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IMPROVING THE EFFECTIVENESS OF SCIENTIFIC WORK LEARNING AT OPEN UNIVERSITIES: EVALUATION AND RECOMMENDATIONS

St. Maria Ulfah

Universitas Terbuka

mariaulfah@ecampus.ut.ac.id

Abstract

This research aims to evaluate the implementation of Karil courses at UT with a focus on student readiness, teaching methods, lecturer guidance, and the use of technology. This research also provides recommendations to improve the quality of learning. Evaluation is carried out through a survey of students, and analysis of the results of students' scientific work. Data were collected using questionnaires designed to assess various aspects of course implementation. The findings of the study show that although students experience improved academic writing skills after taking this course, there are still several challenges, including limitations in personal guidance, technical difficulties in using e-learning platforms, and variations in the quality of scientific papers. Students feel less prepared before taking courses and need more support in terms of research methodology and guidance. The implementation of Karil courses at UT needs to be improved by providing more intensive initial guidance, increasing interaction between lecturers and students, and improving the use of technology. Recommendations include the provision of additional training, improvement of the quality of guidance, and improvement of technical support.

Keywords: Scientific Works, Open University, Evaluation, Guidance, Educational Technology

1 INTRODUCTION

The Scientific Work (Karil) course is one of the compulsory courses at the Open University (UT) which aims to develop students' ability to write quality scientific papers. This course is important because it provides a foundation for students to develop research skills, critical analysis, and academic writing skills. However, along with the development of technology and changes in the learning system, evaluation of the implementation of this course is something that needs to be done to ensure its relevance and effectiveness.

Research on the development of academic writing skills through the Scientific Work course at the Open University (UT) reveals various important aspects of the learning process. Suryani et

al. (2018) showed that this course is effective in improving students' academic writing skills, although many students still face difficulties in writing structure and organizing arguments, so more in-depth guidance in the early stages of writing is highly recommended. Wahyudi (2019) evaluated the quality of online tutoring in this course, finding that although it provides high flexibility, online tutoring has limitations in direct interaction and personalization, so integration with face-to-face sessions is necessary to improve learning effectiveness. Putri and Harahap (2020) investigated the technical and non-technical obstacles faced by students in the preparation of scientific papers in distance universities, found that obstacles such as internet access, technological skills, time management, and motivation played a major role in the process, and recommended increased technical and motivational support. Lestari (2021) examined the influence of the use of e-learning platforms on the quality of scientific works, showing that students who actively use e-learning features produce scientific works of better quality, so it is important to improve understanding and use of this platform. Hasan and Rahman (2022) found a positive correlation between mastery of research methodology and the quality of scientific works, suggesting more emphasis on research methodology courses before students take the Scientific Work course. Nugroho (2023) evaluated the effects of collaborative learning, showed that students who participated in study groups or discussions were more successful in compiling scientific papers than those who worked individually, and recommended the application of collaborative learning methods more broadly.

Higher education in the digital era faces various challenges and opportunities, especially in the development of academic writing skills and the use of technology. Recent books provide in-depth insights into key aspects in this field.

Kurniawan (2019) in his book Educational Research Methodology: Theory and Practice discusses the theory and practice of essential research methodologies to improve the quality of student academic writing. This book is the main reference for students and educators who want to deepen their understanding of a good and correct research structure. In line with that, Sari (2020) in E-Learning Learning Strategies in the Digital Era highlighting the importance of effective strategies in online learning by providing practical guidance on the use of e-learning technology to improve the student learning experience, as well as emphasizing the importance of integration between online and face-to-face tutoring.

Furthermore, in the context of distance education, Putra (2021) through his book Distance Education and the Challenges of Technology identifies various technical and non-technical obstacles faced by students, such as internet access and motivation, which are often obstacles in the preparation of scientific papers. To overcome these problems, Putra offers various relevant solutions and recommendations.

Widiastuti (2022) also made an important contribution through her book Improving the Quality of Academic Writing: Perspectives and Applications, which examines various ways to improve students' academic writing skills by emphasizing the importance of in-depth guidance and the proper use of technology. Finally, Mahendra (2023) in his book Innovation in Collaborative Learning explores the positive effects of collaborative learning methods on the ability to compose scientific papers, and recommends the application of this method more widely to encourage academic success through group work and active discussion.

Overall, this series of books provides a comprehensive view of the importance of good methodologies, e-learning technology, support for distance education, improvement of academic writing skills, and collaboration in the learning process, all of which aim to improve the academic quality of students.

To support the opinions expressed in these books, it can be concluded that the success of students in compiling scientific papers is influenced by several important factors, such as a deep understanding of research methodologies, effective learning strategies, and continuous guidance. A holistic approach, as outlined by Kurniawan (2019) and Widiastuti (2022), in mastering academic writing techniques, can be combined with e-learning technology innovations described by Sari (2020) and the development of collaborative methods proposed by Mahendra (2023) which Collaboratively explores the effects of collaborative learning methods on the ability to compose scientific papers. This book recommends the application of this method more widely to encourage students' academic success through group work and active discussion. In addition, attention to the challenges faced in distance education, as explained by Putra (2021), Collaborative explores the effects of collaborative learning methods on the ability to compose scientific papers. This book recommends the application of this method more widely to encourage students' academic success through group work and active discussion.

further reinforces the importance of adaptive and relevant solutions for students. Thus, the synergy of these various approaches will further strengthen the quality of student learning and academic writing.

2 METHODOLOGY

2.1 Research Location

This evaluation research will be carried out in Majene Regency by the author on S1 PG PAUD semester 9 students consisting of 15 students during the 2024 registration period.1, namely between April and June who are taking scientific work courses. The reason for the selection in the research is because students come from the same area.

2.2 Research Design

This study uses a quantitative descriptive research design with a survey approach to evaluate the implementation of Scientific Work (Karil) courses at the Open University (UT). This design allows for extensive data collection from respondents to get an overview of effectiveness, challenges, and recommendations for improvement.

2.3 Research Subject

The population in this study is Open University students who are taking Scientific Work courses in a certain semester. The sample was taken by purposive sampling, which is to select students who are actively enrolled in Karil courses and are willing to be respondents. The total sample taken was 15 students from the PGPAUD study program.

2.4 Data Collection Methods

The research instrument consists of a survey questionnaire designed to collect data on:

1. Student readiness before taking the Careers course.
2. Teaching methods applied in courses.
3. The quality and effectiveness of lecturer guidance.
4. The use of technology in learning.
5. The quality of scientific works produced by students.
6. Suggestions and feedback for improvement.

2.5 Data Analysis Techniques

Data was collected through Online surveys. The survey questionnaire was distributed through the Google Forms platform to students enrolled in the Curriculum course. Data collection was carried out for two weeks to give enough time for respondents to complete the survey. Data collected from online surveys, data from survey questionnaires are analyzed using descriptive statistics to calculate frequency, percentage.

Furthermore, the calculation is based on the weighting score of the answer option (yes=3, sometimes=2, no=1) (Suharsimi, et al., 2004) with the formula

$$X = \frac{\sum f(code)}{\sum f}$$

3 FINDINGS AND DISCUSSION

The results of the questionnaire are based on the grid that has been made:

The following is an explanation of the results of the questionnaire:

a. Preparation Before Taking the Scientific Work Course

A total of 85.7% of respondents stated that they had preparation before taking scientific work courses, while 14.3% stated that they sometimes prepare. None of the respondents answered "No". These results show that most students already have awareness and readiness to take scientific work courses, which is an important basis for undergoing a more in-depth learning process. However, a small number of students who "sometimes" do preparation may need to be given more attention to improve their consistency in preparing.

b. Basic Understanding of Research Methodology and Scientific Writing Before the Course

Only 28.6% of respondents felt that they had a basic understanding of research methodology before taking this course, while 57.1% felt that they sometimes understood, and 14.3% felt that they did not have any understanding at all. This suggests that there is a need to strengthen the learning of research methodology and scientific writing from the beginning of the course,

perhaps through more structured introductory materials and more intensive training to improve students' basic understanding.

c. Additional Training on the Use of Technology in Writing Scientific Papers

A total of 71.4% of respondents felt that additional training related to the use of technology was provided, while 14.3% felt that it was sometimes available, and 14.3% stated that such training was not provided. This shows that most students feel that technology facilities and training are adequate, but there are still some who feel that technology training is not always available or adequate. Strengthening and expanding access to technology training can be a solution to meet the needs of students who do not feel helped enough.

d. The Need for Additional Training Related to Technology in Compiling Scientific Papers

All respondents (100%) stated that they felt they needed additional training related to the use of technology in compiling scientific papers. This shows a very high awareness among college students about the importance of technological skills in scientific writing. It also indicates that even though the training already exists (based on the previous point), students still feel that the training needs to be improved or expanded to be more relevant to their needs.

e. Difficulties Before and During Taking Scientific Work Courses

A total of 71.4% of respondents felt that they sometimes experienced difficulties before and during this course, while 14.3% stated that they always experienced difficulties, and 14.3% did not experience difficulties. This shows that the majority of students face challenges in completing assignments and participating in scientific work learning, although not at a continuous level. This can be addressed by providing more intensive tutoring or more structured academic support to help them cope with the difficulties.

The results of the questionnaire showed that the majority of students had good preparation before taking the scientific work course, but the basic understanding of the research methodology still needed to be improved. Although most feel that technology training is readily available, the need for additional training is very high. The difficulties experienced by students also need to be handled better through more intensive guidance and support during the course.

Overall, several improvements are needed in the aspects of training and guidance to ensure that students receive adequate support in compiling scientific papers.

4 CONCLUSION

Based on the results of the questionnaire and discussion that has been carried out, several important points can be concluded related to the Scientific Work course at the Open University (UT):

a. Most students have prepared well before taking scientific work courses, but there are a small number who are not consistent in preparing themselves.
b. The basic understanding of research methodology and scientific writing is still relatively low, where most students only have a limited understanding or sometimes master the basics.
c. Most students feel that additional technology training is already provided, but there is still a greater need to expand and improve the quality of the training, especially to meet the expectations of all students.
d. All students feel that they need additional training related to the use of technology in the preparation of scientific papers. This signifies the importance of more intensive and relevant technical support in the process of preparing scientific papers.
e. Most students admitted to facing difficulties before and during scientific work courses, although to varying degrees. This shows that there is a need for more intensive guidance in completing scientific tasks.

4.1 Suggestion

It is recommended to strengthen the initial debriefing program for students related to research methodology and scientific writing before they enter the Scientific Work course. This can be an early introduction or a short training to instill a stronger foundational understanding.

a. UT needs to provide more intensive and in-depth technology supplemental training to help students master the skills necessary in compiling scientific papers, such as the use of reference software, data analysis, and scientific word processing applications.

b. Interaction between lecturers and students needs to be improved, to provide more consistent and targeted support. This can be done by setting up more frequent and more in-depth coaching sessions.
c. It is necessary to strengthen the academic support system for students who experience difficulties in completing scientific work courses. This can be in the form of additional tutorials, discussion groups, or individual guidance to help students overcome the challenges they face.
d. It is important to conduct periodic monitoring and evaluation of the effectiveness of the training and guidance provided, to ensure that the programs continue to be relevant and can meet the needs of students well.

By implementing these suggestions, it is hoped that the Scientific Work course at UT can run more effectively, help students in improving their scientific abilities, and produce high-quality work.

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