Effectiveness of Online Mentoring in Scientific Writing for Students in The Early Childhood Education (ECE) Teacher Program

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Abstract
The purpose of this study was to obtain an overview of the effectiveness of the mentoring process for writing scientific papers for Early Childhood Education (ECE) Teacher program students at universities that implement a distance learning system. The mentoring process is carried out online through the Moodle application on e-learning, webinar tutorials with the Microsoft Teams application and consultation via WhatsApp both video call and chat. The research design uses descriptive qualitative using questionnaires and interviews and documentation as data collection techniques. The research subjects were 30 students who took scientific work courses through online tutorials in the 2023.1 and 2023.2 semesters. The data were analyzed descriptively by processing the similarity of the subject's answers**.** The results showed that the online scientific work guidance process was quite effective in terms of task completion in the form of student graduation in this course. The advantages of this mentoring process include saving costs, time and energy and managing the mentoring process. The weaknesses include the difficulty in understanding the material and the ineffective revision process. Recommendation: to make the mentoring process more effective, occasionally the mentoring is done offline, or the mentoring process is blended online and offline. Originality produces new knowledge without repeating what has already been done by others.

Keywords: Online Mentoring, Scientific Paper, ECE Teacher Program, Learning Effectiveness

1. Introduction

Since 2015, the Ministry of Education and Culture of the Republic of Indonesia has required students in higher education to prepare final assignments and have scientific publications according to their level of education. At the undergraduate level, students are required to publish their scientific paper in the portal or repository of their respective universities. In the master's program, it must be published in an accredited national journal, and in the Doctoral program, students must publish their scientific paper in reputable international journals (Salinan Permenristekdikti Nomor 44 Tahun 2015, 2015). Based on these regulations, Universitas Terbuka (UT) also requires students to publish their scientific paper. Although this policy is not actually problematic, many students find it difficult to compile and publish scientific papers without guidance, as UT implements a distance learning system (ODL) and students are required to learn independently (Sembiring, 2013).

Students at UT, which uses an open and distance learning system, are expected to learn independently. This is facilitated by UT through printed and non-printed self-directed learning materials. These modules are available in printed and digital form and can be accessed by students using their Student Identification Number (SIN). In addition, UT also provides learning services

with different modus, namely online tutorials (OT), webinar tutorials (WT), online, which are open (accessible at any time, seven days a week, 24 hours a day). Despite the implementation of an open and distance learning system, the rights and obligations of UT students are the same as in other universities. One of the obligations is to publish a scientific paper as one of the requirements for graduation.

Based on the results of preliminary studies carried out through interviews with students who have never taken scientific paper courses, students who have taken scientific paper courses, a total of 5 people each. The questions asked were only 3 items, namely 1) How do you feel about the scientific paper course at UT; 2) How was your experience in taking the scientific paper course at UT; 3) What did you prepare for the scientific paper course. The results of the interviews were grouped according to the similarity of the answers and then sorted according to the highest number of answers.

The answer to the first question was quite astonishing, as students who had not yet done scientific work stated that they were afraid of facing scientific paper. Four of them were traumatized by the stories of their seniors about the complexity and difficulty of the course. One of them said that they did not know what to prepare and how to deal with it. Meanwhile, students who had taken the course stated that they were afraid before taking it, but when it took place, three people stated that they could follow it well and two people stated that it was difficult because of the influence of the network and their busyness outside of class time, so they could not complete their assignments on time. Based on this data, the researcher wants to know how the scientific paper guidance process and its effectiveness in helping students follow this course until graduation. Therefore, this article will describe the effectiveness of scientific paper courses and guidance, especially for students on the Early Childhood Education Teacher (ECET) program.

Literature Review

A scientific paper is the result of thinking in the form of a writing or essay on a subject or science that presents facts. Scientific papers are prepared using a good and correct writing methodology with a systematic reference to the scientific method. In addition, scientific work can also take the form of a written report that is presented or disseminated or disseminated or presented at an event or in a printed or non-printed container. This report is the result of a study/research through a process that applies scientific principles and ethics that apply in the scientific community (Afdareza et al., 2020). The scientific method generally includes problem formulation, literature review, hypothesis formulation, research conduct, data collection, data processing and analysis, and conclusion (Djumhana et al., 2021). One place to publish scientific work is through journals. Scientific journals are a form of news or communication that contains scientific work and is published according to a schedule in electronic and/or printed form (Kementerian Riset Teknologi dan Pendidikan Tinggi, 2018). The scientific work in this study is an article that can be a summary

of the report of the Strengthening Professional Skills course, which is conducting classroom action research in early childhood education (ECE). Articles written by students must be original work, not plagiarized, and must not have been published elsewhere. The article must be written in Indonesian and must meet the requirements of scientific papers for students of Universitas Terbuka ECET Program (Panduan Karya Ilmiah untuk Pembimbing dan Mahasiswa FKIP (Juknis), 2012).

To assist students in the preparation of academic papers, the UT offers a Scientific Paper Course (code4560). This course is compulsory for all UT undergraduate students. The course code in each program is identified by the letter code that precedes the course code number, so the code for the scientific papers course in the ECET program is PAUD4560. This course is delivered through an eight-week online tutorial. This online tutorial activity is delivered through e-learning using the Moodle application. There are 15 students in a scientific working class with a supervisor or tutor. Every student who is in the last semester is automatically netted and registered in one of these scientific papers online tutorial classes. In the semester 2023.1 there are about 350 online tutorial classes in the ECET program.

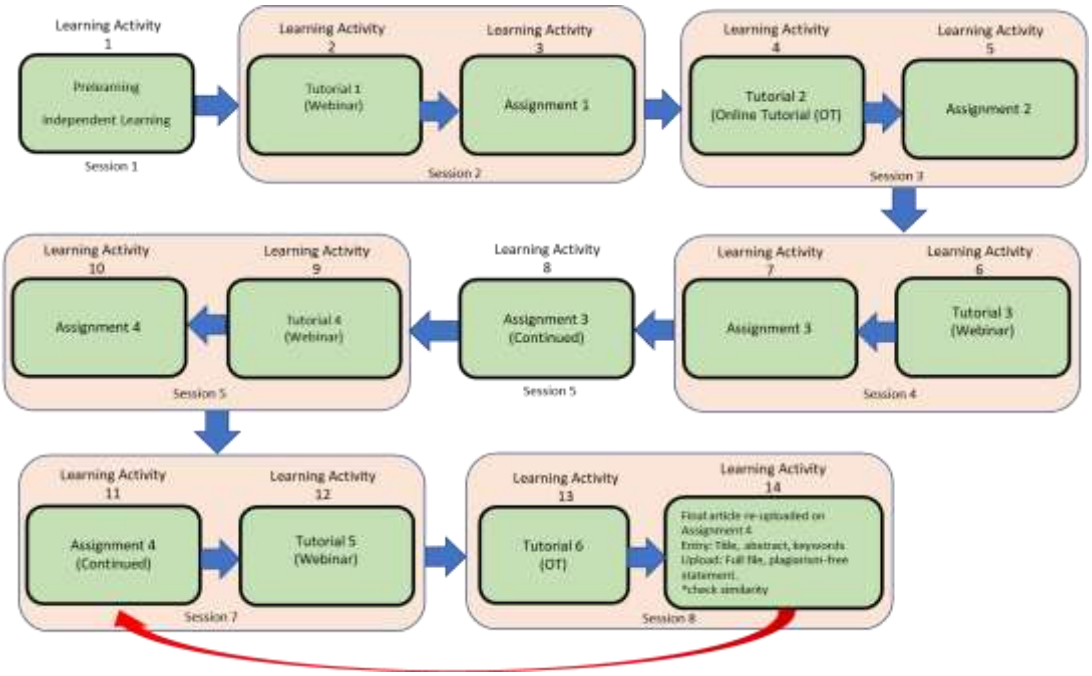

Figure 1. The pattern of tutorial guidance in the scientific papers

The pattern of tutorial guidance in the scientific papers course is implemented uniformly and simultaneously in all study programs. The pattern is described in Figure 1(Panduan Karya Ilmiah Untuk Pembimbing Dan Mahasiswa FKIP (Juknis), 2012). The pattern is designed so that students can easily follow the mentoring process. The competence of this course is that the students have published scientific work. Mentoring takes place over one semester, organized into eight

sessions over eight weeks. The process is divided into 14 learning activities, consisting of four webinar tutorials and the rest through online tutorials. During the process, there are four assignments to be completed by the students. The implementation pattern follows a strict timetable, which means that it cannot be advanced or postponed. However, the final task, the uploading of scientific papers, is given a relatively long time, about one month after the last scheduled guidance activity. During this final process, students will receive plagiarism check results for their article uploads from Turnitin. Students can make improvements, re-upload improvements, and receive plagiarism check results dozens of times until the article is truly final and the similarity drops below 30%. If it is already below 30%, the new tutor will assign a grade using the rubric already available in the application.

The main tutoring process is carried out through online tutorials (OT) using the Moodle e-learning application and tutoring through webinar tutorials (WT) for four sessions using the Microsoft Teams application. In addition to these two platforms, tutors also provide guidance and counselling services via WhatsApp, both video call and chat, google-meet, In OT and WT, the time and schedule have been determined by UT Pusat and take place simultaneously in all study programs in each region. The series of learning activities in the guidance of scientific work courses consists of 1) Independent learning, which is the activity of students studying the scientific work orientation materials, scientific work course guidelines, and independent assignments before the start of the tutorial; 2) Assignments, which is the activity of working on a number of assignments that will be uploaded to the tutorial/guidance page and improving the scientific article writing assignments; 3) OT which is the activity of working on a number of assignments that will be uploaded to the tutorial/guidance page and improving the scientific article writing assignments; 3) OT and WT, namely the interaction of supervisors/instructors - students and students with students to discuss, discuss and reinforce the mastery of concepts and practices of scientific article writing and to provide comments or feedback on the students' assignments. OT activities are asynchronous with a duration of about one week per session, while WT activities are face-to-face with a duration of 2 hours per session (Yunus et al., 2022).

Considering the complexity and length of the process of supervising scientific papers, there are several obstacles and inconveniences experienced by students participating in this scientific paper course. These problems include not knowing that scientific paper guidance is carried out through OT, there are mentors who are not active in providing feedback on students' assignments, difficulty in understanding online feedback. Therefore, this article aims to describe the effectiveness of scientific work guidance for ECET program students.

2. Research Method

The research design is descriptive, using questionnaires and interviews and documentation as data collection techniques. The research subjects were 30 students who took scientific work courses through OT in semesters 2023.1 and 2023.2. These subjects were randomly selected. The data collection process was carried out through a video call on the WhatsApp platform by asking open-ended questions in seven aspects, namely: 1) Difficulties/obstacles during the course of scientific work; 2) Ease of following scientific work; 3) Scientific paper mentoring pattern; 4) A scientific paper mentoring time for 8 (eight) weeks; 5) Tasks included in OT of scientific paper, 6) Satisfaction with tutoring by tutors7) Effectiveness of online scientific paper mentoring. The data collected were analyzed descriptively after being transcribed and processed based on similarity and similarity of responses. Subjects were allowed to answer more than one question/statement for each item.

3. Results and Discussions

The research findings are divided into two parts, the subject profile and the interview findings. The subject profile is presented in Table 1 and the interview data are presented below.

Table 1. Subject profile

Aspects/Item	Frequency	%
UT of the place of origin		
UT Semarang	13	26
UT Jember	4	8
UT Medan	2	4
UT Padang	6	12
UT Bogor	8	16
UT Purwokerto	12	24
UT Jakarta	5	10
Duration of Teaching		
1-5 years	32	64
5-10 years	15	30
10-15 years	3	6
>15 years	0	0
Gender		
Male	2	4
Female	48	96

The data show that most research subjects are female, with a teaching experience of between 1-10 years. This is very reasonable considering that students entering ECE programs currently are young, so their teaching experience is not too long. In addition, the majority of ECE teachers are women. This is because women are more patient and hardworking when caring for

young children. The results of the interviews and their analysis and discussion are presented according to the questions/statements asked.

Difficulties/obstacles encountered when following scientific work courses

The main difficulty or obstacle faced by students in relation to online scientific paper courses is the network or signal. This was mentioned by 17 students. In relation to this network, the data was also reinforced when researchers conducted interviews, the subject was difficult to connect. When it was connected, the video and sound were intermittent. Eight subjects gave reasons, namely that they lived in a valley / rural area / far from the city. The rest stated that they used the school's internet, so they could only use it (access to OT) when they were at school. After school they no longer have access to the Internet. Another constraint experienced by the students is time. Eleven students stated that tutoring activities coincided with the end of the school year, making it difficult for them to divide their time between tutoring and school activities. They stated that they could not leave school because it was their livelihood and their responsibility as teachers. They also stated that the scheduled WT activities were changed by the tutors without informing them in OT. The tutor communicated the changes on the class WhatsApp group.

Ease of following scientific paper mentoring

Regarding the ease of participating in online scientific paper mentoring, 39 subjects stated that the attitude and behavior of the mentors were open and patient in providing guidance to them. This makes them feel comfortable and the mentoring process runs more smoothly. In addition to the mentor's attitude, the systematic and pattern of mentoring is very easy to follow, which makes the mentoring process smoother. Two students stated that the mentoring process is very flexible, so they can do it anytime, anywhere, either via email or WhatsApp.

Pattern of mentoring for the scientific paper

All subjects stated that the mentoring pattern, consisting of eight sessions with 14 learning activities, was very helpful for them to prepare the scientific paper properly. They felt that they were being guided slowly to achieve results in the form of articles that could be published in the UT repository. This pattern is also not equipped with a discussion forum, so there is no mutual interaction between mentors and students or between students. The discussion process can only take place during webinar tutorials in a very limited time (two hours). Even if there are 15 students in a class. Two hours is not enough time to correct, give input and guide all students.

Time and number of scientific papers mentored for 8 (eight) weeks

Most subjects (32 people) stated that it was helpful, but some others (12 people) stated that eight weeks was not enough time for them to complete their articles before publication. This lack of time was since the course and supervision of the scientific papers coincided with the course and supervision of the Strengthening Professional Skills course. The report in the Strengthening Professional Skills course is the basis for the students to write their *scientific papers*. The report on the application of action research in the classroom contains the process and results of the application of action research in the classroom carried out by the students. The similarity in the implementation time of the two courses means that the students must wait for the report to be completed before they can write their academic work. The rest just said that it was quite helpful without any further explanation.

Assignments in the online tutorial for scientific papers

Students said that the tasks included in the assignment guide were not enough to help them develop their assignments properly. The tasks that did not help much were assignments 1 and assignments 2. The assignments 2 is a task to create a title for a scientific article; to find, read, summarize, and record at least 10 references published in the last 5 years, of which 5 are journal articles and the rest are books or other references from various sources; and to create an outline for a scientific article based on the title and appropriate references. The second assignments are to summarize the references used in the writing of scientific articles and to correctly cite direct and indirect quotations together with the source of the quotation, and to correctly complete a bibliography. These two assignments are not considered useful and do not help the students to prepare their scientific articles. It is only in assignments three and four, which are in the form of instructions for writing scientific articles, which refer to the title, the reference summary and the refined framework for writing scientific articles, that leads to writing scientific articles.

Student satisfaction with the mentoring process provided by tutors/mentors

Each student has a different experience with their supervisor. Most of them indicated that they were dissatisfied with their supervisors. The dissatisfaction is caused by a) the supervisor is difficult to contact or does not respond at all, especially when contacted by e-mail; b) the supervisor does not correct the assignments uploaded by the students. They respond or provide input when the upload limit is urgent. This makes the students almost desperate; c) supervisors do not give news when there is a change in the webinar schedule, so some students do not attend the webinar; d) supervisors do not give feedback, but only blame or scribble on the draft articles uploaded by students.

Effectiveness of online supervision of scientific work

All participants in this study stated that online supervision of scientific work was not effective for them. They hope that the mentoring of scientific work will take place through face-to-face activities. This would make the mentoring process more effective and allow them to understand the input given. In addition, they feel that much of the material in this online mentoring is difficult for them to understand because the explanation is only done through a very limited webinar.

4. Conclusions

The implementation of academic dissertation mentoring for undergraduate students, particularly in the Early Childhood Teacher Education program, is still perceived as ineffective by students. Ineffectiveness includes in terms of mentoring patterns that do not provide discussion forums, mentoring time, especially in webinar tutorials that are only two hours per session, the quality of mentors in terms of content related to early childhood education, and the difficulty of networking in student places so that the mentoring process is delayed and not smooth. Suggestions that can be conveyed are to provide a discussion forum, to increase the webinar time with a longer duration, and to select mentors with sufficient scientific competence in ECE.

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