson, et al., 2021). Mohammad and Hazarika (2016) reveal that writing is one of the tools to express ideas and consolidate language with the aim of interactive communication. Everyone should plan, initiate, monitor, and evaluate their writing process, stay focused and motivated, and manage the learning environment (Karlen & Compagnoni, 2017). The most crucial factor in writing activities is that students must be personally involved to create a quality learning experience, and lecturers must clearly understand what skills to develop (Adas & Bakir, 2013).

Competence in writing scientific articles is one of the language skills that students at all levels of education in tertiary institutions must possess. Writing skills are necessary for students as they are essential for their academic development in disseminating knowledge in any discipline (Raof, et al., 2017). Scientific writing is very important in supporting students' ability to understand discourse in courses in various disciplines at the university (Pineteh, 2014). This ability is important for students' self-development, for continuing their studies to a higher level, and for getting involved in society. This is because students must hone their skills to communicate their ideas, appreciation, feelings, desires, and experiences to various parties regardless of time and place. The ability is needed by society, especially among academicians.

Writing scientific papers is an increasingly important and highly valued language skill in the 21st Century. Academic writing is generally defined as 'scientific writing,' characterized as 'structured research' practiced and used by researchers at the higher education level (Sajid & Siddiqui, 2015). It can be said that the assessment of students' academic achievements in an academic context depends mainly on their ability to convey their knowledge and ideas (Raof, et al., 2017).

Students' writing ability is still a problem that needs to be solved. The ability to write scientific articles is a skill that must be trained for students. Each course demands students to write papers, field research, laboratory research, or books on average. Students also need writing skills to obtain a bachelor's degree, namely writing theses and scientific articles (Sari, et al., 2021). Learning to write in tertiary institutions is still mostly practiced based on grammar, which focuses on writing sentences rather than forming compositions to meet the goals of the diversity of readers (As explained by Mulatsih in the proceeding entitled Teaching genre-based writing using multicultural descriptive text in 2017). Many students still do not understand and ask about the meaning of scientific work. The inability to write scientific papers forces students who have academic assignments to choose shortcuts by copying (Rahmiati, 2013, p. 161).

According to Silveira et al. (2022), writing a scientific article is not an easy task, as it involves a set of skills in the form of language mastery, scientific-technical knowledge, knowledge of various techniques, and recommendations on what should and should not be done. The same thing was expressed by Bulqiyah et al. (2021) that writing is the most difficult skill, which goes through a complex process involving several competencies.

The activity of writing scientific papers is a burden for students. Students have difficulty in academic writing (Ghufron, et al., 2016). It can be seen, among other things, from (1) the low enthusiasm of students in participating in scientific paper writing competitions or scientific paper writing workshops; (2) the lack of publication of journal articles or books published by students; (3) lack of use of the library as a source of inspiration; (4) students prefer discussion assignments rather than writing assignments; (5) preference on orations in conveying aspirations rather than writing phenomena in the form of scientific articles; and (6) their writing tends to contain patchwork of theories that are less relevant to the topic being discussed (Rahmiati, 2013p. 161).

According to Ghufron et al. (2016), students' difficulties in academic writing are due to 1) limited resources to apply, 2) limited materials and challenging learning activities, 3) teaching materials used are one hundred percent taken from printed books which, in some cases, the books are problematic, 4) feeling bored with the materials used, 5) no challenging activities during the teaching and learning process. Nonetheless, interest in scientific writing has been seen (Cennetkuşu, 2017).

From the students' point of view, writing is a tiring and dreaded activity because it requires pouring out ideas that must pay attention to writing rules, such as spelling, citation format, and grammar (Defazio, et al., 2010). In this regard, students are less skilled in writing scientific papers, which is one of the requirements for graduating from the undergraduate program to produce articles published in scientific journals. It aligns with Nirwana and Ruspa's (2009) research result, which investigated 30 students' writing scientific papers. The results found that only 9 students (30.00%) were able to write well, while the number of students who were unable to write scientific papers was 21 students (70.00%) for the assessment indicators, namely the suitability of the title with the content, the organization of the content, the systematics of writing, the use of language, and spelling.

In courses designed to teach the scientific process, students must learn to communicate technical information in writing (Biango-Daniels & Sarvary, 2021). Students experience various problems and obstacles in writing scientific papers, namely, lack of motivation and confidence, lack of focus/difficulty getting started, narrow insights, language barriers, lack of references, lack of talent, insufficient time, and other external factors. This is also shown by students' delays in submitting assignments and the low quality of the assignments submitted. Even in each lecture period, on average, only 48% of students presented the works on time, whereas in terms of quality, only 4% received an A, 3% obtained an A-, 6% got a B+, 4% secured a B, 7% acquired a B-, 23% got a C (Asik, 2015). Karyadi and Aswin (2019) reveal that even though scientific writing is one of the mandatory forms of products for the academic world, such as final assignments, theses, and dissertations, the factor causing the low ability of students is the lack of scientific writing activities in organized learning. For many people, writing is difficult, but it

can be developed and honed. A teacher's most significant task is to help students write effectively (Yamson & Borong, 2022). Writing is a complex and multifactorial phenomenon (Raofi, et al., 2017), and one of the contributing factors is the lack of knowledge of research methodology, the role of supervisors, and the lack of student involvement in lecturers' research.

In addition, according to An Nisa (2018, p. 24), writing activities among students are not yet entrenched. Students tended to prefer speaking rather than writing, so students were less skilled in writing scientific papers. Tasks related to writing scientific papers seem to be a burden that is difficult to complete correctly. There are several indicators, including 1) the low enthusiasm of students when participating in scientific work competitions or workshops for writing scientific papers held by bureaucracies, both government and private; 2) the lack of the number of scientific papers such as journal books or articles published by students; 3) lack of use of the library as a source of inspiration; 4) students prefer to get discussion assignments rather than writing written reports; 5) students prefer to convey aspirations through orations rather than expressing these phenomena or facts in scientific writing such as articles; and 6) student writings tend to be unproductive and only contain theoretical patches which are sometimes irrelevant to the topic being discussed.

According to Asik (2015), at the pre-research stage, two factors contributed to students' low achievement in writing scientific papers, namely internal and external factors. Internal factors comprise language proficiency, learning motivation, and student resilience in lectures, and external factors include lecture material that is not understood, approaches, techniques, and methods in classes.

The development of science and technology demands changes in the learning process (Permana, et al., 2023). Based on the problems in the field, some lecturers have issues with learning activities to write scientific articles. One of which is choosing an appropriate learning method or model. Lecturers face challenges in teaching and writing scientific papers. This is in line with Kuiper et al. (2017, p. 29) that instilling scientific paper writing skills is one of the challenges for lecturers who teach scientific paper writing courses. Sulaiman and Muhajir (2019) argue that learning approaches are also needed by educators to improve student's writing skills, especially scientific writing, and lecturers have full responsibilities and significant roles in the teaching and learning process of writing (Indrilla & Ciptaningrum, 2018). According to Sofyan et al. (2007), the benefits of compiling scientific work for writers are (a) to develop effective reading skills, (b) to combine reading results from various sources, (c) to introduce library activities, (d) to improve the organization of facts/data in a clear and systematic manner, (e) to obtain intellectual satisfaction, and (f) to broaden the horizons of knowledge. In composing scientific papers, writers must pay attention to the following things. Scientific writing has a structured, formal, and objective pattern structured, formal and objective, and the language used is often abstract and complex (Fatimah, 2018). Language characteristics of scientific writing, that is, complexity, formality, hedging, and objectivity, are mainly related to the linguistic features of argumentative writing (Aunurrahman, et al., 2017).

Based on the arguments presented above, this study aims to 1) investigate the profile of Semester Learning Plans (SLP) used in five higher education institutions and 2) analyze the needs of students and lecturers in article writing activities. This study attempts to answer the following questions: 1) How to investigate the profile of Semester Learning Plans (SLP) used in five higher education institutions? and 2) What are the needs of students and lecturers in article writing activities?

2. METHOD

This study used the qualitative method. As explained by Creswell and Guetterman in the book entitled *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* in 2018 explain that qualitative research is a type of research that makes the researcher very dependent on information from objects or participants on a broad scope, general questions, data collection mostly from text or words of participants, and explaining and analyzing the text collected subjectively. This method is used to describe scientific article writing ability among tertiary students. The participants in this research were lecturers and students at five tertiary campuses in West Java (University A, University B, University C, University D, and University E). The source of data in this study was the Semester Learning Plan files from the five campuses, involving 5 lecturers and 211 students. The research data were the contents of the Semester Learning Plan, answering the needs of students at the three tertiary institutions.

Data collection techniques consisted of a literature review, questionnaires, and interviews. Literature review used to analyze semester learning plans used by lecturers. The questionnaire technique used in this study aims to obtain a description of students' needs for writing scientific articles. The interview technique was used to obtain a description from the lecturer regarding lecture activities in writing scientific articles.

According to Creswell and Guetterman in the book entitled *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* in 2018, there are several steps in analyzing data, namely (1) preparing and organizing data for analysis, (2) exploring and coding data, (3) analyzing in more detail by coding data, (4) applying the coding process to describe the settings, people, categories, and themes to be analyzed, (5) showing how these descriptions and themes will be restated in a qualitative narrative or report, and (6) validating the accuracy of the research results.

3. RESULTS AND DISCUSSION

3.1 Profile of Learning to Write Scientific Articles in Higher Education

The learning profile of writing scientific articles at tertiary institutions in this study included students from five institutions in Indonesia. The initial profile in learning to write scientific articles aims to find a needs analysis and objective descriptions related to learning to write scientific articles and is used for steps in subsequent research. A

needs analysis in the form of a questionnaire was distributed to the five universities with a total of 211 student respondents.

From the results of the initial test, the assessment was based on the assessment rubric that had been prepared by the researcher using a scale of 100. An initial test indicates that students still struggle to write scientific articles properly and use correct language rules. Other data have been collected through document analysis in the form of syllabus/Semester Learning Plan, interviews addressed to lecturers, and student needs questionnaires. The results of interviews were obtained from five lecturers for the writing scientific writing course. The student needs questionnaire data was obtained from the five campuses that were the objects of study.

3.2 Analysis of Semester Learning Plan

Analyzing the Semester Learning Plan (SLP) is carried out to find ways to guide the implementation of learning activities in the classroom. The observations on the SLPs covered 1) course identity, 2) graduate learning outcomes, 3) course descriptions, 4) lesson plans, assessment and achievement, proportion and assessment scale, and lecture references.

The identity of the Semester Learning Plan (SLP) consists of four aspects, namely course name, course code, course group, and semester credit. The results of the analysis of the five aspects show different percentages, but in terms of course identity, the five research objects have met the standards in designing SLP.

Graduate learning outcomes include three aspects: graduate learning outcomes, course learning outcomes, and lecture materials/course study materials. Analysis of the five aspects shows different percentages. Regarding graduate learning outcomes in SLP, the five research objects have met the standards in designing SLP. The course descriptions of the five institutions show different percentages, but overall, the course descriptions have met the standards in designing the RPS. Graduate learning achievement in the SLP of the five campuses includes four aspects: learning activities, learning methods, learning media, and forms of learning assessment.

The aspects of assessment and achievement in SLP in five institutions include assessment and achievement. In terms of the assessment and achievement aspects of the SLP, three of the five institutions have met the standards, while the remaining two institutions have not met the standards in designing the assessment and achievement aspects of the SLP.

From the aspect of proportion and scale of assessment in SLP, the three research objects have met the standards in designing lecture lesson plans, but the two research objects have not met the standards in designing good SLP.

Furthermore, lecture references in SLP include aspects of the reference list. There are different percentages in the analysis of the five aspects used as research objects. So, regarding lecture references in SLP, the five institutions have met the standards in designing SLP.

The Scientific Writing course in the five campuses has met the standards in designing a lesson plan on average. Only a few sub-aspects must be improved to meet perfection in designing lecture lesson plans.

3.3 Analysis of Students' Needs Questionnaire and Lecturer Interview Results

The distribution of needs questionnaires in this study was directly given to students. The needs questionnaire was filled in by 211 student respondents with a distribution consisting of 67 students from University A, 30 from University B, 38 from University C, 45 from University D, and 31 from University E.

The questionnaire is structured based on aspects related to the learning process of writing scientific articles, students' difficulties in writing, the use of models in learning, and others that aim to obtain initial research data. The aspects contained in this student needs questionnaire total 22 questions by providing answer choices and additional notes if students want to write additional items that are not in the answer choices.

The answers from students varied in terms of the percentage generated. The following details each question item that all students have answered. The first question was whether the lecturer conveyed the SLP at the first lecture meeting. Students who answered the lecturer's answers clearly conveyed that the SLP/syllabus reached 80.57%, namely 170 students. Students who responded that *the lecturer's answers did not share the SLP/syllabus* were 3.79%. Students who answered the lecturer's answers sufficiently conveyed the SLP/syllabus was 14.22%. Students who answered that *lecturers only distributed SLP/Syllabus files without being discussed* were 0.96%. Students who answered *the lecturer explained but were too focused on explaining assignments that were not the main tasks according to the course title* reached 0.47%.

Student answers to the questionnaire are in accordance with the results of interviews with lecturers from University A, University B, University C, University D, and University E, who answered the first question from the planning aspect, namely "Did you prepare lesson plans at the beginning of the lecture?" the five lecturers answered "Yes."

Still related to the first question in the student needs questionnaire, the second question was an interview with lecturers regarding the planning aspect, i.e., "Do you deliver a detailed lesson plan to students at the beginning of the lecture?" Four lecturers answered "Yes," and one responded "No." So, it seems that, in general, lecturers convey detailed learning plans at the beginning of the lecture.

For the second question, *does the lecturer explain the learning objectives or Course Learning Outcomes (Capaian Pembelajaran Mata Kuliah -CPMK) at the first lecture meeting?* Students who answered *the lecturer did not explain it* were 0.47%. Students who answered *the lecturer explained it clearly* were 77.3%. Students who answered *the lecturer conveyed it at a quick glance* were 22.3%.

The answers to the second question on the student needs questionnaire are in accordance. Some are different from the results of interviews with lecturers. The answers of three out of five lecturers responded positively to the third question from the planning aspect, "Do you open the lecture by saying greetings/praying together/

motivating and conveying course learning outcomes?" while one lecturer "Yes, motivating students to be confident in writing scientific papers, but not conveying course learning outcomes at every meeting because matters related to lecture planning have been conveyed at the beginning of the meeting (to save time, so that there is more time for material delivery)." The rest, one lecturer answered, "Just saying hello." So, only three lecturers delivered the course learning outcomes, while the other two lecturers only provided motivation and greetings.

The third question asks *Did the lecturer explain the description of the course he was teaching at the beginning of the lecture?* There were 3.8% of students who answered *the lecturer did not explain, just discussed the materials*. Students who answered, *the lecturer conveyed a clear description of the course* were 2.8%. Students who answered the lecturer explained the benefits of studying the material reached 17.1%. Students who answered *the lecturer conveyed clearly the purpose of learning material* reached 73.5%. Students who answered *the lecturer did not explain; they just directly conveyed the material* were 2.4%. Students who answered *the lecturer explained the general description of the courses taught* consisted of 0.5%.

The fourth question asks, *Does the lecturer convey the scope of lecture material that will be carried out in one semester at the first lecture meeting?* Students who answered *lecturers did not convey the scope of lecture material* were 2.4%. There were 83.4% of the students who answered *the lecturer conveyed the scope of the material clearly*. Students who answered *the lecturer did it briefly, and it was not clear* was 13.7%. Students who answered *the lecturer only conveyed it incidentally* reached 0.58%.

The results of interviews with the five lecturers related to the questions in the student needs questionnaire are in accordance with the fourth interview question from the planning aspect, "Did you prepare lecture material before entering class?" The five lecturers answered, "Yes, I prepared the lecture material."

The fifth question asks *Does the lecturer provide lecture material in pdf/PPT/textbook form?* There were 16.6% of the students who responded the students independently searched for the source/material being studied. Students who answered *the lecturer prepared material in the form of a PDF/PPT file and distributed it to students* were 73%, namely 154. Students who answered the lecturer explained the material orally and not in written form were 6.6%. Students who answered *Lecturers deliver material using PPT but do not distribute it to students, sometimes they also deliver material orally* were 0.5%. Students who answered *the lecturer conveyed material using PPT but did not distribute it to students* were 0.5%. Students who answered *the lecturer conveyed material in the form of pdf/ppt and verbally/not in written form* were 0.5%. Students who answered *the lecturer gave the title of the book and the name of the author as a reference to be searched by each student* were 0.5%. Students who answered *the lecturer explained the material orally by displaying the PPT and the lecturer prepared material in the form of pdf files and related learning books* were 0.5%. Students who answered *Lecturers prepare materials in the form of PDF/PPT files and are not distributed to students* were 0.5%. Students who answered *The lecturer prepares material in PowerPoint form, and students document it* is 0.5%. Students who answered *Both of them, and some are independent and some have been prepared*, were 0.5%.

The sixth question is: *What kind of writing do you like?* Students who answered *short stories* reached 26.2%. Students who answered *Novel* were 23.3%. Students who answered *Poetry* reached 19.6%. Students who answered *Playscript* were 8.6%, namely 26 students. There were 21.3% of the students who answered *Scientific articles*. Students who answered *News Articles* reached were 0.3%. Students who answered *Papers and Essays* reached 0.3%, and those students who answered the *Journal* answers were 0.3%.

This is in accordance with the answers from the interview with the lecturer with the answer: 1) *Not all students are ready to face scientific writing courses, maybe only a few. There are no more than 10 students who are really ready to face the Scientific Writing course*; 2) *Quite a lot*; 3) *For some students they like it*; 4) *Yes, students are enthusiastic about attending lectures. This is because students realize that scientific article writing skills are needed, especially in the systematic part and important things in writing scientific articles*; and 5) *They are enthusiastic because it is related to the final project in the form of a thesis that they will do as a requirement to complete their studies*.

This condition affects the results of scientific articles produced by students, as answered in interviews with lecturers in the sixth question on the lecture aspect: *Do you think the task of writing scientific articles for students is good?* Two lecturers responded, *Sufficiently*, two lecturers replied, *Not yet*, and one answered, *Already*. So, it can be concluded that the task of writing scientific articles for students is generally not good.

The seventh question is: *Where did you get the material for writing scientific articles?* Students who answered *Lectures* were 83.9%. Students who answered *Self-taught* were 2.4%, and none of the students responded *Course*. Students who answered *internet* were 11.8%. Students who answered *Lectures and self-taught* were 0.5%. Students who answered *lectures, books, and the internet* reached 0.5%. Students who answered *answers since high school, I have studied scientific writing* were 0.5%, and the students who answered *lectures and the internet* were 0.5%.

The eighth question is *Does the lecturer deliver material for writing scientific articles in an organized and systematic manner?* Students who answered *randomly* were 8.1%, and students who answered *organized and systematic* reached 91.9%.

The ninth question is: *What are your obstacles in determining the title of a scientific article?* Students who answered *it was difficult to decide on the variable in the title* were 23.2%. Students who answered *difficult to find references* were 19.9%. There were 46.4% of the students who answered *Difficulty in determining or stringing words*. Students who answered *Do not understand the research problem* reached 10%, namely 21 students. Students who answered that they lacked understanding of the research problem were 0.5%.

The student difficulties described in the questionnaire answers are directly proportional to the results of interviews with the five lecturers who answered the seventh question on the lecture aspect; *In your opinion, what difficulties do students experience when learning to write scientific articles takes place?* It indicates that the answers

from the five lecturers are: "(1) express research ideas/objects, (2) make research titles, (3) look for references that are in accordance with research studies, (4) make research formulations, (5) present research methods, (6) outlining/describing the contents of the research, (7) still confused about how to write the right article, (8) lack of understanding of students regarding the characteristics of this type of research, (9) low motivation of students in writing, (10) lack of reading, (11) not many discussions with supporting lecturers, (12) lack of insight into writing scientific articles, (13) do not understand when writing scientific articles the systematics of writing must comply with the rules of the cheating style of the intended agency/institution, (14) errors or errors in the use of conjunctions due to errors that are considered correct and lack of accuracy, and (15) writing citations/references that are not the same because copy paste activities are found without understanding as well as editing first. Even according to the results of interviews with the five lecturers, if students have difficulty understanding the material presented, students often ask the lecture lecturer.

The tenth question is, *What are your obstacles in formulating problems when writing scientific articles?* Students who answered *I have difficulty in determining the object of the problem* were 44.5%. Students who answered *I am still confused in making a problem statement* reached 38.9%. Students who answered *I have no difficulty in formulating the problem* were 16.1%. Students who answered *I have difficulty determining the object of the problem and confused in determining the formulation of the problem* were 0.5%.

The eleventh question is, *Do you have difficulty in starting and arranging words to put them into writing?* Students who answered *Yes, I have difficulty pouring ideas into written form* were 38.4%. There were 53.6% of the students who answered *I already have an idea, but it is hard to put the words together*, and students who answered *No, I easily put ideas into written form* were 8.1%.

The twelfth question is, *Did you have difficulty finding relevant research sources?* Students who answered *I am having trouble finding relevant references/sources* reached 28.4%. Students who answered *I easily search for relevant research sources* were 16.6%, and 54.4% of the students answered *I have obstacles and limitations in finding sources/links to get relevant references*. Students who responded *I have sources/links for relevant references but little to find* reached 0.5%.

The thirteenth question is, *Where do you find the research references needed to write your scientific article?* Students who answered *Book* (3.3%), *Journal* (40.3%), and *Proceedings* (0.5%). In combining the sources of references, *Books, journals, and proceedings* (53.6%), *Books and Journals* (0.5%), *books, journals, internet* (0.5%), and *books, journals, articles* (0.5%).

The fourteenth question is *How do you find references for scientific articles?* Students found the references from the *internet* (45%), *print media* (2.5%), *Online and print media* (52.1%), and *Internet and print media* (0.5%). The fifteenth question is *Do lecturers provide learning models that are interesting and easy to understand when teaching?* Students who answered *the lecturer did not use the right learning model, so it made me bored, and I had difficulty understanding the material* were 26.5%. Students who answered *Lecturers always provide the right learning model when lectures write scientific articles and make it easier for me to understand them* were 68.2%. Students who answered *the lecturer did not use the learning model, but because the material was presented clearly, it was easy to understand* were 0.5%. Students who answered *The lecturer provides the right learning model when lectures write scientific articles, and it is quite easy for me to understand them* were 0.5%. Students who answered *During lectures writing scientific papers is done online so that it becomes a learning model that I feel is less effective* received 0.5% answers. Students who answered *Sometimes* reached 0.5%, and there were 0.5% of the students who answered *Being uncertain because sometimes I have difficulty understanding the material*. Students who answered *The lecturer does not use a particular learning model, only explains the material in general* were 0.5%. Students who answered *Not exactly unattractive but less attractive* were 0.5%. Students who answered *the lecturer always provided additional material to each group after the presentation, making it easier for me to understand that it received* 0.5%. Students who answered *by way of presentation to groups of students who seek and discuss* were 0.5%. Students who responded *Always with PPT* were 0.5%, and the same number for students who responded *Sometimes they use learning models that are easy to understand, and sometimes, students must get their own learning material* reached 0.5%.

The majority of students believed the provision of the right learning model when teaching writing for scientific articles has been delivered. This is in line with the results of interviews with the five lecturers that they use models or methods in learning activities, including genre-based approaches even though in a simple way, case studies, discussion methods, question and answer, collaboration (lectures, interactive learning, discovery learning, and problem-based learning, and project-based learning.

The sixteenth question is, *What kind of learning model can make you interested in writing scientific articles?* 96.2% of the students responded that *The learning model was interesting and could make it easier to write scientific articles*, and the rest of the students believed that there is no need for a model or technique in learning; the important thing is learning.

The seventeenth question is, *Do you need steps or tips for writing scientific articles?* Students who answered *No need, I already know the tips and steps for writing scientific articles easily* were 0.9%, and students who answered *I really need tips or easy steps in writing scientific articles* were 99.1%.

The eighteenth question: *If the lecturer uses the learning model in the writing process, can it help you in writing scientific articles?* Students who answered *Yes, it can help make it easier to write and more focused* were 91.9%, while students who answered *Not very helpful, because writing scientific articles is very difficult* were 7.1%. Students who responded *Not very helpful, because writing scientific articles is very easy* were 0.5%, and students who answered *Enough to help with reviewing the writing results that are being written* were 0.5%.

The nineteenth question is, *Do you have difficulty in using appropriate/standard language style when writing scientific articles?* There were 76.8% of the students who answered *the answer I find it difficult to determine the*

right style of language in writing scientific articles, and 20.9% of the students who answered *easily determined the right style of language to write a scientific article*. In addition to this, students who answered *Sometimes trouble reached 0.5%*. Students who responded *Sometimes it is easy to determine the style of language, but there are also difficulties in putting it together* were 0.5%. Students who answered *Sometimes* were 0.5%, and students who responded *It is a little difficult to determine the right style of language in writing scientific articles* were 0.5%.

The twentieth question is: *What are your difficulties in finding data and facts in writing scientific articles?* Students who answered *I have difficulty finding data and facts that are appropriate to the object of research in writing scientific articles* were 82.9%, and 16.6% of the students answered *I easily find data and facts when writing scientific articles*. Students who answered *Sometimes* reached 0.5%.

The twenty-first question is, *When writing scientific research articles, do you experience difficulties in determining the right methodology, approach, technique, and method?* Students who responded *Yes, even I have difficulty distinguishing methodologies, approaches, techniques, and methods in research* were 73.5%, and students who answered *I have no difficulty determining the appropriate methodology, approaches, techniques, and methods in research* were 23.7%. Students who answered *Sometimes* reached 0.5%, namely 1 student. Students who answered quite difficult answers reached 0.5%, namely 1 student. Students who answered *Sometimes there are still upside down between methodologies, approaches, techniques, and methods of research* were 0.5%, and 0.5% of the students who answered *Not too familiar with this matter*. Students responded that they had a little difficulty with the terminology, only 0.5%.

The twenty-second question is, *Does the activity of writing scientific articles using a research-based learning model make it easier for you?* Students who answered *Yes because it can help and make it easier to write scientific articles in a structured manner* were 94.3%, followed by students who answered *No because without research-based, it was easy for me to write scientific articles* 3.3%. There were 0.5% of the students who answered *I do not really know this model yet, but it looks like it will be quite useful and help me understand how to write scientific articles more easily; I do not know because I've never tried it; I do not know yet, because I haven't tried learning to write scientific articles using this model; Yes, it is easy. It just takes enough time to do the research, and Maybe*.

The last question in the questionnaire contains student suggestions for writing scientific articles. The comments written/given by students are as follows. *Please write down your suggestions for writing scientific articles*; The suggestions were:

Excerpt 1

My suggestion is that in my scientific article writing activities, I need tips and several ways to make it easier to write scientific articles;

To write scientific articles, an innovative learning model is needed that can help make it easier for students to write scientific articles. With clear steps and procedures that can be understood easily;

My advice for writing scientific articles is to stay focused and be more thorough, as well as be more diligent in looking for references;

It is explained in more detail and sequentially how to write scientific articles and put ideas and ideas into writing;

It is expected that in the future there will be methods or models that can be used to help and foster student motivation in writing scientific articles;

In writing scientific articles, I really need references/sources that are very relevant to the object of my research. Please also include tips and tricks for finding/collecting data from relevant sources and determining the boundaries of the problem so as not to stray too far from the core of the research;

Hopefully, by learning to use other techniques, writing scientific articles will become easier;

In my opinion, the activity of writing scientific articles will be even better if it is carried out in an interesting way in various daily implementation activities. It aims to avoid monotonous things in learning explained systematically.

Furthermore, comments given by other students related to writing scientific papers were as follows.

Excerpt 2

Writing scientific articles needs practice and previous literature studies as a guide. Need to be guided by lecturers and increase references;

My suggestion is that the process of learning to write scientific articles is not only oriented towards the results obtained but whether it is true or not and the process it goes through;

Must know in advance what will be researched, the problems to be taken, and understand the flow of research so that writing articles can be easy;

This activity should be developed;

In my opinion, in the activity of writing scientific articles, you really need to get directions and guidance accompanied by steps and explanations so you won't experience confusion, one of which is by using the right learning model;

Provide tips to make it easier to write scientific papers, especially to use language style;

More practice making articles systematically so that each of its parts can be understood how to make it easily;

Writing scientific articles is a new experience for me. Indeed, sometimes it is difficult to understand and start writing scientific articles, but try to write several times. If it is started and running, it will flow by itself. For suggestions, maybe experts or educators can share with each other to help students who are just starting to write scientific articles in methods and ways that are detailed, simple, and easy to understand;

Align the factors involved in the process of writing scientific articles so that they are sustainable; Hopefully, in learning to write scientific articles, you can use even more interesting methods so that they can help students write scientific articles;

Simplified sourcing.

The results of other interviews related to questions on aspects of lectures, namely "What are the lecturers' obstacles in teaching writing scientific articles?" The answers from the five lecturers were 1) the time given was too little; 2) it is not connected when explaining the material because only a few students actually read books and write scientific papers; 3) choosing the right method in lectures to write scientific papers, 4) students' lack of understanding of the material presented, and 5) low student motivation in writing and lack of interest in reading.

Next, an interview question on the evaluation aspect was asked: *Did you prepare assessment parameters for student writing assignments?* The five lecturers answered that they prepared assessment parameters. Still, in the evaluation aspect of interview questions with lecturers, *What efforts were taken to overcome difficulties in writing scientific papers?* The answers from the five lecturers included: 1) opening discussions outside of lectures; 2) it is advisable to discuss with lecturers who are experts in the field of student research; 3) discussions via WA, which always run throughout the 16 meetings; 4) it is advisable to take part in training on writing scientific papers both online and offline, 5) provide a deeper understanding regarding writing scientific articles 6) students are asked to analyze various scientific articles and present the things they find, 7) practice in using the Mendeley application to facilitating the writing of citations/references and bibliography, and 8) giving examples of published scientific works and practicing making scientific papers.

The next interview question was, *Have you ever taught research writing using a Genre-based writing model?* All lecturers answered that they had never used the Genre-based writing model, but one lecturer had used a simplified Genre-based Approach. Based on the results of the analysis of the interviews with the lecturers, it can be concluded that educators say students do not yet have good skills in writing scientific papers. Even though lecturers have used several learning models, not all students like learning to write scientific articles. In addition, students experience difficulties in expressing research ideas/objects, making research titles, finding references that are appropriate to research studies, making research formulations, suggesting research methods, and outlining/describing research content. Factors that cause difficulties are a lack of reading and not being serious in looking for references, and the lecturers also do not know and understand the Genre Based Writing model. Therefore, the Genre Based Writing model is very important to be developed in this study aimed at improving students' article writing skills.

The results of this study, stating that students have difficulty stringing words, determining the right language style, not understanding research problems, and not all students like learning to write scientific articles is in line with what Asik (2015) describes that the causes for them are narrow insight, linguistic constraints, and lack of references. In addition, students have difficulty expressing research ideas/objects, making research titles, finding references under research studies, making research formulations, proposing research methods, and describing research content. The factors that cause difficulties are a lack of reading and not being serious about finding references. Therefore, students need tips for writing scientific articles, and according to students, an exciting learning model for learning to write scientific articles is very helpful in overcoming their problems.

In addition, based on the results of An Nisa's research (2018), students prefer discussion tasks rather than written report writing tasks, and student writings tend to be unproductive, only containing patches of theory that are sometimes irrelevant to the topic being discussed. Even worse, these writings sometimes only include plagiarized ideas or thoughts and even other people's reports. This is in line with the results of this study that students generally prefer to write literary works in the form of short stories, novels, poetry, and drama scripts rather than writing scientific articles.

4. CONCLUSION

Based on the research findings, it can be concluded that the ability of students to write scientific articles is still not good. The obstacles experienced by students in writing scientific papers, namely, difficulty starting writing, many students are still confused about starting to write scientific papers, some have compiled ideas or ideas in their heads but have not been able to pour them out because they don't know where to start. In addition, several times,

complaints from students can be heard because they had difficulty writing scientific paper assignments. In addition, student writing tends to contain patches of theory that are less relevant to the topic being discussed.

The analysis of student needs questionnaire data shows that students still have difficulties writing scientific papers in the form of journal articles, especially in formulating research concepts. Likewise, in the learning process and the results of comments from students, they prefer and want the use of learning models that make it easier for students to understand and write scientific articles. Therefore, it can be concluded that students need a learning model that is able to overcome problems in writing scientific articles according to student needs. Another conclusion is that students really need tips for writing scientific articles, and according to students, interesting learning models in learning to write scientific articles really help overcome their problems.

5. ACKNOWLEDGEMENTS

We thank all parties involved in this research, especially all students and lecturers who were involved in this research. We also thank the editorial team for making this publication possible.

6. REFERENCES

- Adas, D., & Bakir, A. (2013). Writing difficulties and new solutions: Blended learning as an approach to improve writing abilities PhD in teaching English language methods. *International Journal of Humanities and Social Science*, 3(9), 254–266.
- An Nisa, K. (2018). Problem based learning dalam meningkatkan kemampuan menulis karya ilmiah mahasiswa (Problem-based learning in improving students' ability to write scientific papers). *Jurnal Petik*, 2(1), 24. <https://doi.org/10.31980/jpetik.v2i1.63>
- Asik, N. (2015). Peningkatan kemampuan menulis karya ilmiah melalui pendekatan kolaboratif (Improving the ability to write scientific papers through a collaborative approach.). *Bahtera: Jurnal Pendidikan Bahasa dan Sastra*, 14(2), 168-183. <https://doi.org/10.21009/BAHTERA.142.06>
- Aunurrahman, Hamied, F. A., & Emilia, E. (2017). Exploring the tertiary EFL students' academic writing competencies. *Indonesian Journal of Applied Linguistics*, 7(1), 72–79. <https://doi.org/10.17509/ijal.v7i1.6860>
- Biango-Daniels, M., & Sarvary, M. (2021). A challenge in teaching scientific communication: academic experience does not improve undergraduates' ability to assess their or their peers' writing. *Assessment and Evaluation in Higher Education*, 46(5), 809–820. <https://doi.org/10.1080/02602938.2020.1812512>
- Bulqiyah, S., Mahbub, M. A., & Nugraheni, D. A. (2021). Investigating writing difficulties in essay writing: Tertiary students' perspectives. *English Language Teaching Educational Journal*, 4(1), 61. <https://doi.org/10.12928/eltej.v4i1.2371>
- Cennetkuşu, N. G. (2017). International students' challenges in academic writing: A case study from a prominent US university. *Journal of Language and Linguistic Studies*, 13(2), 309-323.
- Defazio, J., Jones, J., Tennant, F., & Hook, S. A. (2010). Academic literacy: The importance and impact of writing across the curriculum – A case study. *Journal of the Scholarship of Teaching and Learning*, 10(2), 34–47.
- Fatimah, N. (2018). Students' needs for academic writing at the english education department. *English Language Teaching Educational Journal*, 1(3), 161. <https://doi.org/10.12928/eltej.v1i3.744>
- Ghufron, M. A., Saleh, M., & Sofwan, A. (2016). A model of research paper writing instructional materials for academic writing course: "Needs & documents analysis and model design". *English Language Teaching*, 9(3), 1-12. <https://doi.org/10.5539/elt.v9n3p1>
- Hanafiah, H., Sauri, R. S., Mulyadi, D., & Arifudin, O. (2021). Pelatihan software mendeley dalam peningkatan kualitas artikel ilmiah bagi mahasiswa (Training in Mendeley software for enhancing the quality of academic articles for students). *Jurnal Karya Abdi Masyarakat*, 5(2), 213-220.
- Haryadi, R. N. (2022). The effect of vocabulary mastery and learning motivation towards description writing ability. *JEdu: Journal of English Education*, 2(1), 88–94. <https://doi.org/10.30998/jedu.v2i1.6430>
- Indrilla, N., & Ciptaningrum, D. S. (2018). An approach in teaching writing skills: does it offer a new insight in enhancing students writing ability. *LLT Journal: A Journal on Language and Language Teaching*, 21(2), 124-133. <https://doi.org/10.24071/llt.v21i2.1036>
- Karlen, Y., & Compagnoni, M. (2017). Implicit theory of writing ability: Relationship to metacognitive strategy knowledge and strategy use in academic writing. *Psychology Learning and Teaching*, 16(1), 47–63. <https://doi.org/10.1177/1475725716682887>
- Karyadi, B., & Aswin, P. (2019). The students' ability of writing report based on field study result in conservation area. *Journal of Science Education Research*, 3(2), 87–89. <https://doi.org/10.21831/jser.v3i2.30622>
- Kuiper, C., Kuiper, C., Smit, J., Wachter, L. De., & Elen, J. (2017). Scaffolding tertiary students' writing in a genre-based writing intervention. *Journal of Writing Research*, 9(1), 27–59. <https://doi.org/10.17239/jowr-2017.09.01.02>
- Mohammad, T., & Hazarika, Z. (2016). Difficulties of learning EFL in KSA: Writing skills in context. *International Journal of English Linguistics*, 6(3), 105-117. <https://doi.org/10.5539/ijel.v6n3p105>
- Nirwana, N., & Ruspa, A. R. (2020). Kemampuan menulis karya tulis ilmiah mahasiswa prodi Informatika Universitas Cokroaminoto Palopo (The ability to write academic papers of Informatics students at Cokroaminoto University Palopo). *Jurnal Onoma: Pendidikan, Bahasa, Dan Sastra*, 6(1), 557-566. <https://doi.org/10.30605/onoma.v6i1.277>
- Permana, T. I., Fatmawati, D., Nuryady, M. M., Fahlevy, I. R., & Ardiansyah, I. (2023). Scientific writing: A way to improve students' information literacy and reasoning ability. *Journal of Community Service and Empowerment*, 4(2), 319-325. <https://doi.org/10.22219/jcse.v4i2.25167>

- Pineteh, E. A. (2014). The academic writing challenges of undergraduate students: A South African case study. *International Journal of Higher Education*, 3(1), 12–22. <https://doi.org/10.5430/ijhe.v3n1p12>
- Rahmiati, R. (2013). Problematika mahasiswa dalam menulis karya ilmiah. *Jurnal Adabiyah*, 13(2), 160-174.
- Raofi, S., Binandeh, M., & Rahmani, S. (2017). An Investigation into writing strategies and writing proficiency of university students. *Journal of Language Teaching and Research*, 8(1), 191–198. <http://doi.org/10.17507/jltr.0801.24>
- Richardson, S. M., Bella, F., Mougel, V., & Milić, J. V. (2021). Scientific writing and publishing for early-career researchers from the perspective of young chemists. *Journal of Materials Chemistry A*, 9(35), 18674–18680. <https://doi.org/10.1039/d1ta90183d>
- Sajid, M. K. M., & Siddiqui, J. A. (2015). Lack of academic writing skills in English language at higher education level in Pakistan : Causes, effects and remedies evaluation and improvement of students' satisfaction. *International Journal of Language and Linguistics*, 2(4), 174–186.
- Sari, Y. I., Sumarmi, Utomo, D. H., & Astina, I. K. (2021). The effect of problem-based learning on problem solving and scientific writing skills. *International Journal of Instruction*, 14(2), 11–26. <https://doi.org/10.29333/iji.2021.1422a>
- Silveira, E. A., de Sousa Romeiro, A. M., & Noll, M. (2022). Guide for scientific writing: How to avoid common mistakes in a scientific article. *Journal of Human Growth and Development*, 32(3), 341–352. <https://doi.org/10.36311/jhgd.v32.13791>
- Sulaiman, R., & Muhajir. (2019). The difficulties of writing scientific work at the English Education students. *Journal of English Education*, 4(1), 54–60. <http://doi.org/10.31327/jee.v4i1.923>
- Yamson (MAED), E. P., & L. Borong (EdD), N. (2022). Metacognitive strategies for developing writing skills. *International Journal of Social Sciences and Humanities Invention*, 9(11), 7395–7403. <https://doi.org/10.18535/ijsshi/v9i011.08>