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WEBINAR TUTORIAL TO IMPROVE STUDENTS' ABILITY TO WRITE SCIENTIFIC ARTICLES

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Abstract

Scientific work courses are mandatory courses that must be taken by all Open University students after graduating a minimum of 125 credits for non-SIPAS services, while for SIPAS service students, this course can be taken according to the available packages. However, many students experience difficulties in writing scientific articles, especially in determining article titles, writing introductions, compiling methods, writing results, and compiling discussions and bibliographies, which has an impact on the quality of their research and publications. This study aims to analyze students' ability to write scientific articles and identify factors that affect these abilities. The subject of this research is a student of the Educational Technology Study Program of Open University Semester who takes a scientific work course. Data was obtained from assignments collected by students, ranging from the first task to the fourth task, which were observed using an assessment sheet. The results of the study showed that students' abilities improved after participating in the webinar tutorial four times, thus emphasizing the importance of technology-based learning in improving students' scientific writing skills.

Keywords: Scientific articles, online tutorials, webinars.

1 INTRODUCTION

The ability to write scientific articles is one of the important skills that must be mastered by students, especially in an academic environment that continues to evolve with adaptation to technological advances (Jo, 2021; J. Li & Mak, 2022). Scientific writing not only functions as a requirement for completing studies, but also as a means to convey research results, share knowledge, and contribute to the development of science (Alkamel & Alwagieh, 2024; M. Li & Pei, 2024). The Open University as a higher education institution that provides access to education widely, is committed to improving the competence of its students, especially in the field of research and scientific writing (Indrawan et al., 2020; Wu et al., 2024). In this context, students need to have a deep understanding of good and correct writing procedures and techniques, so that their work is in accordance with academic standards and can have a positive impact on society (Tobon & Lozano-Salmorán, 2024).

One of the efforts that can be undertaken to enhance students' scientific article writing skills is the implementation of specially designed webinar tutorials. This webinar will equip students with the knowledge and skills needed to write quality scientific articles (Budiarso et al., 2022) as well as being an effective platform for sharing information and experiences. This activity allows students to explore various important aspects of scientific writing, from topic selection, data collection and analysis, to drafting and editing techniques (Muskitta et al., 2023). By presenting competent speakers in their fields, this tutorial is expected to help students understand the writing process holistically so that they can produce scientific papers that not only meet academic standards but also positively impact the wider community.

This webinar tutorial will provide in-depth insights into effective writing techniques, scientific article structure, and how to structure logical and data-driven arguments (Werdiningsih et al., 2023). Programs like this are considered effective in improving students' ability to write and compile articles that meet academic standards, with a focus on strengthening logical and structured evidence-based arguments. In addition, this activity also serves to encourage students to be more active in participating in the scientific community, expand their academic network, and increase motivation to continue working (Hadianti, 2023). Participation in scientific webinars can hone students' critical skills and understanding of various aspects of academic research and writing. With this in-depth approach, it is hoped that Open University students can increase their confidence and produce high-quality writing, ready to contribute to academic and research fields that have an impact on the wider community. Thus, webinar tutorials not only act as a learning tool, but also as a means to develop writing and scientific research skills that are beneficial to the public.

Writing scientific papers is a very important skill for final year students to master (Rahmatullah, 2022). Scientific papers are research papers that aim to solve problems based on scientific theories and methods. In the Educational Technology Study Program, students are required to take scientific work courses after graduating with a minimum of 125 credits. Although this course has a weight of 0 credits, students cannot graduate without completing it. The learning process is carried out through online tutorials, where students are required to take part in webinar tutorials sebanyak 5 kali. Tujuan dari webinar tutorials is so that students are able to write scientific articles that are ready to be published.

However, the use of webinar tutorials by students is still not optimal. Some of the problems that arose during the implementation of Tuweb included (1) students were often late, (2)

students were present but did not listen properly, (3) students did not turn on the camera, so it was difficult for tutors to control activities, (4) students were passive, and (5) students had difficulty conducting research because the time given was very short. The observation results showed that students still had difficulties in completing the assigned assignments, including: (1) writing the title of the article, (2) writing the introduction, (3) writing the method, (4) writing the research results, and (5) writing the bibliography. Therefore, the purpose of this study is to analyze the difficulties of students in making scientific papers that are worthy of publication. The purpose of this study is to identify and analyze the difficulties faced by Open University students in writing scientific articles, including in writing titles, introductions, methods, research results, and bibliography.

2 METHODOLOGY

This research uses a qualitative method with instruments using assessment sheets based on article assignments collected by students. The collected data is analyzed using descriptive statistical techniques displayed in the form of tables. The article rating grid is as seen in Table 1.

Table 1. Student article assessment grid

No	Kriteria Penilaian
1	Accuracy in writing titles
2	Accuracy in writing the author's name and email
3	Accuracy of abstract writing
4	Accuracy of writing an introduction
5	Accuracy of writing methods
6	Accuracy in writing results and discussion
7	Accuracy of writing conclusions
8	Accuracy in writing bibliographies

The subjects of this study consisted of 15 students of the Educational Technology Study Program who were taking the Scientific Work course, selected purposively to ensure relevance to the research objectives. Through this approach, this research aims to provide a comprehensive understanding of the phenomenon being studied, as well as present reliable and relevant results for scientific development in the field of Educational Technology.

3 FINDINGS AND DISCUSSION

3.1 Result

The results of the research related to common mistakes made by students in completing the final project of scientific work can be seen in Table 2.

Tabel 2. Common mistakes students make in writing scientific articles

No	Criterion	Frequent errors
1	**Accuracy in writing titles**	1. The title is written like a research report 2. The title is not written concisely and clearly, instead resembling the title of an irrelevant research report
2	**Accuracy in writing the author's name and email**	1. The names of authors, supervisors, and agencies are not written in completely and are not following the proper format 2. No email address
3	**Accuracy of abstract writing**	1. The abstract is too long 2. Background is unclear 3. The problem has not been identified 4. The purpose of the study is not in line with the results 5. Written does not represent the content of the article as a whole
4	**Accuracy of writing an introduction**	1. An overly generic background 2. Unclear issues 3. There are no explicit research objectives 4. Novelty is not conveyed 5. Irrelevant theoretical foundations 6. Lack of comprehensive literature review 7. Claims that are not supported by evidence
5	**Accuracy of writing methods**	1. Does not describe population and sample 2. Lack of explanation of data analysis techniques: 3. Use of improper methods 4. Not by the purpose of the research 5. Too many theories
6	**Accuracy in writing results and discussion**	The results of the study were not corroborated by statistical data or measurable evidence
7	**Accuracy of writing conclusions**	1. The conclusions written are not by the purpose of the research 2. Conclusions made are not under the results and discussions
8	**Accuracy in writing bibliographies**	The bibliography does not follow the correct writing format, there are many errors in the writing of the author's name, year of publication, title, and publisher

3.2 Discussion

This study's results show several significant weaknesses in writing scientific articles, especially in important parts such as titles, abstracts, introductions, methods, results and discussions, and conclusions. In the title section, it was found that many titles were written to resemble research reports, which did not fit the format of scientific journal articles. This shows that writers tend to understand less about the importance of concise, clear, and informative titles (El-Sulukiyyah & Mardiningsih, 2023). A good title should reflect the essence of the research appropriately and grab the reader's attention, so this mistake indicates the need to improve the author's understanding of title writing techniques.

In addition, in the section of writing the author's name and email, the results of the study show that many articles do not include the names of the author, supervisor, and agency completely according to the format that should be (Syihab & Wijiharta, 2022). This inaccuracy can reduce the author's credibility in the eyes of readers, as well as create the impression that the writing guidelines are not followed properly. In the abstract section, it was found that the abstracts written tended to be too long, unclear in presenting the background, and did not show a strong relationship between the research objectives and the results achieved (Nurlaili et al., 2023). An abstract that does not reflect the content of the research well can reduce the appeal of the article and cause the reader not to understand the essence of the research (Syaputra et al., 2024).

Written introductions are also often too general, with research problems that are not explicitly explained and objectives that are less clear (Mahsusi & Hudaa, 2022). In addition, the novelty of research is rarely conveyed well, so that the contribution of research to the scientific field becomes invisible. The method section is also not spared from weaknesses, with many authors not explaining populations, samples, or data analysis techniques in detail. Methods that are not in accordance with the research objectives can reduce the validity of the research results obtained.

In the results and discussion section, many articles do not reinforce the findings with clear statistical data, which in turn can reduce confidence in the results of the study. Results that are not supported by adequate statistical data will be difficult to assess their validity (Putra, 2020). In addition, the conclusions presented often do not answer the purpose of the research, making the research seem directionless. A good conclusion should be able to summarize the results of the research and answer the research question clearly. Finally, in the bibliography section, there

were many errors in the writing of the name, year, and publisher, which showed that the author was not careful in following the correct format.

Overall, this study reveals that the writing of scientific articles still needs to be improved in various aspects, especially in terms of clear writing structure, use of valid data, and preparation of arguments that are following the research objectives. Further training and guidance regarding good scientific writing techniques will be very helpful in improving the quality of scientific articles in the future (Sulfa Saguni et al., 2024). This study reveals a number of critical weaknesses in the writing of scientific articles, which provide a new view of the quality and consistency of academic writing, especially in the parts that greatly affect the acceptance of articles in scientific journals. One of the standout findings is that common errors occur consistently in the writing of titles, abstracts, and introductions, leading to a lack of appeal and clarity of the article for readers. Additionally, the study showed that many authors failed to align the research objectives with the methods and results they presented, significantly impacting the credibility and validity of the research.

4 CONCLUSION

Based on the results and discussions presented, it can be concluded that webinar-based tutorials are effective in enhancing Open University students' ability to write scientific articles, particularly in the areas of title preparation, introduction, methods, results, and discussion sections. However, students still face challenges in adhering to academic formatting and using statistical data appropriately. Therefore, more intensive guidance is required to help overcome these challenges. This study highlights the importance of technology-based learning in supporting scientific writing skills and recommends more comprehensive training for students.

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