



## **e-PORTFOLIO AS OLEA TO IDENTIFY HIGHER ABILITY FOR STUDENTS IN HIGHER EDUCATION**

**Nasrullah**

*Universitas Negeri Makassar*

[nasrullah@unm.ac.id](mailto:nasrullah@unm.ac.id)

### **Abstract**

The importance of high ability (HA) for students in higher education so that they show ability as a resource who is ready to face the challenges in today's competitive era. This research was conducted to identify HA by utilizing online learning environment activities (OLEA). OLEA is applied in the form of online lecture activities combined with the e-portfolio approach. This activity involved 32 people who came from students majoring in mathematics class C 2019. The questionnaire distributed via Google Form, the results were analyzed using descriptive statistics. The results show that 1) the HA identification method with OLEA is good for motivating students to recognize their abilities, 2) OLEA needs to be designed in such a way as to initiate the development of students' HA, 3) the e-Portfolio approach is a good alternative to support OLEA.

**Keywords:** e-Portfolio; OLEA; Higher Ability.

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### **INTRODUCTION**

Not only because now is the time of the Covid-19 pandemic, but knowledge of educational technology for prospective student educators is important. The importance of technological knowledge can provide knowledge for them. Moreover, they can be inspired to use them in various educational activities. This use will direct the development of the ecosystem thus creating opportunities for a variety of high quality educational experiences and credentials with market values that are in line with student needs. (King & South, 2017).

Quality education and credentials are intended to be in line with the role of educational technology as a tool for integration and transformation purposes (Su, 2009). Students at the university level should probably face the same demands raised by Scager, et. al (Scager et al., 2014) where they are involved in the



complexity of the task, high expectations, and do not always depend on the direction of the teacher. Such a learning environment provides a conclusion that students are successful in following these challenges.

Completing a learning environment with a similar goal where the environment in question is described that students like challenges and have a high ability to face them (Clinkenbeard, 1994), (Freeman, 1990), (Heller, 1999), (Lens & Rand, 2000), (Marra & Palmer, 2004), (Reis & Renzulli, 2010), (Sayler, 2009). In facing these challenges, these students will be screened with abilities that show that they are high-skilled with the characteristics of thinking faster, more flexibility in using strategies, have better memories, know better, and prefer complexity (Freeman, 1990), (Shore & Kanevsky, 1993), (Wallace, 2012). Conversely, students with average ability experience boredom easily (Gallagher et al., 1997) which results in a loss of motivation (Hoekman et al., 1999), (Lens & Rand, 2000), does it also have an impact on the low value of learning outcomes, in line with the opinion (Gentry et al., 2000).

To examine this opinion, the learning environment is prepared in the form of e-learning by utilizing google classroom. This tool was chosen with the assumption that google classroom is a familiar tool for students in universities such as Universitas Negeri Makassar. In addition, the features contained in it do not make it difficult for students to use it.

The transformation made by utilizing google classroom as an e-portfolio. E-portfolio is a tool used to monitor and evaluate the activities of school teachers and their achievements (Vorotnykova & Zakhar, 2021). The impact of this use leads to the achievement of an understanding of why and how teachers have learned throughout their career, the importance of reflection for future professional development.

In line with that, this study examines what the opinions of students in higher education are in response to the lecture activities they take in where the application of e-portfolios is carried out as well as observing their high abilities



(HA) based on the Online Learning Environment Activities (OLEA) that is prepared.

## METHOD

The type of research chosen to carry out this study is quantitative research with a descriptive approach. With this type of research, this study aims to explore the ability of ESM participants to adapt to online learning environments. The ESM participants meant 32 students majoring in mathematics class ICP 2019.

To support the implementation of this study, there are several activities carried out including: 1) Preparation for the implementation of ESM lectures, 2) Determination of the e-learning platform to be used, 3) Preparation of lecture materials that are integrated with the platform, 4) Selection of ESM course participants and registration on platform, 5) preparation of research instruments, 6) implementation of lectures, 7) Providing instruments. For more details, it is described in the table as follows.

**Table 1. Research Phase and Activity Description**

<b>Phase</b>	<b>Activity Description</b>
<b>Preparation</b>	This stage is carried out by compiling the various needs of this research. The needs in question include the required lecture materials, the platform to be used, information for participants, research instrument materials, lecture schedules, and methods of giving instruments.
<b>Choosing Platform</b>	The considerations used to choose the right platform in this study were familiar and easy to use by ESM participating students. Of the various platforms identified, the option being considered is Google Classroom.
<b>Preparation of Lecture Materials</b>	For the preparation of lecture materials, consider material related to ESM topics and direct course participants to achieve lecture outcomes that do not consider cognitive, but also affective and psychomotor aspects.
<b>Participant Enrollment</b>	This stage is done to enroll ESM participants in the platform used
<b>Preparation of Research Instruments</b>	The research instruments were prepared in the form of response questionnaires and e-portfolios



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	designed according to the components in Google Classroom
<b>Lecture Implementation</b>	This lecture is planned for 16 meetings, 2 of which are meetings to provide an assessment as an indicator of student progress in lecture activities.
<b>Sharing Instrument</b>	The instrument is shared online by involving a google form which is distributed via WhatsApp. The use of these two devices is considered easy to use and familiar to the ESM participants.

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For the instrument section, the questionnaire used was divided into 3 parts, namely 1) Identification of the respondent's strong desire to have High Ability (HA), 2) Identification of the respondent's strong desire to have High Ability based on Learning Environment Activities (HA Based OLEA), and 3 ) Capturing students' responses to OLEA designed, for this study OLEA in the form of an e-portfolio.

In identifying HA, this study developed indicators: 1) liked complex assignments, 2) liked high achievement expectations, and 3) preferred not to depend on teachers or facilitators in this ESM. These three indicators are measured by "yes" or "no" statements. The hope is that the respondents will give all answers "yes" to categorize them including those who have HA. Conversely, if there is a response other than that they are considered likely to have HA.

The identification results above will be matched with what will be obtained in the second identification process. In this process, students are also asked to respond to the OLEA that has been prepared. However, the response category for OLEA was made into 4 choices, namely strongly agree, agree, disagree, and disagree. In other words, the first 2 choices represent a positive response to the statement submitted. Likewise, the next 2 choices that represent responses are not in line with the statement.

To capture students' opinions regarding the prepared OLEA, this study developed indicators: liked the topic of the assignment given in this ESM, liked the complexity of the assignments given in this ESM, liked the challenges of the assignments given in this ESM, fulfill the bills of duty given in this ESM in a timely



manner, implementing strategies to complete the tasks given in this ESM, need a good memory to fulfill the task bills in this ESM, and feel bored to fulfill the task bills in this ESM.

In addition to preparing OLEA and asking students to respond to potential HA responses based on OLEA. Students are also asked to respond to the OLEA content, matching it with the abilities of students in such a way that OLEA is prepared with procedures that accommodate user needs. For this response, this study develops indicators including: 1) assuming that the google classroom tool used is appropriate to support lecturing activities in this ESM, 2) assumes that the google classroom tool used is appropriate because the available features are easy to understand and familiar, 3) assume that the google classroom tool used is correct because the available features do not cause difficulties in its use, 4) assume that the google classroom tool used is appropriate to monitor your learning progress in this ESM, 5) assume that what is done in this ESM will direct you to achieve what is desired and expected.

Based on the results of the provision of instruments, the collected data will be analyzed in descriptive statistics using the tabulation method and the use of diagrams. To support the use of descriptive statistics, categorization techniques were used for the three data groups. The first data will present information about HA, the second data regarding HA Based OLEA, and the third data relating to the e-Portfolio as OLEA. The categorization for these three data is described as follows.

**Table 2. Categorization HA, OLEA, & Portfolio**

Item	Indicator	Response Category	Score Description	Respondent Category
<b>Data HA</b>	I1	“Yes” = 1 or	Max Score = 3	If the respondent reaches maximum score, then the respondent is categorized as the learner with HA
	I2	“No” 0	Min Score = 0	
	I3			
	I1	“1” =	If Respondents	If $n(3)$ or $n(4)$ or $n(3) + n(4) = 6$ ,
	I2	Strongly	select 3 or 4, then	



Item	Indicator	Response Category	Score	Description	Respondent Category
<b>Data HA Based OLEA</b>	I3	Disagree	(R)	Respondent	then the
	I4	(SD)		argue that the	respondent is
	I5	“2” =		indicator is suitable	categorized as the
	I6	Disagree (D) “3” = Agree		to represent his/her ability	learner with HA Based OLEA
	I7	(A) “4” = Strongly Agree (SA)		If Respondents select 1 or 2, Respondent (R) argue that the indicator is suitable to represent his/her ability	If $n(1)$ or $n(2) = 1$ , then the respondent is categorized as the learner with HA Based OLEA
<b>Data e-Portfolio</b>	I1	“1” =		If Respondents	If $n(3)$ or $n(4)$ or
	I2	Strongly		select 3 or 4, then e-	$n(3) + n(4) \geq 70\%$ ,
	I3	Imprecise		Portfolio is worthy	then the e-
	I4	(SI)		based on the	Portofolio is
	I5	“2” = Imprecise (I) “3” = Precise (A) “4” = Strongly Precise (SA)		indicator	categorized as the worthy OLEA

To analyze the data of this study, the collected respondents' opinions on high ability were given the highest score of 3 and the lowest of 0. A score of 3 is given if the respondent follows the achievement of all indicators, and vice versa if no indicator is met, a score of 0 will be given. Likewise with high capabilities based on OLEA, the range of opinions ranging from 1 (strongly disagree) to 4 (Strongly agree). If respondents direct their opinions to choose 3 or 4, it means that they tend to have a high ability to do activities. Conversely, if the opinion leads to choose 1 or 2, it can mean that the indicator does not represent itself or is not capable. In line with high capability items based on OLEA, for e-portfolio data the response distribution starts from 1 (strongly imprecise) to 4 (strongly precise). Because the



e-portfolio under review is how much benefit can be obtained with its use so that the established amount is 70%

## RESULT AND DISCUSSION

In carrying out this research, the activities carried out to support the achievement of the objectives of this study include: 1) Implementation of lectures, 2) Giving a high ability identification questionnaire, and 3) Giving assignments in the form of an e-portfolio. The instrument used in these activities is the main support for obtaining the expected research data. After data collection and going through processing according to the established method, the results are presented as follows.

### 1. Students' Response toward HA

In capturing student responses regarding high ability to learning environment activities, they show different opinions. According to this study plan, there are 3 indicators to determine whether these students have these abilities. The result is as shown in the diagram below.

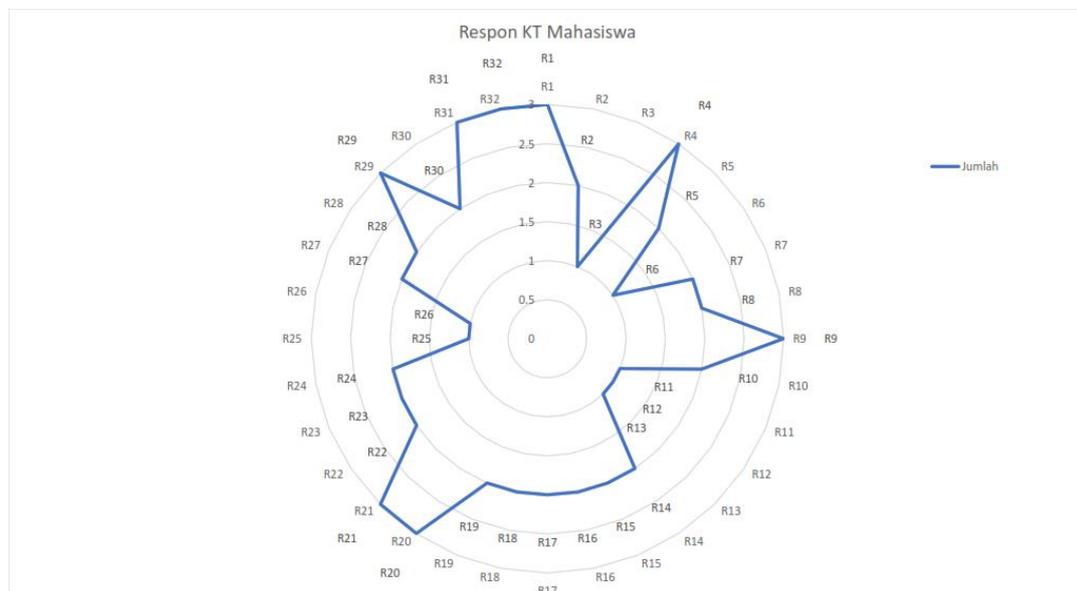


Diagram 1. HA Response of Students



As seen in the picture above, there are 8 respondents who can be stated as having a desire for High Ability. Those including R1, R4, R9, R20, R21, R29, R31, and R32. That way, there are 24 people who are not included in the group with a strong desire to have HA. In other words, about 25% wish to meet HA, the remaining 75% do not wish to be included in the HA group.

This information illustrates that not many students in the class like the challenges prepared as OLEA. Therefore, most students do not expect the presentation of complex OLEA material, high expectations, and need the involvement of the teaching staff at all times.

## 2. Results of HA Identification Based on OLEA

With regard to OLEA which was prepared in this lecture activity, respondents were asked their opinion about their high abilities. There are 7 indicators prepared to gather their opinion. In accordance with the data obtained, it is presented in the diagram below.

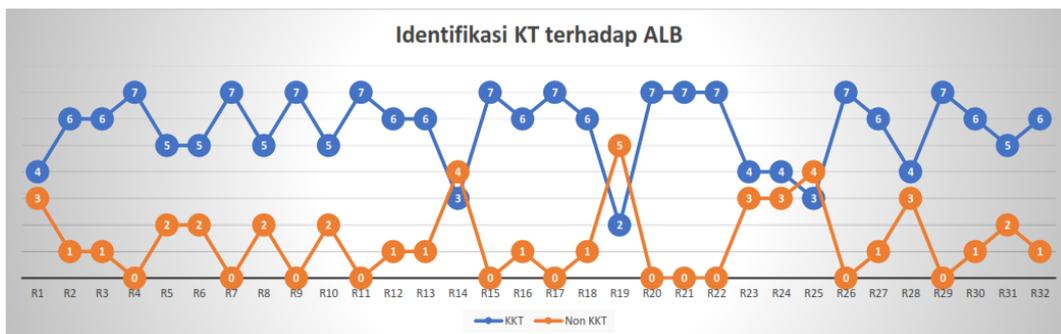


Diagram 2. Identifying HA Based on OLEA

Based on the image above, the information obtained is R4, R7, R9, R11, R15, R17, R20, R21, R22, R26, and R29 showing a high desire for capability by following the prepared OLEA. This means that 11 people showed a desire for high ability towards OLEA, while 21 others were not included in the intended group. In other words, 34.38% had a strong desire to fulfill OLEA, the remaining 65.62% did not include high ability students.

## 3. Response e-Portfolio as OLEA



OLEA which is prepared to support student lecture activities is made in the form of an e-Portfolio. In order for e-portfolio use activities to run well, a familiar and easy-to-use platform such as google classroom is an option to support the implementation of e-portfolio use in learning activities.

However, the e-portfolio design that has been prepared needs to be made sure that it is in line with the opinion of the users that the device supports OLEA. For this reason, there are 5 determined indicators which are then used to test the feasibility of an e-Portfolio based on Google Classroom as an OLEA domain. The result is as shown in the diagram below.

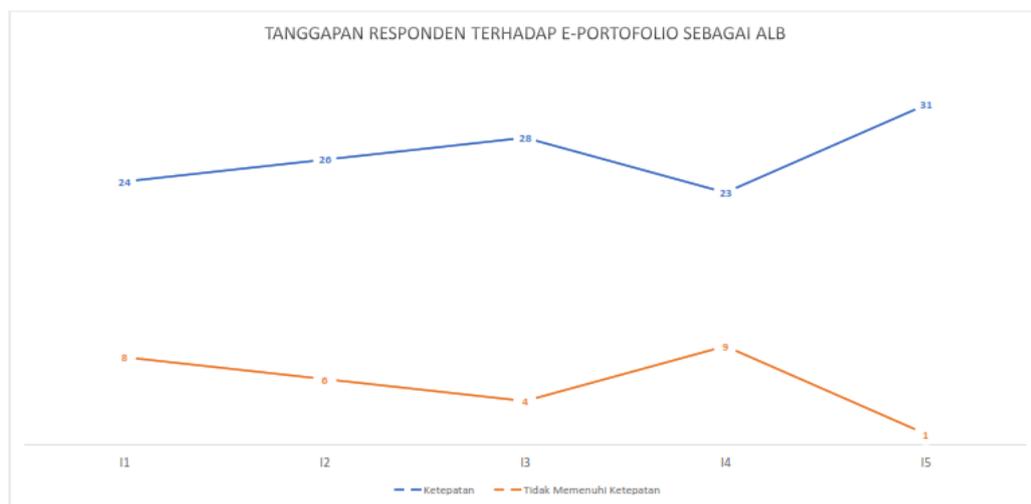


Diagram 3. Response e-Portfolio as OLEA

The diagram above shows that the eligibility of the e-Portfolio prepared as OLEA shows 2 types of opinion, namely 1) accuracy, and 2) does not meet accuracy. For the first and second opinions when compared, the dominance of the criteria for accuracy over the criteria of not meeting the accuracy seems so great. If we pay attention to the achievement of each indicator, none is below 70%. The lowest is indicated by indicator 4 with a magnitude of 71.88%, then followed by indicator 2 with 75%. The highest percentage is shown by indicator 5 of 96.88%. In other words, the respondents considered that the e-Portfolio met the criteria as OLEA in the lecture.



Based on the presentation of the data above, there are things that are inconsistent between the Student's OLEA response and the results of HA identification based on OLEA. What is meant is that about 25% wish to meet OLEA, the remaining 75% do not wish to be included in the OLEA group. Meanwhile, after being identified through the provision of OLEA, the percentage amount became 34.38% having a strong desire to fulfill OLEA, the remaining 65.62% did not include high ability students.

This change may be in line with Csikszentmihalyi's flow model that in a flow state, learning itself can motivate intrinsically (Csikszentmihalyi et al., 2014). Students can be led to improve their abilities along with the challenges given in learning. However, it should be noted that as long as they have the will to do so. Therefore, the results of a study conducted by Vollmeyer & Rheinberg relate in this case that learning experiences are beneficial for students to improve their performance (Vollmeyer & Rheinberg, 2006). Because this is in line with studies showing that experience is associated with positive outcomes such as increased performance (Engeser & Rheinberg, 2008), (Klein et al., 2010), (Nakamura & Csikszentmihalyi, 2005), (Vollmeyer & Rheinberg, 2006). In addition, another factor that is quite supportive is the ability to think at a higher level, which is a process that not only requires students to memorize and relays the information obtained, but is also able to connect, manipulate and transform the experience and knowledge they already have to be able to solve every problem. new faces (Sari et al., 2020). Another opinion, through active involvement in the literacy process, learners learn how to use their knowledge and skills flexibly and in combination with all developmental domains (Nasrullah; Baharman, 2018). In other words, OLEA is a space and opportunity for students to develop their competencies in such a way that they need it to hone knowledge, form new experiences, and complete the skills needed.



## CONCLUSION

Based on the research results obtained, this study shows several conclusions including, 1) the HA identification method with OLEA is good for motivating students to recognize their abilities, 2) OLEA needs to be designed in such a way as to initiate the development of students' high abilities, 3) the e-Portfolio approach be a good alternative to support OLEA. The development of the indicator integrated with the e-portfolio can be applied for levelling the higher ability of students in higher education. This is one of efforts to support student for activating the optimal level of their abilities.

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