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Students' Perception toward the Use of Open Educational Resources to Improve Writing Skills

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Abstract

Open educational resources (OER) can be used by English as a foreign language (EFL) students to improve their language skills, such as writing skills. The purpose of this study was to find out the students' perception of using OER in improving their writing skills and to identify factors that affected their perception. A quantitative approach in the form of a descriptive survey design was used in this study. The study was conducted at Universitas Islam Negeri Raden Mas Said Surakarta, Indonesia, with 270 EFL students as the participants. The survey adopted two previous studies in which the data were analyzed using descriptive analysis, Pearson product-moment, and multiple regression analysis. The finding revealed that most students had positive perceptions toward using OER to improve their writing skills. Perceptions of using OER were influenced by interest factors (type of writing activity, type of learning writing delivery), experience factors (teaching effectiveness in the writing skills, cost of education), and from the participants, including gender. It is crucial to maximize the use of OER from different aspects, including quality, value, cognitive, affective, and course quality, particularly to increase their perception toward using OER in improving writing skills.

Keywords: EFL students, open educational resources (OER), perception, writing skill.

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1. INTRODUCTION

Writing, as one of the English productive skills, is very crucial in communication. This language skill becomes an important skill for providing personal links without having to meet each other (Graham et al., 2013). It is also one of the essential language skills since it is tested in the most standardized assessment, particularly to measure the academic success of the students' knowledge and writing proficiency (Harmer, 2004; Tan, 2011). Besides, the students' writing is a reflection of the power of their language (Triana et al., 2020). Therefore, writing as a productive skill plays a crucial role in language learning.

Some studies reported that writing in higher education has been considered a problem among learners. The problem from the students' point of view, especially in a writing class, includes problems in the writing aspects and students' personal experiences (Hutchison, 2019). Problems in writing aspects consist of linguistic problems (grammatical structure, word form, word class, word error, and article usage) and cognitive problems (organizing paragraphs, having word class difficulties, forgetting generic structure, using correct punctuation, and drawing a proper conclusion) (Rahmatunisa, 2014; Toba et al., 2019). Meanwhile, students' experience problems include a lack of writing practice (Ismail et al., 2012; Rahmatunisa, 2014; Toba et al., 2019), lack of preparation for the writing process from the curriculum (Al-Hammadi & Sidek, 2015), time limitation allocated to study writing (Ismail et al., 2012), students' low expectation in academic writing (Lea & Street, 2006; Lillis & Turner, 2001), unavailability of the exact link between the centrality knowledge of text production and students' learning (Aitchison & Lee, 2006), and negative writing perception (Rahmatunisa, 2014). These aforementioned problems would affect the students' learning motivation and their writing skills (Huy, 2015; Rahmatunisa, 2014; Toba et al., 2019). During the COVID-19 outbreak, the students were required to study independently and asynchronously (Triana & Nugroho, 2021). This indicates that many learning aspects may affect the overall students' writing skills, which include the students, lecturers, learning methods, and learning media.

There have been many solutions addressed to overcome those problems. One of the solutions is to think creatively in using learning devices and learning resources, as well as in applying media, methods, or approaches, to make improving writing skills more motivating (Li & Mak, 2022). Another solution is to give students more freedom to practice writing inside and outside the class to upgrade their skills. By using technology, more practice can be given online. This enables the provision of wide and equal learning access to all students, establishes new awareness of their writing ability, and facilitates the learners to practice their writing skills both inside and outside the classroom (Ismail et al., 2012; Law & Baer, 2020; Regan et al., 2019). One type of technology that can be utilized to access free resources in education is open educational resources (OER).

OER is a digital resource used by users such as teachers, students, and researchers in the education sector. It has been widely used in the last two decades and has become a major trend in pedagogy (Menzli et al., 2022). The development of technology and teaching methods that can be delivered in different learning modes has become crucial in 21st-century education. OER has emerged to give opportunities with great potential to support some aspects of education, especially in acquiring knowledge in higher education, both directly and indirectly (Pawłowski & Bick, 2012; Weller et

al., 2015). The direct impact of this application can be seen in the increase in students' performance, the educators' reflection, and the successful usage in a formal study such as in higher education (Yuan et al., 2008). Meanwhile, the indirect impacts may happen in adaptation and the increase in sharing and open practice (Weller et al., 2015). OER as digital resources adequately provides enormous digital resources based on the students' needs.

Some studies revealed particular points about the utilization of OER in the pedagogical field. The greatest extent of OER is that it, at least, is used as a source to enter the mainstream of the entire education system (Barneva et al., 2018; Clinton, 2018; Katz, 2019; Lin, 2019; Mishra, 2017; Otto, 2019), to save the textbook cost (Barneva et al., 2018; Clinton, 2018; Katz, 2019; Lin, 2019), and to improve the quality of teachers and students as well as dynamic accessibility in language learning (Katz, 2019; Lin, 2019; Mishra, 2017; Otto, 2019) leading to improved students' performance (Ozdemir & Bonk, 2017). This implies that the use of OER as an educational tool has many advantages, especially in education.

Previous studies have explored the use of OER to support the students' writing skills. The advantages of applying OER in a writing class include 1) It provides asynchronous learning experiences to master key competencies that could serve the needs of students' writing development while receiving immediate feedback (Yaeger et al., 2021), 2) It could be used as additional materials, prescribed textbooks, or exclusive educational materials at the institutions, and 3) It could enhance the project writing classroom successfully (Vengadasalam, 2020). Based on the usefulness of OER for language learning, especially in improving writing skills, more support from the other stakeholders is needed to use OER effectively in education.

In terms of the students' perception of the use of OER in improving writing skills, research by Zhang (2018) showed that theory-based material adoption can improve students' language knowledge. However, the data about the students' perceptions was still very limited, particularly because the research only focused on discourse and content analysis, and only four undergraduate students became the research participants. Therefore, more studies related to this issue were needed.

There have been many previous studies which deal with factors affecting students' perception of using OER. A study about students' perception of using OER in teaching and learning, conducted by Rowell (2015) that contrasted the OER dimensions with the demographic characteristics found that time duration may influence students' cognitive learning of using OER in their classes. Another survey conducted by Fine and Read (2020) showed that the students' perception of using OER was influenced by many factors including students characteristics (age, connectivity to the course), course characteristics (course cost, course delivery), and university characteristics (cost of education, faculty satisfaction, university support). However, those two aforementioned previous studies about factors affecting students' perception of using OER were conducted to examine undergraduate students in general areas. There is a lack of research examining factors affecting students' perception of using OER in improving a specific skill, such as in a writing class. Therefore, this study explores the use of OER in improving writing skills. The researchers particularly assessed the students' perception of the use of OER and the factors influencing their perceptions of the use of OER. It is expected that this study can offer an objective and valid analysis. As the guideline for this study, the researchers formulated the following research questions:

1. How do EFL students perceive the use of OER in writing skills?
2. What factors affect the EFL students' perception of using OER to improve their writing skills?

2. LITERATURE REVIEW

Students' perceptions are progressively being used in education for many purposes, including to better comprehend certain factors that influence the learning process. These perceptions also give an essential voice related to learning contexts, teaching effectiveness, and the success of the teaching evaluation system (Chen & Hoshower, 2010; Schenke et al., 2017). Another study also claimed that the students' factor acted as the most impacting factor in gaining students' achievement (Elliot et al., 2019). The findings of research related to students' perceptions are getting important because they become new insights into teaching and learning.

2.1 Students' Perceptions of Writing Skill

Students' perception of writing manifests different points of view. It may become challenging, elusive, and difficult, particularly when students have different expectations than their teachers or when they lack basic concepts in terms of strategies for foreign language (FL) and second language (SL) students. Having prior negative experiences and lacking concepts (Menke & Anderson, 2019), purposes (Hales, 2017), basic writing strategies (Ceylan, 2019) make the students consider writing unimportant. In contrast to this negative perception, students' positive perceptions are attributed to certain factors, including writing strategies (Ismail, 2011) and certain purposes in the learning process (Deveci, 2018). This implies that students have two different perceptions of the improvement of their writing skills, which can be positive or negative depending on how basic writing strategies, methods, and certain media are utilized in the learning process.

Different perceptions may be caused by many factors, including factors that come from the perceiver (attitude, motive, interest, experience, and expectation), from the object or target being perceived (novelty, motion, sound, size, shape, shade, silhouette, movement, background, proximity, and similarity), or from the situation (time, work setting, and social setting) in which the perceptions are made (Kondalkar, 2007; Robbins & Judge, 2017). Therefore, perception arises because people have experienced things previously.

Several studies have confirmed that students may indicate different perceptions in learning writing, which can be positive or negative. One study conducted by Ismail (2011) examined students who had positive views both in the specific writing course, academic writing course, and general writing course. Ismail (2011) further reported that the students had positive perceptions because they knew their writing needs. Similarly, Deveci (2018) found that the students who were taught using collaborative writing were satisfied and positively perceived writing skills. They were mainly excited with the use of technology and with the critical thinking activities, which helped them develop their general skills.

In contrast, the study by Hales (2017) revealed that the students were not responsible for improving their writing skills and were less interested in their teacher's

instruction. In the same vein, [Menke and Anderson \(2019\)](#) found that the students faced many problems in writing, including a lack of clarity of the students' expectations and interpretation of the content and language in writing. Furthermore, [Ceylan \(2019\)](#) explained that many students lacked basic strategies in writing, including pre-writing, drafting, editing, and deciding the topic of the writing. Besides, they perceived language-related components in academic writing to be more difficult than structure/content-related components.

The studies above indicate that positive perceptions are attached to students who are facilitated with elements such as writing strategies, methods, and certain media that can assist them in studying the writing process. On the contrary, learning writing may become a big problem when students have different opinions from their teachers or lack basic concepts in writing strategies.

2.2 Students' Perception of Using OER

Studies on students' perceptions of using OER have been conducted in many disciplines. In Math class, the students who use online resources such as Khan Academy resources had a better understanding of the given concept than those who used printed textbooks ([Venegas-Muggli & Westermann, 2019](#)). Similarly, the study in astronomy conducted by [Mathew and Kashyap \(2019\)](#) indicated that the selected OER might fulfill the students' and teachers' needs and lower the high textbook cost. Therefore, OER can eliminate the barriers among students ([Mathew & Kashyap, 2019](#)). Similarly, [Harsasi \(2015\)](#), who conducted the study in management, noted that the students had positive perceptions of using OER with video since it acted as the most interesting resource for them. Moreover, integrating OER in EFL classes facilitates the students' language skill improvement. A study in EFL classes revealed that integrating OER into the teaching process could help students improve their communication strategy ([Lin & Wang, 2018](#)). This indicates that OER is not only an attractive tool for learning the course content, but it also plays an important role in developing the students' competence and English skills. In contrast to the earlier findings, one study in psychology conducted by [Engler and Shedlosky-Shoemaker \(2018\)](#) found that whether it was OER or textbook did not result in different learning results. Based on the explanation above, students' perceptions can show different results in some disciplines in which OER can have a positive or neutral effect on student achievement.

The use of OER, in fact, allows people to get advantages from free materials. A study in higher education proved that lecturers might only use online learning resources that are interesting to the students ([McBride & Abramovich, 2022](#)). Therefore, using OER needs a proper teaching method, particularly to improve the students' language skills. Moreover, teaching English with an interactive method can promote meaningful learning in a blended EFL classroom ([Cheng, 2022](#)). Thus, OER could not help the students learn independently, but with the role of lecturers as instructors, OER utilization can give better benefits.

Students are the essential stakeholder in education and become the target evaluation of the educational system. Therefore, student-centered learning has become a new trend in higher education. The concept of student-centered learning is a system in education that allows students to decide their learning autonomously based on their learning needs to take different actions based on their views and interpretations. OER

could be used in student-centered learning, particularly to help the students gain experience, sharpen pedagogy, and increase confidence in performance. A study in an EFL classroom in China showed that using OER in a creative teaching method can build the topic knowledge and students' creativity (Zhang, 2021). Moreover, using OER with lecturers' role in an EFL classroom optimizes the learning and teaching process (Cheng, 2022). It is also important to note that the students will participate actively in the learning process which uses printed materials, electronic tools, or other media (Chen et al., 2004).

Six dimensions could affect the students' perception of the use of OER in improving their writing skills (Rowell, 2015). The dimensions include motivation to learn, quality of learning, the significance of OER in writing, cognitive learning, affective learning, and quality of the course. OER is perceived to affect the level of motivation to learn in class. Sclater (2011) proved that the development of OER can provide positive experiences where students and lecturers are very active in using it in the classroom. Sandanayake (2019) also reported that developing OER technology with the blended learning method can improve the quality of learning and teaching. Specifically, she also revealed that OER could build fun activities in class. Moreover, using OER with didactic strategies could encourage students to practice writing (Álvarez & Bassa, 2013). Many students with positive views explained that OER could help them in many aspects (Menzli et al., 2022). They can use effective and efficient virtual tools to explore learning in or outside the class. Additionally, the students' perceptions of the use of OER in improving their writing skills can also be influenced by 14 factors (Fine & Read, 2020), i.e., age, gender, semester, parents' income, type of writing activity, type of learning writing delivery using OER, monthly income, monetary benefit, connectivity course, writing course cost, teaching effectiveness in writing skills using OER, university support, faculty satisfaction, and cost of education.

3. METHOD

3.1 Research Design

A descriptive survey design that belongs to quantitative research was used in this study. As noted by Creswell (2012), survey research design can be defined as the way to conduct research quantitatively in which the researchers may administer particular surveys to the whole population or take a sample of people to describe the attitudes, opinions, behaviors, or characteristics of the population. This research design was intended to explore the students' perception of using OER to improve their writing skills and the factors that affect their perception. This study was conducted from March to April 2022 and was held at the English Department of Universitas Raden Mas Said, Surakarta, Indonesia. The department was selected because it is an A-rank department based on the Indonesian Ministry of Education accreditation. Before determining the research participants, an online interview was conducted with some lecturers to find out information about the use of OER in writing classes. Then, an online survey was administered to the EFL students for the quantitative data collection.

3.2 Population and Sample

The enrolled undergraduate EFL students of the English Department at Universitas Raden Mas Said, Surakarta, Indonesia, are the target population in this study. The total population of the targeted students was $N=883$. Considering the proportional sample in each group, the researcher took the second-, fourth- and sixth-year students (18-22 years old) as the sample of this study by using proportionate stratified random sampling. This technique was chosen to determine the proportionate sample in each level representing the population.

Furthermore, the researchers administered a representative sample size of the population to make the research efficient, as suggested by Krejcie and Morgan (1970). Therefore, to decide the total sample of the population, the researchers followed Krejcie and Morgan (1970). If the population consists of 900 participants, and the sample size is around 269. As mentioned previously, the sample of this study was taken from each level proportionately by using Proportionate Random Sampling formula, $n_i = (N_i/N) \cdot n$. The total number of participants in each semester varied because the total number of students in each semester was very heterogeneous. Based on the formula, the researcher took 270 students as the sample of this study with the following calculation:

Semester 2 = $344/883 \cdot 269 = 104.8 = 105$ students

Semester 4 = $244/883 \cdot 269 = 74.3 = 75$ students

Semester 6 = $295/883 \cdot 269 = 89.9 = 90$ students

3.3 Research Variables

Based on Cohen et al. (2007), a variable can be considered a construct, operationalized construct, or particular property in which the researchers are interested. An independent variable is an input variable that causes a particular outcome; it is a stimulus that influences a response, an antecedent or a factor that may be modified (e.g., under experimental or other conditions) to affect an outcome. Meanwhile, a dependent variable, on the other hand, is the outcome variable caused, in total or in part, by the input, antecedent variable. It is the effect, consequence of, or response to an independent variable. In other words, an independent variable can affect a dependent variable after a treatment (Creswell, 2012). In this research, the use of OER in learning writing and factors affecting the students' perception were the independent variables. Meanwhile, the students' perception with six dimensions (motivation to learn writing, quality of learning writing, the value of OER in writing, cognitive learning in writing, affective learning in writing, and course quality of learning writing) was the dependent variable.

3.4 Research Instrument

An instrument can be defined as a mean to quantify, observe, or take the document of quantitative data. It contains specific questions and response possibilities that can be established or developed before the study (Creswell, 2012). The researchers used a questionnaire distributed for undergraduate students to examine: 1) students' perception of using OER in improving their writing skills, 2) factors that affect the students' perception of using OER in improving their writing skills.

A questionnaire is a widely used and valuable instrument to collect survey information and provide structured numerical data. A questionnaire can be administered without the presence of a researcher, and the result is often comparatively straightforward to analyze (Wilson & McLe, 1994, as cited in [Cohen et al., 2007](#)). The questionnaire of this study was designed to explore the students' perception of using OER in the writing skill six dimensions and also to find out factors affecting students' perception of using OER in improving their writing skills. This questionnaire was distributed to students in the second, fourth, and sixth semesters using Google Forms. It consists of a Likert scale in the form of positive items. This questionnaire was completed with additional information at the beginning of the survey, including the purpose, confidentiality statement, consent form, contact information of the researchers, and the respondents' demographic data. The questionnaire used four alternative responses, i.e., Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The questionnaire in this study was adapted from a study by [Rowell \(2015\)](#) about student perceptions of the use of OER, and a study by [Fine and Read \(2020\)](#) about factors impacting the students' perception of the use of OER.

There were three parts of the questionnaire. The first part included attributive questions covering age, gender, and semester. The second part of the questionnaire consists of six dimensions related to the students' perception of using OER in improving their writing skills, i.e., motivation to learn, quality of learning, the value of OER in writing, cognitive learning, affective learning, and course quality. Meanwhile, the third part of the questionnaire covered nine factors affecting the students' perception of using OER in improving their writing skills, namely type of writing activity, type of learning writing delivery using OER, monetary benefit, connectivity course, writing course cost, teaching effectiveness in writing skills using OER, university support, faculty satisfaction, and cost of education. The summary of the instrument is presented in Table 1.

Table 1. The instrument blueprint of attributive questions ([Fine & Read, 2020](#)).

Dimension	Purpose
Age	to find out the distribution of students based on age
Gender	to find out the distribution of students based on gender
Semester	to find out the distribution of students based on semester
Parents' income	to find out the distribution of economic background

Table 2. The instrument blueprint of students' perception ([Rowell, 2015](#)).

Dimension	Purpose	Item number
Motivation to learn writing using OER	to examine the students' perception of their motivation in learning writing using OER	1,2,3,4,5,6
Quality of learning writing using OER	to explore how the students perceive the learning quality environment in the course that used OER in improving writing skill	7,8,9,10
Value of OER in writing	to know the students' perception of the value of OER in learning writing	11,12
Cognitive learning writing using OER	To observe the students' perception based on the cognitive learning level of using OER in improving their writing skills.	13,14

Table 2 continued...

Affective learning writing using OER	to examine the students' perception based on the affective learning level of using OER in improving their writing skills.	15,16,17
Course quality of learning writing using OER	to see the students' perception of the course quality that used OER	18,19,20,21

Table 3. The instrument blueprint of factors affecting students' perception (Fine & Read, 2020).

Components	Purpose	Item number
Type of writing activity	To see how the students perceive the type of writing activity	22,23,24,25
Type of learning writing delivery using OER	To examine the type of learning writing delivery using OER perceived by the students	26,27,28,29,30
Monetary benefit	To see the monetary benefit that the students get when they use OER	31,32,33
Connectivity course	To know how the students perceive the connectivity writing course by using OER	34,35,36
Writing course cost	To examine writing course cost perceived by the students	37,38,39,40
Teaching effectiveness in improving writing skills using OER	To know how the students perceive teaching effectiveness in the writing skill by using OER	41,42,43,44
University support	To examine the kinds of university support available in learning writing skills by using OER	45,46,47
Faculty satisfaction	To know how the students perceive faculty satisfaction	48,49,50
Cost of education	To see the cost of education in that university based on the students' perception	51,52,53

3.5 Data Collection

The current study distributed the questionnaire to 270 EFL students at the Department of English, Universitas Raden Mas Said, Surakarta, using an online platform, Google Form. The Google Form link was distributed via WhatsApp groups by the course lecturers. To investigate the students' perception of using OER to improve their writing skills, the questionnaire was adapted from Rowell (2015). Twenty-one items were piloted before they were distributed to EFL students. It was carried out to facilitate the researcher's study design. To determine the factors that influence the students' perception of using OER to improve their writing skills, the researchers developed a questionnaire designed by Fine and Read (2020). Thirty-two survey items also went through the same process before the distribution.

3.6 Data Analysis Technique

The researchers attempted to examine the actual data of the students' perception of using OER to improve their writing skills. The data obtained from the questionnaire were analyzed descriptively and calculated using SPSS software. After that, the results were converted into a descriptive analysis following the data conversion table

proposed by Perez and Mardapi (2015). Furthermore, regression is an analysis in statistics that is intended to investigate and make a certain model of the relationship between the variables (Montgomery et al., 2012). Therefore, multiple regression analysis was performed to examine factors that influenced the students' perception of the use of OER in improving their writing skills.

4. RESULTS

The results of the study were based on the questionnaire distributed to EFL students at the English Department of Universitas Islam Negeri Raden Mas Said, Surakarta.

4.1 Students' Perception of Using OER in Learning Writing by Dimension

4.1.1 Motivation to learn writing using OER

Motivation to learn writing using OER dimension was measured using five items consisting of intrinsic and extrinsic motivation. The item means, standard deviation, frequency, percentage, and interpretation of the data are presented in Table 4.

Table 4. Dimension of motivation to learn writing using OER.

Variable M, SD	Strongly Disagree	Disagree	Agree	Strongly Agree	Interpretation
	F(%)	F(%)	F(%)	F(%)	
I enjoy working on my writing assignments using OER. M=3.077, SD=0.543	0.7	8.9	72.2	18.1	(72.2%) Agree
I enjoy learning in an environment that incorporates OER. M=3.037, SD=0.544	0.4	11.9	71.5	16.3	(71.5%) Agree
I would describe using OER as interesting. M=3.066, SD=0.541	0	11.5	70.4	18.1	(70.4%) Agree
I study hard in writing using OER because I want to get a good grade. M=3.322, SD=0.665	1.1	7.8	48.9	42.2	(48.9%) Agree
I want to learn writing using OER for my future carrier. M=3.251, SD=0.618	0.4	8.5	56.7	34.4	(56.7%) Agree

The motivation to learn writing using the OER dimension received positive responses from the students, in which the interpretation from five questions had five agree responses, and the mean scores from all items were 3.00 or higher, suggesting that the respondents had a high motivation to learn writing using OER in the institution. The highest mean score ($\bar{x} = 3.322$) belonged to extrinsic motivation, in which they were motivated to learn writing using OER because they wanted to get a good grade (grade purposes). Meanwhile, the lowest mean score was in the intrinsic motivation ($\bar{x} = 3.037$), which can be interpreted that they enjoyed the environment of learning

writing that incorporated OER. The mean for the motivation to learn writing using the OER dimension was 3.151.

4.1.2 *Quality of learning writing using OER*

The quality of learning writing using the OER dimension was measured by four items. The items related to the students' perception of learning writing quality using the OER dimension are reported in detail in Table 5.

Table 5. Dimension of quality of learning writing using OER.

Variable M, SD	Strongly Disagree	Disagree	Agree	Strongly Agree	Interpretation
	F(%)	F(%)	F(%)	F(%)	
OER makes me feel more engaged with my writing learning. M=3.070, SD=0.530	0.4	9.6	72.6	17.4	196 (72.6%) Agree
If given a choice, I prefer learning using OER to learning using a conventional textbook. M=2.892, SD=0.633	0.4	24.8	60.0	14.8	162 (60.0%) Agree
OER directly improves the quality of my learning experience in writing. M=3.118, SD=0.443	0	7.0	74.1	18.9	200 (74.1%) Agree
There is a connection between the OER content and specific learning objectives in learning writing. M=3.011, SD=0.443	0	9.3	80.4	10.4	217 (80.4%) Agree

The interpretation from the quality of learning dimension showed that all items contained agreement. The mean scores of the items in this dimension were rated 2.892 or higher. The highest mean score in the perception of using OER in learning writing within this dimension showed that OER directly enhanced the students' learning quality from the experience side ($\bar{x} = 3.118$). The mean of learning writing quality using OER was 3.023.

4.1.3 *Value of OER in writing skill*

Two valid questions measured the value of OER in the writing skill dimension. The items related to the students' perception of the value of OER in improving their writing skills are presented in Table 6.

In terms of OER significance in the learning writing dimension, the respondents also rated with positive responses in the two questions. The mean score of the items was 2.844 or higher. In this dimension, the highest response indicated that the students believed that OER could help them understand and learn more topics better than could textbooks (2.863). The mean of OER value in improving students' writing skills was 2.853.

Table 6. Dimension of the significance of OER in improving writing skills.

Variable M, SD	Strongly Disagree	Disagree	Agree	Strongly Agree	Interpretation
	F(%)	F(%)	F(%)	F(%)	
I believe I can learn more through OER than through a textbook. M=2.844, SD=0.563	0.4	23.7	67.0	8.9	181 (67.0%) Agree
OER helps me understand topics better than textbooks. M=2.863, SD=0.571	0	24.1	65.6	10.4	177 (65.6%) Agree

4.1.4 Cognitive learning writing using OER

The cognitive learning writing using the OER dimension was measured using two valid questions. The items of this dimension were related to the students' perception of cognitive learning writing using OER. The data summary is presented in Table 7.

Table 7. Dimension of cognitive learning writing using OER.

Variable M, SD	Strongly Disagree	Disagree	Agree	Strongly Agree	Interpretation
	F (%)	F (%)	F (%)	F (%)	
I can organize course material in the writing class using OER. M=2.933, SD=0.498	0.4	14.8	75.9	8.9	205 (75.9%) Agree
I can intelligently criticize the OER used in learning writing. M=2.585, SD=0.643	2.2	43.3	48.1	6.3	130 (48.1%) Agree

The interpretation from a cognitive dimension of this study was all rated 2.585 or higher. The highest item ($\bar{x} = 2.933$) indicates that students could organize course material in the writing class using OER. The scale mean for cognitive learning writing using the OER dimension was 2.759.

4.1.5 Affective learning writing using OER

The affective dimension distinguishes the students from different social and emotional factors from those who rely more on logic (Hyland, 2003). The affective learning writing using the OER dimension was measured by three questions. The items were related to students' perception of affective learning writing using OER. The complete data are presented in Table 8.

Table 8. Dimension of affective learning writing using OER.

Variable M, SD	Strongly Disagree	Disagree	Agree	Strongly Agree	Interpretation
	F (%)	F (%)	F (%)	F (%)	
I have changed my attitude in learning writing using OER. M=2.840, SD=0.572	0.7	23.3	67.0	8.9	181 (67.0%) Agree

I feel more confident because of this course using OER. M=2.829, SD=0.545	1.1	21.5	70.7	6.7	191 (70.7%) Agree
I feel I am a more sophisticated thinker because of this course using OER. M=2.844, SD=0.589	0.4	25.2	64.1	10.4	173 (64.1%) Agree

Overall, effective learning writing using the OER dimension received quite positive responses. The items were rated similarly, ranging from 2.829 to 2.844. The item with the highest response ($\bar{x} = 2.844$) showed that the students considered themselves sophisticated thinkers because of learning writing using OER. The scale mean for this dimension was 2.838.

4.1.6 Course quality using OER

Four items measured the course quality of learning writing using the OER dimension. The items were related to the students' perception of the course quality of learning writing using OER. The mean, standard deviation, frequency, percentage, and interpretation of the data are presented in Table 9.

Table 9. Dimensions of course quality.

Variable M, SD	Strongly Disagree	Disagree	Agree	Strongly Agree	Interpretation
	F (%)	F (%)	F (%)	F (%)	
I would like to take more courses that use OER. M=2.733, SD=0.618	1.5	31.5	59.3	7.8	160 (59.3%) Agree
I would recommend a course that uses OER to others. M=2.925, SD=0.540	0.4	17.4	71.5	10.7	193 (71.5%) Agree
Overall, the learning experience in this course using OER was positive. M=3.151, SD=0.554	0.4	7.8	68.1	23.7	184 (68.1%) Agree
Overall, the quality of the OER content of this course was excellent. M=3.092, SD=0.540	0.4	9.3	71.1	19.3	192 (71.1%) Agree

The course quality of learning writing using the OER dimension received positive perceptions with responses of agreement for all questions. The highest item ($\bar{x} = 3.151$) of this dimension pointed out that the learning experience writing course using OER was considered positive. The scale mean of this dimension was 2.976.

4.2 Factors Affecting Students' Perception of the Use of OER in improving their Writing Skills

A descriptive statistic of factors that affect the students' perception of using OER to improve their writing skills includes mean and standard deviation. The data covers students' perception, gender, age, semester, parents' income, type of writing activity, type of learning writing delivery, monetary benefit, connectivity to the course, writing

course cost, teaching effectiveness, university support, faculty satisfaction, and cost of education. Table 10 describes the result in Table 1 about attributive questions and Table 3 about factors affecting student's perception.

Table 10. Descriptive statistics of factors affecting students' perception.

No	Factors	Mean	Std. Deviation
	Students' perception	2.975	.590
	Gender	1.119	.324
	Age	2.604	1.039
	Semester	1.944	.850
	Parents' income	1.318	.482
	Type of writing activity	3.105	.611
	Type of learning delivery	3.094	.693
	Monetary benefit	3.414	.593
	Connectivity course	3.198	.645
	Writing course cost	3.184	.558
	Teaching effectiveness	3.124	.601
	University support	2.986	.673
	Faculty satisfaction	3.192	.566
	Cost of education	2.937	.656

The highest mean score out of the independent variables belonged to monetary benefit ($\bar{x} = 3.414$). There is no standard deviation value that exceeds the mean score. This means that the data distribution is categorized as normal or unbiased.

Multiple regression analysis was calculated to investigate what factors affected the students' perception of using OER to improve their writing skills, as shown in Table 11.

Table 11. Coefficients of the analysis in Multiple Regression.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.471	2.888		5.703	.000
	Gender	-1.843	.885	-.092	-2.082	.038
	Age	-.172	.360	-.027	-.477	.634
	Semester	.475	.454	.062	1.048	.296
	Parent income	.268	.588	.020	.457	.648
	Type of writing activity	1.350	.262	.263	5.146	.000
	Type of learning delivery	.699	.229	.182	3.051	.003
	Moentary benefit	-.410	.280	-.099	-1.463	.145
	Conectivity course	.510	.269	.127	1.895	.059
	Writing course cost	.078	.246	.021	.316	.752
	Teaching effectiveness	.771	.207	.230	3.729	.000
	University support	-.356	.208	-.093	-1.714	.088
	Faculty satisfaction	.072	.276	.016	.260	.795
	Cost of education	1.404	.238	.308	5.894	.000
a. Dependent Variable: Student Perception						

Table 11 shows that factors that affected the students' perception of the use of OER ($\text{sig.} < .05$) include gender, type of writing activity, type of learning delivery, teaching effectiveness, and cost of education. Meanwhile, the strongest factor was the

cost of education ($\beta = .308$). Table 12 describes the coefficient of determination of the variables.

Table 12. The summary of the model.

Summary of the Model ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.732 ^a	.536	.513	4.53995

Table 12 indicates the percentage of independent variables that affected the dependent variable with $R^2 = .536$. In other words, the independent variables that affected the students' perception of the use of OER in improving their writing skills were 53.6%. Table 13 describes the regression model using ANOVA analysis.

Table 13. Analysis of ANOVA.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6107.035	13	469.772	22.792	.000 ^b
	Residual	5276.450	256	20.611		
	Total	11383.485	269			

Table 13 shows that the independent variables were statistically significant to predict the dependent variable, $F(13, 256) = 22.792$, $p < .0005$. This indicates that the regression model used was a good fit for the data.

Therefore, the analysis from the sequence of Tables 11, 12, and 13 of multiple regression was run to predict the students' perception based on gender, age, semester, annual parents' income, type of writing activities, type of learning delivery, monetary benefit, connectivity course, writing course cost, teaching effectiveness, university support, faculty satisfaction, and cost education, resulting in $R^2 = .536$, adjusted $R^2 = .513$, F -statistic=22.792, Significance=.000, with $n=270$. Five variables (gender, type of writing activities, type of learning delivery, teaching effectiveness, and cost of education) were statistically significant in predicting the students' perception, $F(13, 256) = 22.792$, $p < .0005$, $R^2 = .536$. These five variables added statistically significant value to the prediction, $p < .05$.

5. DISCUSSION

The first objective of this research was to examine the students' perception of using OER to improve students' writing skills. The second objective was to investigate factors that may affect the students' perception of using OER to improve writing skills. Each research objective is discussed in the following subsections.

5.1 Students' Perceptions of the Use of OER in Improving Writing Skills

Several studies have shown that the students' perception of using OER in some subjects may be positive or negative. In many studies, students perceived that OER was interesting since it could fulfill the students' and lecturers' needs, decrease educational costs, and remove the barriers among the students. This is in accordance

with the current learning needs which revealed that OER could be used to improve the students' understanding (Lin & Wang, 2018). Besides, the students also perceived that they had a better understanding of using OER in their classes. Those findings are also in line with the perception framework proposed by Atkins et al. (2007), who stated that OER could remove the barrier, sponsor high-quality content, understand and stimulate usage, and equalize access. In contrast, a limited literature review showed that students might have negative perceptions since there was no significant difference between the students who used OER in their class and those who used textbooks.

Similarly, previous studies about students' perceptions of improving writing skills could also be positive or negative. The students had positive perceptions because they received specific writing strategies, methods, or media that could facilitate them in improving their writing skills (Ismail, 2011). Meanwhile, the students had negative perceptions when the expectations, basic concepts, writing strategies, and negative experiences became obstacles to improving their writing skills.

The findings of this study report two issues. The first is about the students' perception of using OER, and the second is about the students' perception of improving their writing skills. In this study, dimensions used to measure the students' perceptions include motivation to learn writing using OER, quality of learning writing using OER, the value of OER in writing, cognitive learning writing using OER, affective learning writing using OER, and writing course quality using OER (Rowell, 2015). As stated previously, this study aimed to explore the students' perception of using OER to improve their writing skills. The results of this study indicate that most students had a positive perception toward the use of OER in improving students' writing skills, with a mean of 2.975 and a standard deviation of .590. The motivation dimension obtained the highest mean ($\bar{x} = 3.151$). This indicates that the students were highly motivated to learn writing using OER. Meanwhile, the lowest mean was obtained from the cognitive learning dimension ($\bar{x} = 2.759$), showing that the students' perception of cognitive learning writing by using OER was not as positive. Based on the above results, the negative perception of using OER reported by previous studies (Chen & Hoshower, 2010; Engler & Shedlosky-Shoemaker, 2018; McBride & Abramovich, 2022) was not evident in this study. Meanwhile, this study strengthened the previous research (Cheng, 2022; Lin & Wang, 2018; Zhang, 2018) that reported the positive impacts and significant benefits for students who used OER with certain strategies from their lecturers. Implementing OER with the active role of lecturers can increase the students' motivation and learning achievement.

These results reflected those of Rowell (2015), who also found that students had a positive perception in the classroom and were highly motivated to learn using OER. The use of OER with interactive strategies helps students understand materials faster. The study reported by Zhang (2018) also indicated that using OER in blended learning activities in a writing class increased the students' understanding of the materials compared to when they used a conventional textbook. This is noticeable through students' positive perception of using OER in improving many skills, including writing.

5.2 Factors Affecting Students' Perception of the Use of OER in Improving Writing Skills

As mentioned in the literature review, many factors can influence someone's perceptions. Those factors include demographic data (i.e., age, gender, semester, and parents' income), type of writing activity, type of learning writing delivery using OER, monetary benefit, connectivity course, writing course cost, teaching effectiveness in writing skill using OER, university support, faculty satisfaction, and cost of education (Fine & Read, 2020). This current study revealed the factors that affected the students' perception of using OER to improve their writing skills.

The study results pointed out that five predictors (gender, type of writing activities, type of learning delivery, teaching effectiveness, and cost of education) were statistically significant in predicting the students' perception of the use of OER in improving their writing skills ($p < .05$). The gender variable of this data was found to be significant ($p=.036$), and the beta was negatively sloped ($\beta = -.092$). In this research, the variable coded as male=1, female=0, with $p=.036$ and $\beta = -.092$, meaning that the variable significantly predicted the dependent variable in which the female variable had a higher mean of the groups. Therefore, the gender variable in this research acts as a suppressor or enhancer variable. This variable will increase the R^2 from .498 to .506 without and with the gender variable as an additional variable. Although the previous study showed that the gender variable ($p=.025$ and the $\beta = -.091$) was a suppressor variable, it was not a factor affecting the students' perception of using OER (Fine & Read, 2020).

In contrast to a previous finding by Fine and Read (2020), the gender variable in this study was considered a factor affecting the students' perception of using OER to improve their writing skills. This conclusion was based on Pandey and Elliot's (2010) study that proposed some advantages of using suppressor variables, i.e., determining more accurate regression coefficients associated with independent variables, improving the overall predictive power of the model, and enhancing the accuracy of theory building. Therefore, five predictors significantly predicted the students' perception of the use of OER in improving students' writing skills, i.e., gender, type of writing activities, type of learning delivery, teaching effectiveness, and cost of education. The most dominant factor was the cost of education ($\beta=.308$).

The literature review points out that perception can be influenced by some factors, including the perceiver (attitudes, personalities, motives, interests, past experiences, and expectations), the object or target being perceived (novelty, motion, sound, size, shape, shade, silhouette, movement, background, proximity, and similarity), or the situation (time, work setting, and social setting) (Kondalkar, 2007; Robbins & Judge, 2017). This current study results indicate that factors influencing the students' perception of using OER to improve their writing skills came from the perceiver and the target being perceived. From the perceiver, it covered interests (type of writing activity and type of learning writing delivery) and experiences (teaching effectiveness in the writing skill and cost of education). The results are the same as those in previous studies. A study reported that OER could influence students to internalize language knowledge in the learning process (Zhang, 2018).

This finding was contrary to that of previous research which found some factors impacting the students' perception of using OER. Those factors were the students' characteristics including age and perceptions of connectivity to the course, course

characteristics such as course cost and course delivery, and university characteristics including the overall cost of education, faculty satisfaction, and university support (Fine & Read, 2020). These different results suggest that the students' perception of the use of OER in improving other skills differs from that in improving only writing skills. The current study shows that the students' perception of using OER could be affected by certain writing activities, types of learning writing delivery, teaching effectiveness, cost of education, and gender. Besides the flexibility and effectiveness of the material, OER can reduce education expenses (Barneva et al., 2018; Clinton, 2018; Katz, 2019; Lin, 2019). Another finding from this study also shows relevance to previous theoretical literature, which states that a teaching model for a writing class with improved instruction can significantly affect the students' language knowledge (Hales, 2017). This means that teaching processes, including writing activities, modes of delivery, and teaching effectiveness were significant factors that affected the students' perceptions.

6. CONCLUSION

The main goals of the current study were to determine the students' perception of using OER in improving their writing skills and to examine some factors that affected their perception of using OER in improving their writing skills. The result of this study has confirmed that the students had a positive perception of the use of OER in six dependent variables or dimensions of learning writing, including motivation to learn writing using OER, quality of learning writing using OER, OER value in learning writing, cognitive learning writing using OER, affective learning writing using OER, and course quality of learning writing using OER. The findings show that using OER to improve language skills was needed. However, using OER in the classroom required the role of lecturers to facilitate the students to improve their learning abilities. Most students who had high motivation to learn writing using OER could be caused by extrinsic motivation, i.e., for getting good grades, which is also problematic. Instead of using OER to improve language skills, the lecturer has not been able to generate intrinsic motivation. Intrinsic motivation would encourage students to use OER in learning activities, not just for a short-term purpose.

Moreover, this study also examined specific factors affecting the students' perception of using OER to improve their writing skills. The findings indicate that the students' perception was affected by gender, types of writing activity, types of learning writing delivery, teaching effectiveness in improving writing skills, and cost of education. These results show that the use of OER in learning could reduce expenses. In addition, the results also indicate that the role of lecturers as supervisors and the role of students as active learners were very influential in the learning process.

The limitations in conducting the research are acknowledged in this study. Further research with a larger number of participants from different universities in Indonesia, and perception analysis on the use of OER in different language skills are highly recommended to confirm the findings of the current study. It is also necessary that future research focuses on the role of lecturers in using OER in the classroom. Therefore, there will be many other relevant variables to discuss the use of OER in higher education, especially in the EFL classroom.

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