

HOW ONLINE TUTORIALS FOR SCIENTIFIC PAPER COURSES AFFECT STUDENT SATISFACTION AT INDONESIAN OPEN UNIVERSITY

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Abstract

Writing scientific papers is a crucial skill that students must acquire during their academic journey. At the Open University, the scientific paper course is a mandatory requirement for all bachelor's degree programs. However, the course poses unique challenges as it is conducted online through Microsoft Teams. This study aims to assess the satisfaction levels of students participating in the scientific paper course, focusing on their understanding, engagement in activities, and overall learning outcomes. The study employed a combination of methods, including a questionnaire, interviews, and documentation analysis. Data samples were collected from students enrolled in scientific paper courses at Lampung Open University during the 2022.2 and 2023.1 semesters. To ensure representative data, a 20% sample size was determined from each faculty using purposive sampling strategies. Direct contact with respondents was made to gather the necessary information. The questionnaire utilized a Likert Scale model, with response options ranging from Very Unsatisfied (VU) to Very Satisfied (VS). The results of the study indicated that students from all faculties reported satisfaction rates of 50% or higher. Among the faculties, the Faculty of Economic and Business achieved the highest satisfaction percentage (83.5%), followed by the Faculty of Science and Technology (78.5%), the Faculty of Law, Social and Political Science (74.8%), and the Faculty of Education and Teacher Training (61%). In conclusion, the findings suggest that students exhibited a good understanding of the scientific paper course conducted online, and most students were able to actively participate in the learning process. This was supported by the excellent academic results achieved by the students. The study highlights the importance of online platforms for delivering course content effectively and the need for continuous improvement in facilitating student engagement and comprehension in scientific paper courses. Further research could explore additional factors influencing student satisfaction and identify strategies to enhance the online learning experience in biology and science education.

Keywords: Scientific paper, e-learning, Indonesian Open University.

1 INTRODUCTION

The scientific paper course is a mandatory requirement for graduation for undergraduate and Diploma IV students at the Open University of Indonesia. Students enrolled in this course are required to participate in guidance classes through a variety of integrated learning modes,

including independent learning activities, assignments, and guidance provided through webinar tutorials and online tutorials via the website www.elearning.ut.ac.id. As part of the course requirements, students must independently complete a scientific paper without engaging in plagiarism and upload it to the elearning.ut.ac.id website (Yunus, et.al., 2022)

According to the Glossary of Open and Distance Education Terms (2014: 82), an online tutorial is a student learning assistance service that utilizes a network or online platform. This type of learning assistance, which involves the use of a network and computer devices connected to the internet, has become increasingly accessible in Indonesia, with the network reaching even sub-district cities, although infrastructure remains limited in certain areas. As a result, open university students throughout Indonesia are expected to benefit from this form of learning assistance (Wahyuningsih et al., 2019).

Students receive an orientation or introduction to the scientific paper course from each faculty member before beginning the online course. The course includes two asynchronous online tutorial sessions, each lasting one week, as well as four synchronous or face-to-face online webinar tutorials, each lasting two hours or 120 minutes. Over the course of one semester, students enrolled in the scientific paper course complete a total of 14 learning activities (Yunus et al., 2022).

The Open University of Indonesia has only recently implemented online guidance for scientific paper writing for all students, having done so for two semesters. Prior to this, there was no consistent methodology for guiding scientific writing for Open University students throughout Indonesia. As a result, starting in 2022, the Open University adopted a uniform approach for all students from all academic programs and units in Indonesia. This was done in an effort to ensure that all students in Indonesia receive equitable services for scientific paper guidance, with tutors appointed from each Faculty (Yunus et al., 2022; Wahyuningsih et al., 2019).

The Open University of Lampung Region is one of the units with a large student population in Indonesia, with over 18,000 students enrolled in the Faculties of Economics and Business, Science and Technology, Law and Social Political Sciences, and Teacher Training and Education. In semester 2022.2, 2,055 students were registered for the scientific paper course, while in semester 2023.1, 4,904 students were registered. Given this large student population, the researcher is interested in assessing student satisfaction in the Lampung region with regards

to their understanding of the scope and value of scientific paper, the guidance activities for scientific paper, and the output or capacity of students after completing the full program.

2 METHODOLOGY

1.1 Place of Research

The Regional Open University of Bandar Lampung Lampung, Province of Lampung, Indonesia, was the location of this research. The research was conducted out between January and June of 2023.

1.2 Sample

At the Regional Open University of Bandar Lampung, a sample was drawn comprising 20 percent of the overall enrollment of each faculty, in accordance with the sampling method refers to (Isaac & Michael, 1995). The researchers employed a purposive sampling technique and directly appointed respondents for sampling. Samples were obtained by distributing questionnaires through the social media of Lampung Open University students and by providing the website address of the questionnaire (survey.whika.de). Before completing the questionnaire, students were required to provide their student ID number, name, study program, and faculty. This was necessary due to the fact that students were dispersed throughout Lampung. The results of the questionnaire survey were then calculated in detail.

1.3 Data Collection

Data collection techniques in this study used:

1.3.1 Questionnaire Method

In this study, a questionnaire was used to gather data on the satisfaction of Indonesian Open University students enrolled in the scientific paper course during semesters 2022.2 and 2023.1. The questionnaire utilized a 5-point Likert Scale model, offering respondents the following options: 1) Very Unsatisfied (VU), 2) Unsatisfied (U), 3) Neutral (N), 4) Satisfied (S), and 5) Very Satisfied (VS). The scoring was as follows: Very Unsatisfied was assigned a score of 1, Unsatisfied a score of 2, Neutral a score of 3, Satisfied a score of 4, and Very Satisfied a score of 5.

1.3.2 Interview Methods

The interview technique was employed with several students who volunteered to be interviewed in person, over the phone, or via video call.

1.3.3 Documentation Method

In this study, the documentation strategy was used to compile data on the number, identification, and names of students enrolled in scientific paper courses. Data on student concerns and opinions regarding the class activities for scientific paper mentoring were also gathered.

2.4 Data Analysis

The method of data analysis that is being employed is qualitative descriptive, which excludes the use of numerical elements. In order to draw conclusions from the study's data, the researchers employed the percentage calculation (%) in their data processing.

$$P = \frac{f}{N} \times 100$$

P = percentage

F= answer frequency

N = number of respondents

(Sugiyono, 2016)

3 FINDINGS AND DISCUSSION

3.1 Findings

According to data analysis of a sample of students from four faculties, including the faculties of economic and business, science and technology, law, social and political science, and education and teacher training, the majority of respondents selected the “satisfied” option on the questionnaire. The Faculty of Economic and Business had the highest percentage of satisfied (S) responses (83.5%), followed by the Faculty of Science and Technology (78.5%), the Faculty of Law, Social and Political Science (74.8%), and the Faculty of Teacher Training and Education (61%). Respondents from the Faculty of Economics and Business were drawn from majors such as management, public financial accounting, development economics, and sharia economics. Respondents from the Faculty of Law, Social and Political Science were drawn from study programs such as law, sociology, archiving, taxation, library science, state administration science, government science, and English literature with a translation interest. Respondents from the Faculty of Science and Technology were drawn from study areas such as agribusiness, food technology, information systems, and statistics. Respondents from the Faculty of Teacher Training and Education were drawn from majors such as educational technology, English language education, citizenship education, mathematics education,

chemistry education, economics education, elementary school teacher education, and early childhood education.

Table 1. Results of the questionnaire recapitulation of Faculty of Economic and Business student

No	Questions	Score					Number of students
		1	2	3	4	5	
		VU	U	N	S	VS	
Understanding of Scientific Paper Courses							
1	How satisfied are you with your understanding that scientific paper courses at Universitas Terbuka are a graduation requirement?	0	0	7	101	42	150
2	How well do you understand the elearning.ut.ac.id website as a means of taking scientific paper courses?	0	0	11	107	32	150
3	How well do you understand the general activities of scientific paper courses on the elearning.ut.ac.id website?	0	0	3	122	25	150
4	How well do you understand the scientific paper learning process (what learning activities are discussed at each meeting)?	0	0	0	148	2	150
5	How well do you understand the scientific paper writing guidelines (writing guidelines with Universitas Terbuka style)?	0	0	4	125	21	150
6	How satisfied are you with the scientific paper preparation that you received from the study program in helping you prepare for online scientific paper tutorials?	0	0	3	129	18	150
Total		0	0	28	732	140	900
Scientific paper guidance activities							
7	How satisfied are you with the material on the elearning.ut.ac.id website in each learning activity in helping you work on scientific paper?	0	0	0	94	56	150

8	How satisfied are you with the assignments given in each scientific paper learning session in helping you work on scientific paper?	0	0	0	125	25	150
9	How satisfied are you with the tutor's greeting at each scientific paper learning session?	0	0	0	141	9	150
10	How satisfied are you with the tutor who provides material in each learning activity	5	5	0	132	8	150
11	How satisfied are you with the tutor who provides feedback on questions and problems submitted by students related to scientific writing?	3	1	0	121	25	150
12	How satisfied are you with the material provided by tutors through webinar tutorials in helping students create scientific paper?	0	1	0	137	12	150
13	How satisfied are you with the tutor in personal guidance services (outside of online tutorial forums)?	0	1	0	135	14	150
Total		8	8	0	885	149	1050
Results of scientific paper guidance activities							
10	How satisfied are you with your scientific writing skills after participating in scientific paper guidance activities through online tutorials?	0	0	0	145	5	150
11	How satisfied are you with the results of your scientific paper score after participating in scientific paper guidance activities through online tutorials?	0	10	3	117	20	150
Total		0	10	3	261	25	300
Total		8	18	31	1879	314	2250
Presentation		0.4%	0.8%	1.3%	83.5%	14%	100%

Description: 1) Very Unsatisfied (VS), 2) Unsatisfied (U), 3), Neutral (N), 4) Satisfied (S), 5) Very Satisfied (VS).

While the Faculty of Economic and Business had the highest percentage of satisfied respondents (14%), some students reported dissatisfaction with the scientific paper activities. According to interview findings and student feedback, a common barrier was the tutor. Tutors were often absent from webinars or online tutorials and were slow to respond to student questions. Additionally, tutors required a significant amount of time to evaluate their students and frequently provided corrections to students' scientific papers after the submission deadline had passed, preventing students from making revisions. As a result, some students received subpar grades or even failed the course. According to university regulations, the minimum passing grade for this course is 75, and students with grades below this mark are not permitted to pass. One contributing factor may be a lack of interest among tutors in assisting their students. Despite these challenges, the majority of respondents from the Faculty of Economics and Business reported being satisfied with the online scientific paper course (Table 1).

Table 2. Results of the questionnaire recapitulation of Faculty of Science and Technology student

No	Questions	Score					Number of students
		1 VU	2 U	3 N	4 S	5 VS	
Understanding of Scientific Paper Courses							
1	How satisfied are you with your understanding that scientific paper courses at Universitas Terbuka are a graduation requirement?	0	0	1	19	8	28
2	How well do you understand the elearning.ut.ac.id website as a means of taking scientific paper courses?	0	0	0	17	11	28
3	How well do you understand the general activities of scientific paper courses on the elearning.ut.ac.id website?" 1	0	0	0	20	8	28
4	How well do you understand the scientific paper learning process (what learning activities are discussed at each meeting)?	0	0	4	17	7	28
5	How well do you understand the scientific paper writing guidelines (writing guidelines with Universitas Terbuka style)?	0	0	2	22	4	28

6	How satisfied are you with the scientific paper preparation that you received from the study program in helping you prepare for online scientific paper tutorials?	0	0	0	25	3	28
Total		0	0	33	120	69	168
Scientific paper guidance activities							
7	How satisfied are you with the material on the elearning.ut.ac.id website in each learning activity in helping you work on scientific paper?	0	0	0	27	1	28
8	How satisfied are you with the assignments given in each scientific paper learning session in helping you work on scientific paper?	0	0	0	25	3	28
9	How satisfied are you with the tutor's greeting at each scientific paper learning session?	0	0	0	20	8	28
10	How satisfied are you with the tutor who provides material in each learning activity	0	0	0	24	4	28
11	How satisfied are you with the tutor who provides feedback on questions and problems submitted by students related to scientific writing?	0	0	0	26	2	28
12	How satisfied are you with the material provided by tutors through webinar tutorials in helping students create scientific paper?	0	0	0	27	1	28
13	How satisfied are you with the tutor in personal guidance services (outside of online tutorial forums)?	0	0	0	20	8	28
Total		0	0	28	169	41	196
Results of scientific paper guidance activities							
10	How satisfied are you with your scientific writing skills after participating in scientific paper guidance activities through online tutorials?	0	0	2	21	5	28

11	How satisfied are you with the results of your scientific paper score after participating in scientific paper guidance activities through online tutorials?	0	0	0	20	8	28
Total		0	0	2	41	13	56
Total		0	0	63	330	123	420
Presentation		0%	0%	15%	78.5%	29,20%	100%

Description: 1) Very Unsatisfied (VS), 2) Unsatisfied (U), 3), Neutral (N), 4) Satisfied (S), 5) Very Satisfied (VS).

Among student respondents from the Faculty of Science and Technology, 29.20% reported being very satisfied (VS) with the guidance activities for scientific paper. This is a positive result, as no students from this faculty reported being very unsatisfied (VU) or unsatisfied (U), and the neutral option received the lowest level of support. It is considered that this faculty has done an excellent job in organizing and guiding their students in producing scientific publications. According to student feedback, the primary challenges faced by students in this faculty were related to time management. Some respondents reported that the duration of instruction was too short, while others experienced scheduling conflicts between webinar tutorial meetings and their work hours. This was due to the fact that some students work late at night, and some were unable to attend the webinar tutorials at all. As a result, their busy work schedules left them with limited time to write and complete their scientific papers on time. Despite these challenges, students reported high levels of satisfaction with their knowledge, guidance activities, and the outcomes of their scientific papers through online tutorials (Table 2).

Science students have expressed a desire to publish their research papers in reputable journals. As a result, their motivation for pursuing the scientific paper course is not only to fulfill a graduation requirement, but also to improve their writing skills. This is particularly relevant for science students who work as practitioners in institutions that require innovation and scientific publication.

Table 3. Results of the questionnaire recapitulation of Faculty of Law, Social and Political Science student

No	Questions	Score					Number of students
		1	2	3	4	5	

		VU	U	N	S	VS	
Understanding of Scientific Paper Courses							
1	How satisfied are you with your understanding that scientific paper courses at Universitas Terbuka are a graduation requirement?	0	1	5	291	11	308
2	How well do you understand the elearning.ut.ac.id website as a means of taking scientific paper courses?	0	1	3	294	10	308
3	How well do you understand the general activities of scientific paper courses on the elearning.ut.ac.id website?	1	9	7	224	68	308
4	How well do you understand the scientific paper learning process (what learning activities are discussed at each meeting)?	1	17	11	268	11	308
5	How well do you understand the scientific paper writing guidelines (writing guidelines with Universitas Terbuka style)?	1	5	6	285	12	308
6	How satisfied are you with the scientific paper preparation that you received from the study program in helping you prepare for online scientific paper tutorials?	1	2	2	273	30	308
Total		4	35	34	1635	142	1848
Scientific paper guidance activities							
7	How satisfied are you with the material on the elearning.ut.ac.id website in each learning activity in helping you work on scientific paper?	5	4	16	236	47	308
8	How satisfied are you with the assignments given in each scientific paper learning session in helping you work on scientific paper?	3	11	1	227	66	308
9	How satisfied are you with the tutor's greeting at each scientific paper learning session?	0	9	9	234	56	308

10	How satisfied are you with the tutor who provides material in each learning activity	3	12	3	224	66	308
11	How satisfied are you with the tutor who provides feedback on questions and problems submitted by students related to scientific writing?	5	16	9	164	114	308
12	How satisfied are you with the material provided by tutors through webinar tutorials in helping students create scientific paper?	0	0	5	170	133	308
13	How satisfied are you with the tutor in personal guidance services (outside of online tutorial forums)?	11	13	9	253	22	308
Total		27	65	52	1508	504	2156
Results of scientific paper guidance activities							
10	How satisfied are you with your scientific writing skills after participating in scientific paper guidance activities through online tutorials?	30	27	30	159	62	308
11	How satisfied are you with the results of your scientific paper score after participating in scientific paper guidance activities through online tutorials?	34	35	31	154	54	308
Total		64	62	61	313	116	616
Total		95	162	147	3456	762	4620
Presentation		2%	4,00%	3,00%	74.8%	17%	100%

Description : 1) Very Unsatisfied (VS), 2) Unsatisfied (U), 3), Neutral (N), 4) Satisfied (S), 5) Very Satisfied (VS).

According to the data, 17% of students from the Faculty of Law, Social and Political Science reported being very satisfied (VS) with the guidance activities for scientific paper, while 74.8% were satisfied and 3% were neutral. The majority of students were pleased with the online instruction for the scientific paper course, which is an encouraging result. However, approximately 3% of students reported being unsatisfied (U) and 2% were very unsatisfied (VU). According to the responses provided by these students, their dissatisfaction stemmed from tutors' reluctance to respond to student questions and a lack of responsiveness in

providing feedback on assignments or scientific papers, even when submitted on time. This resulted in feelings of abandonment among students, which negatively impacted the quality of their uploaded scientific paper (Table 3).

Table 4. Results of the questionnaire recapitulation of Faculty of Education and Teacher Training student

No	Questions	Score					Number of students
		1 VU	2 U	3 N	4 S	5 VS	
Understanding of Scientific Paper Courses							
1	How satisfied are you with your understanding that scientific paper courses at Universitas Terbuka are a graduation requirement?	0	0	44	553	308	905
2	How well do you understand the elearning.ut.ac.id website as a means of taking scientific paper courses?	5	68	125	451	256	905
3	How well do you understand the general activities of scientific paper courses on the elearning.ut.ac.id website?	0	0	38	652	215	905
4	How well do you understand the scientific paper learning process (what learning activities are discussed at each meeting)?	5	8	30	452	410	905
5	How well do you understand the scientific paper writing guidelines (writing guidelines with Universitas Terbuka style)?	0	0	57	569	279	905
6	How satisfied are you with the scientific paper preparation that you received from the study program in helping you prepare for online scientific paper tutorials?	0	0	0	569	336	905
Total		10	76	294	3246	1804	5430
Scientific paper guidance activities							
7	How satisfied are you with the material on the elearning.ut.ac.id website in each learning activity in helping you work on scientific paper?	0	0	31	662	212	905

8	How satisfied are you with the assignments given in each scientific paper learning session in helping you work on scientific paper?	0	0	5	489	411	905
9	How satisfied are you with the tutor's greeting at each scientific paper learning session?	0	0	28	602	275	905
10	How satisfied are you with the tutor who provides material in each learning activity	0	1	23	437	444	905
11	How satisfied are you with the tutor who provides feedback on questions and problems submitted by students related to scientific writing?	1	1	13	451	439	905
12	How satisfied are you with the material provided by tutors through webinar tutorials in helping students create scientific paper?	13	14	2	463	413	905
13	How satisfied are you with the tutor in personal guidance services (outside of online tutorial forums)?	8	12	3	589	293	905
Total		22	28	105	3693	2487	6335
Results of scientific paper guidance activities							
10	How satisfied are you with your scientific writing skills after participating in scientific paper guidance activities through online tutorials?	0	0	149	687	69	905
11	How satisfied are you with the results of your scientific paper score after participating in scientific paper guidance activities through online tutorials?	0	0	153	655	97	905
Total		0	0	302	1342	166	1810
Total		32	104	701	8281	4457	13575
Presentation		0.2%	0.7%	5%	61%	34%	100%

Description: 1) Very Unsatisfied (VS), 2) Unsatisfied (U), 3), Neutral (N), 4) Satisfied (S), 5) Very Satisfied (VS).

The preponderance of questionnaire responses was derived from the Faculty of Education and Teacher Training. Survey results indicated that 34% of students reported being very satisfied (VS) with online scientific paper guidance services, representing the highest proportion in comparison to the percentage results of respondents from other faculties. Nonetheless, a small percentage of respondents still expressed dissatisfaction (0.7%) and very dissatisfaction (0.2%) (Table 4).

According to respondent feedback, dissatisfaction arose, in part, due to a lack of strict adherence to the socialization and orientation of the introduction to the scientific paper course. Specifically, as a result of conflicts between orientation schedules and student work hours, some students failed to comply with the regulations established by their respective departments or academic programs. The information and guidelines for composing scientific articles on the elearning.ut.ac.id website were not immediately apparent to certain students. Consequently, there were several students who expressed interest in receiving direct explanations in addition to the provided material.

3.2 Discussion

The researcher examined several indicators measured in this study, including satisfaction in understanding the Scientific paper course, guidance for the Scientific paper course, and the results of student scientific paper, in addition to the results of the questionnaire based on faculty grouping. According to the overall statistics of students from various faculties, the level of satisfaction per indicator was as follows:

3.2.1 Student satisfaction in understanding of scientific paper course

Knowledge about the necessity of the scientific paper course as a graduation requirement, the significance of understanding using the online tutorial application on the elearning.ut.ac.id website, what activities students need to complete in following the guidance activities for the scientific paper course, the process and schedule of guidance through online tutorials and webinar tutorials, instructions and guidelines for the scientific paper course, and additional information constitutes an a component of the indicates to be satisfied with understanding the course.

As depicted in Figure 1, the preponderance of students reported satisfaction with their understanding of the scientific paper course. Given that the majority of students had already attained comprehension of the objectives and methodologies of the Scientific paper course, this

result was deemed commendable. Prior to participating in a tutorial, it is imperative that students comprehend the manner in which it is conducted. Tutorials represent one form of learning support service offered to students with the aim of facilitating the attainment of optimal learning outcomes. Generally, such services employ multimedia or electronic media, necessitating that tutor possess the ability to present material in written form and communicate it to students through a variety of suitable media. In this context, the availability of tutors is regarded as a critical component in the effective organization of tutorials (Sugiran et al., 2016).

Prior to commencing activities at the initial meeting, students participating in scientific paper guidance are mandated to review the learning scenario outlined in the Course Orientation, examine the Scientific paper Guide which encompasses regulations pertaining to learning and the composition of scientific papers, and complete preliminary assignments by selecting and scrutinizing a scientific article obtained from Google Scholar or other sources (Yunus et al., 2022). In addition to comprehending the learning process, it is crucial for students to be familiar with the guidelines for conducting scientific paper through online learning. Online learning represents a form of distance education that employs information and communication technology facilities, facilitated through the medium of the internet (Baruah, 2018). The online learning environment necessitates that student participating in scientific paper assume a more proactive role in their education. The utilization of information and communication technology must be accompanied by both technical proficiency and psychological maturity. This capability is referred to as ICT literacy, which encompasses the ability to effectively and legally employ digital technology, communication tools, and/or networks to define, access, manage, integrate, evaluate, create, and communicate information in order to generate new concepts and contribute to the development of a knowledgeable society (Hafifah & Sulisty, 2020). Consequently, it is essential for students to possess ICT literacy skills in order to facilitate the effective preparation of the scientific paper guidance process.

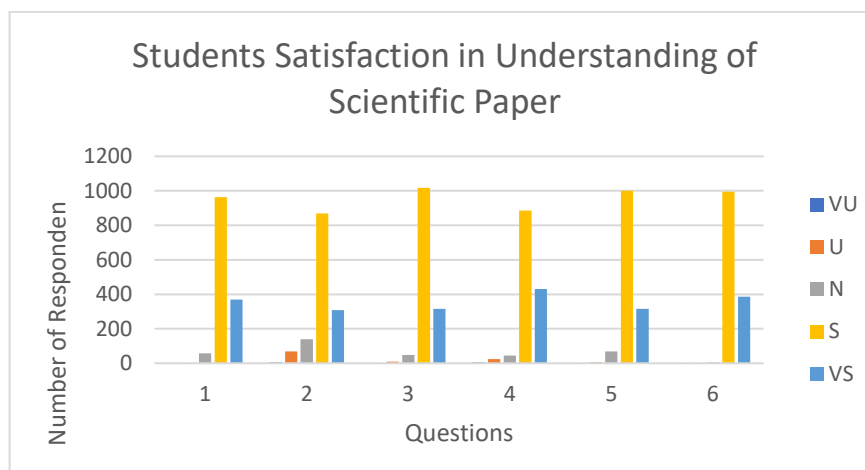


Figure 1. Students satisfaction in Understanding Scientific paper Courses: (1) How satisfied are you with your understanding that scientific paper courses at Universitas Terbuka are a graduation requirement? ; (2) How well do you understand the elearning.ut.ac.id website as a means of taking scientific paper courses?; (3) How well do you understand the general activities of scientific paper courses on the elearning.ut.ac.id website?; (4) How well do you understand the scientific paper learning process (what learning activities are discussed at each meeting)? (5) How well do you understand the scientific paper writing guidelines (writing guidelines with Universitas Terbuka style)? (6) How satisfied are you with the scientific paper preparation that you received from the study program in helping you prepare for online scientific paper tutorials?

Description: 1) Very Unsatisfied (VS), 2) Unsatisfied (U), 3), Neutral (N), 4) Satisfied (S), 5) Very Satisfied (VS).

3.2.2 Student Satisfaction in Scientific Paper Course

Here's a rephrased version for academic writing: Satisfaction with scientific paper tutorial activities encompasses satisfaction with the availability of materials on the elearning.ut.ac.id website that facilitate student preparation of scientific paper, assignments designed to assist students in completing scientific paper, tutor greetings at each initiation, material presented by tutors at each session, feedback provided by tutors in response to student inquiries or issues, material presented by tutors at each webinar meeting, and guidance services offered by tutors outside of elearning.ut.ac.id (Figure 2).

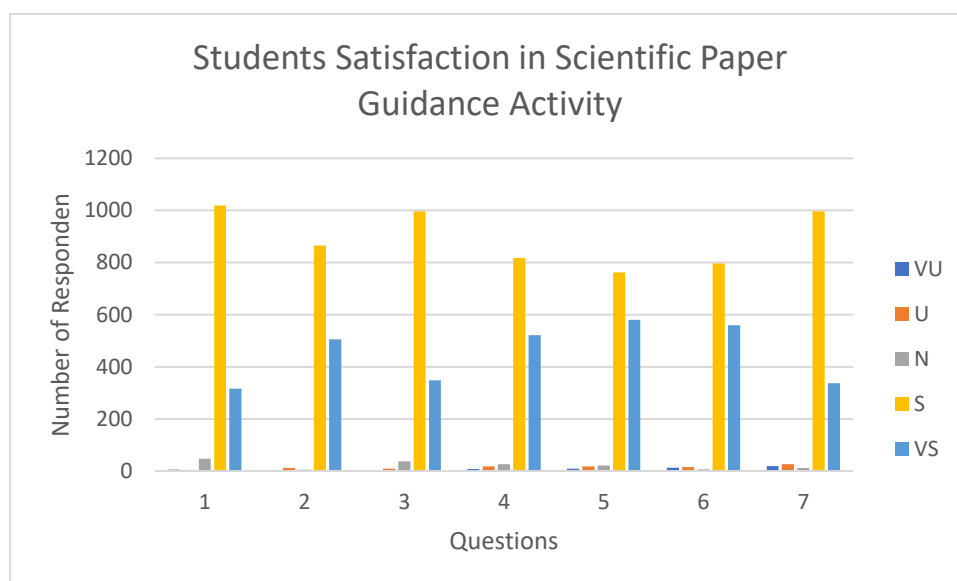


Figure 2. Student satisfaction in Scientific Writing Development Activities: (1) How satisfied are you with the material on the elearning.ut.ac.id website in each learning activity in helping you work on scientific paper? (2) How satisfied are you with the assignments given in each scientific paper learning session in helping you work on scientific paper? (3) How satisfied are you with the tutor's greeting at each scientific paper learning session? (4) How satisfied are you with the tutor who provides material in each learning activity (5) How satisfied are you with the tutor who provides feedback on questions and problems submitted by students related to scientific writing? (6) How satisfied are you with the material provided by tutors through webinar tutorials in helping students create scientific paper? (7) How satisfied are you with the tutor in personal guidance services (outside of online tutorial forums)?

Description: 1) Very Unsatisfied (VS), 2) Unsatisfied (U), 3), Neutral (N), 4) Satisfied (S), 5) Very Satisfied (VS).

This guidance activity represents the central component of the Scientific paper course. High-intensity interaction between students and tutors is required. Students are expected to independently complete assignments, including: 1) Assignment 1: Formulating problems and topics, creating scientific article titles, searching for, reading, and organizing supporting literature for scientific article composition, and creating an outline for writing scientific articles; 2) Assignment 2: Revising Assignment 1 based on feedback and improvement suggestions from the supervisor, and developing/writing scientific articles based on the revised outline; 3) Assignment 3: Uploading the completed scientific article draft to the tutorial page; 4) Assignment 4: Revising the uploaded draft article in accordance with feedback/improvement

suggestions from tutors/supervisors, and uploading the revised scientific article for final evaluation/scoring by the supervisor. (Yunus et al., 2022).

Students are expected to possess an understanding of the appropriate databases for information retrieval, as well as the ability to construct effective literature searches, validate sources, extract pertinent information, and synthesize and communicate key concepts. Identification is often challenging and may be perceived by students as unenjoyable. Consequently, the employment of active learning pedagogy with tutor involvement can facilitate contextual comprehension, knowledge acquisition, critical thinking skills development, and communication skills enhancement (Bonney, 2015; Cottone & Yoon, 2020; Majetic & Pellegrino, 2014; Meyer et al., 2018; Miller, 2011).

Active learning, often manifested in the form of team-based learning, case studies, polling questions, and problem-solving exercises, is prevalent in numerous disciplines, including science, technology, engineering, and mathematics courses. Several studies have demonstrated a positive correlation between active learning and enhanced academic achievement (Freeman et al., 2014; James et al., 2019). Moreover, active learning is not only well-received by students but can also foster the development of critical thinking skills and facilitate the practical application of acquired knowledge (Meyer et al., 2018; Miller, 2011). Selanjutnya, perolehan materi dari dari tutor berupa contoh-contoh studi kasus dan pembahasan langsung serta praktek secara signifikan lebih efektif dibandingkan dengan hanya diskusi kelas dan hanya mempelajari materi saja (Haidaris & Frelinger, 2019). Furthermore, the provision of material by tutors in the form of case study examples, direct discussion, and practice has been shown to be significantly more effective than mere class discussion and material study.

The development of learning activities that cultivate competencies in analytical reasoning, critical thinking, and communication can present a challenge for tutors. Tutors face their own obstacles, such as students' frequently negative perceptions of the Scientific paper course as being difficult. Fostering student skills and self-confidence represents a challenge for tutors and necessitates time and guidance to enable students to master the course (Murawski, 2014). However, an increase in student interest in a topic can alleviate student apprehensions and mitigate negative perceptions of course difficulty (Brundiers et al., 2010). In this study, the majority of tutors had successfully achieved this, as evidenced by student satisfaction with guidance for the Scientific paper course through online and webinar tutorials.

3.2.3 Students Satisfaction in Results of Scientific Paper Activities

Satisfaction with the outcomes of the Scientific paper course tutorial encompasses the extent to which students' scientific paper writing abilities have improved following tutorial participation, as well as the resulting student grades and whether they meet passing requirements. Writing proficiency is a highly valued skill for university graduates in the workforce. Successful completion of the Scientific paper course fulfills one of the requirements for university graduation (Figure 3).

With regard to student satisfaction with the results and output following participation in scientific paper, the general sentiment is one of satisfaction. Satisfaction in this context denotes freedom from plagiarism and successful completion. Some students have expressed dissatisfaction with the lack of information on how to minimize plagiarism, resulting in high plagiarism rates at the deadline for final assignment submission and subsequent failure. The effectiveness and prevention of plagiarism in online tutorials can be achieved through the enhancement of tutor creativity and innovation skills in the learning process, evaluation of policies on tutor assignment submission, as well as increased understanding of plagiarism and student motivation to read (Chairunnisa & Majdi, 2022).

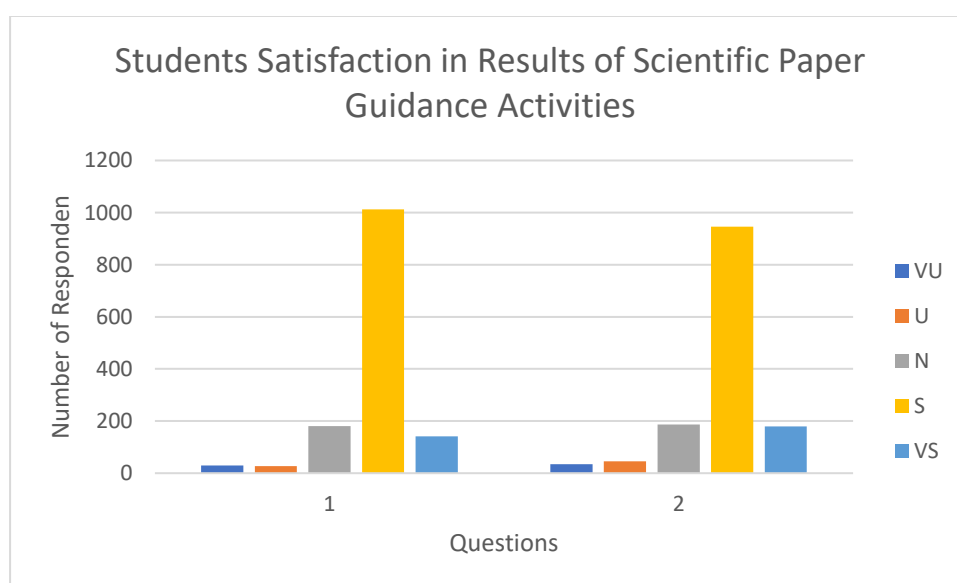


Figure 3. Student satisfaction in the Results of Scientific paper Guidance Activities: (1) How satisfied are you with your scientific writing skills after participating in scientific paper guidance activities through online tutorials? (2) How satisfied are you with the results of your

scientific paper score after participating in scientific paper guidance activities through online tutorials?

Description: 1) Very Unsatisfied (VS), 2) Unsatisfied (U), 3), Neutral (N), 4) Satisfied (S), 5) Very Satisfied (VS).

Satisfaction is generally associated with an individual's sense of contentment or disappointment (dissatisfaction) resulting from the comparison of their perception and experience of a service with their expectations. If the perceived service performance falls short of expectations, the service user is likely to experience dissatisfaction. Conversely, if the service performance meets expectations, the service user is likely to experience satisfaction. Based on this premise, student satisfaction with online learning will arise if the service provider is capable of delivering products, service processes, prices, and other aspects that meet or exceed student expectations. Consequently, student satisfaction with online learning will be derived from learning support services that fulfill their expectations (Keller & Kotler, 2015). Thus, students enrolled in the scientific paper course are likely to feel satisfied with the results of the scientific paper guidance provided by the University through online means.

For students enrolled at the Open University of Indonesia, the composition of scientific articles represents a complex skill, necessitating cyclical and ongoing acquisition of knowledge and practice. This complexity arises from the fact that Open University of Indonesia students are geographically dispersed and receive guidance for this course exclusively through online means. The quality of scientific writing produced is reflective of the extent to which students read and assimilate information from diverse sources. Consequently, the ability to write scientific papers constitutes a crucial skill for graduates of the open university in the production of scientific, directed, and measurable writings (Yunus et al., 2022).

In this context, it is expected that Open University students possess the ability to produce scientific articles that are devoid of plagiarism and adhere to established guidelines for scientific writing. This encompasses the capacity to: effectively formulate problems in accordance with their field of study; accurately construct the title of a scientific article; process reading or reference materials to support the development or composition of scientific articles; competently compile an outline for writing scientific articles; write comprehensive scientific articles based on the created outline; and revise or finalize scientific articles to improve their quality and render them suitable for publication. All university activities and learning

processes, including online tutorials, necessitate that student engage in discussion and complete assignments in an honest and accurate manner, free from plagiarism (Susilo et al., 2019).

The utilization of applications provided by the Open University has been demonstrated to be an effective solution for online learning activities and processes, yielding comprehensive results for students (Nafsi & Trisnawati, 2022; Okmawati, 2020). The elearning.ut.ac.id platform and Microsoft Teams have been identified as particularly effective learning mediums, enabling students to review material, enhance learning outcomes, and streamline the completion and submission of assignments to lecturers. Additionally, scientific paper guidance employs platforms such as WhatsApp groups to facilitate interaction between tutors and students. The employment of online applications such as WhatsApp groups, Zoom meetings, Microsoft Teams, and Google Meet has been deemed effective and efficient in facilitating the distance learning process for students (Anhusadar, 2020; Maulana, 2021). However, some individuals have expressed reservations regarding the efficacy of these applications and platforms (Far-Far, 2021). Research results indicate that online guidance for scientific paper courses is highly effective. Accessibility is contingent upon factors such as dependence, discipline, needs, and student activity. Student accessibility to online tutorials is also influenced by the reliability of online communication (Wahyuningsih et al., 2019).

According to Wei and Chou (2020), student motivation is a crucial factor in achieving student satisfaction. Their study found that when students are effectively motivated by their tutors and lecturers, they feel more confident and achieve better results. Additionally, self-ability and motivation to learn through online learning have a direct and positive impact on student satisfaction. Online tutorials also have a mediated effect on students' perceptions of online learning, online discussion scores, and course satisfaction. Similarly, Anderson et al. (2020) found that this learning activity significantly increased students' confidence in key science literacy skills, including reading scientific literature, clearly explaining relevant points, and describing conclusions derived from data (Wei & Chou, 2020; Anderson et al., 2020).

Feedback from several students indicates high levels of satisfaction with the implementation of the scientific paper course, particularly among those in the biology study program. These students expressed appreciation for the material presented by the tutor, but felt that the guidance provided was limited, with only 14 learning activities. Despite achieving good grades and meeting graduation standards, many students desired additional experience, such as face-to-face guidance, with the goal of publishing their scientific paper in reputable journals. This is

particularly relevant for science students, who often base their scientific paper on laboratory research, which can be time-consuming. It is suspected that the limited time available may negatively impact the quality of their scientific paper, reducing the likelihood of publication in reputable journals.

This study was conducted using a sample from the Open University Bandar Lampung unit. Further research is needed to assess student satisfaction with the Open University scientific paper course at other units. Additionally, it would be beneficial to investigate student satisfaction with the scientific paper course by study program. Future research should also explore additional factors that influence student satisfaction and identify strategies for enhancing the online learning experience in biology and science education.

4 CONCLUSION

In following the online tutorial for the scientific paper course at the Open University in Lampung, students reported high levels of satisfaction. This satisfaction encompasses understanding of the scientific paper course, satisfaction with guidance in the scientific paper course, and satisfaction with the results and output of the online tutorial for the scientific paper course. This is evident from the high number of students who selected the "satisfied" option on the survey. Guidance for scientific paper through online tutorials is considered effective in facilitating students throughout Indonesia. Further research is needed to identify strategies for assessing student satisfaction in other factors.

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