

CREATING AN ENGAGING E-PORTFOLIO FOR BEGINNERS IN MASSIVE OPEN ONLINE COURSES (MOOC)

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Abstract

This research aims to develop a web blog-based e-portfolio that will be taught to students through the Open University's Massive Open Online Courses (MOOC). The goal is to instill critical and creative characters in students through Massive Open Online Courses (MOOC). The method used is research and development (R and D) which is directed to develop a web blog-based e-portfolio media that is validated and empirically tested to be able to foster critical and creative character of students through Massive Open Online Courses (MOOC). The instruments used are questionnaires, and observation sheets. Data processing techniques were carried out including observations of students' critical and creative characters, student response questionnaires, and analyses and conclusions. Web blog-based e-portfolio media products developed in Massive Open Online Courses (MOOC) received a decent assessment from experts. The results of the application of web blog-based e-portfolio media developed in Massive Open Online Courses (MOOC) show that web blog-based e-portfolio media developed in Massive Open Online Courses (MOOC) can foster students' critical and creative characters.

Keywords: E-Portfolio, information technology, beginners.

1 INTRODUCTION

Higher education demands academic abilities (hard skills), and personal abilities (soft skills), so that students can be better prepared to enter the real world of work after completing their studies. The current paradigm of the knowledge age calls for project-orientated learning, problems, inquiry, discovery and creation (Wilson, 1996; Ardhana, 2000). One of the learning strategies that can help students to have creative thinking, problem solving, and interaction as well as assist in investigations that lead to solving real problems is Project Based Learning (PBL) or project-based learning (Rais, 2010). Project-based learning can stimulate motivation, process, and improve student learning achievement by using problems related to certain courses in real situations.

The development of student character, especially the character of critical and creative thinking, must be done holistically from all educational environments, namely family, school, and society. According to Miftahudin (2010) character education at an early age in the family aims for formation, at adolescence in school aims for development while at adulthood in college aims for stabilisation. The tasks of educators are to provide a good learning environment to shape, develop and strengthen the character of their students. The project took place with enthusiasm, students through observation seemed to enjoy the way of learning developed based on the project-based learning scenario. Students critically expressed ideas in collaborative groups, starting from planning something about how to gain knowledge, processing collaboratively and meaningfully, concluding, to exchanging information between groups before then doing a group presentation.

The development of science and information technology in the era of Globalisation is advancing rapidly. This phenomenon has resulted in changes in all aspects of life, including education. The use of technology in education is carried out in order to improve the efficiency and effectiveness of the learning process. For this reason, electronic portfolios, hereafter abbreviated as e-portfolios, are digital collections of artifacts that represent individuals, groups, communities, the organisations, or institutions (Lorenzo and Ittelson, 2005). This collection can be placed on compact disc media (CD or DVD) or the web. Nowadays, the World Wide Web (www) has simplified many tasks, including education. Hypertext Markup Language (HTML) supports hyperlinking, including creating web forms. Web forms are easy to create, edit, store and display. The web can support learning in a variety of ways. Web forms can eliminate paper in written assessments. Through e-portfolios, learners collect, select, and reflect on their learning inside and outside the classroom (Lakin, et al., 2003). E-portfolio assessment can be used to encourage learners to conduct self-evaluation (Sweat-Guy and BuzzettoMore, 2006). Research by Cranney, et al. (2005) showed that by incorporating e-portfolios into the curriculum and providing a specific e-portfolio development structure in lectures, there was an increased awareness of the level of ability in learners, and learners were encouraged to further develop their abilities. This indicates that portfolio assessment can encourage the growth of awareness and motivation to develop. This research aims to develop an e-portfolio in project-based learning in Massive Open Online Courses as part of course assessment at the Open University and to enable students to better document their achievements in both hard and soft skills.

2 METHODOLOGY

In this study the authors used the research and development (r&d) research method. According to sugiyono (2009: 407) the research and development (r&d) research method is a research method used to produce certain products, and test the effectiveness of these products (sugiyono, 2015).

The potential is everything that when used it will have added value, as in the experience of students during their learning period there are many experiences and activities that can be included in their portfolios, while the problem is a deviation between what is expected and what happens. The problem, in this case, is that with the advancement of information technology, all forms of files such as portfolios can be accessed anywhere and anytime, so that students or job seekers can make the e-portfolio attractive.

At the data collection stage, to obtain data related to e-portfolio material, data collection is carried out in the form of observations that have been made by researchers in the Open University student environment and conducting interviews with experts in the field of portfolios.

Product Design This module contains the creation of material in the canva (display design) and then entered into the wix.com application.

Design validation is a process of activities to review whether the design of learning materials about e-portfolios is easy to understand, the validation here is still an assessment based on understanding the material. This product validation is carried out to determine the weaknesses and strengths of the E-Portfolio module.

At the design revision stage, the results of the media and material expert trial activities that have been carried out are used to evaluate the materials that have been made. The material will be revised according to input from several validators. After the revision will be tested on students.

2.1 Product Trial

Research subjects in the MOOCS material trial Create an attractive e-portfolio for beginners. The selection of test subjects was carried out only on Open University students.

The instrument in this study is a questionnaire regarding the feasibility of the module Creating an attractive e-portfolio for Beginners. The instrument was prepared to determine the feasibility and attractiveness of the material modules made.

After all the data is collected, the next process is to analyze the data, this data analysis uses qualitative. This data collection is used to see the feasibility and response to the e-portfolio material module so that the data has been analyzed on the feasibility of the material and the response to the material made.

3 FINDINGS AND DISCUSSION

The results of this research with the title Creating an attractive e-portfolio for beginners are in the form of learning materials placed in MOOCS Open University.

The results of validation and questionnaires by students cover two aspects, namely aspects of visual appearance and aspects of learning materials. From the aspect of the material that students assess the existing material is easy to follow and understand this means that the material Making an interesting e-portfolio for beginners can be understood well to be followed and learned by all prospective participants who want to follow this e-portfolio material in the Open University MOOCS application.

3.1 RESULT

It can be seen from the questionnaire results in the pie chart below:

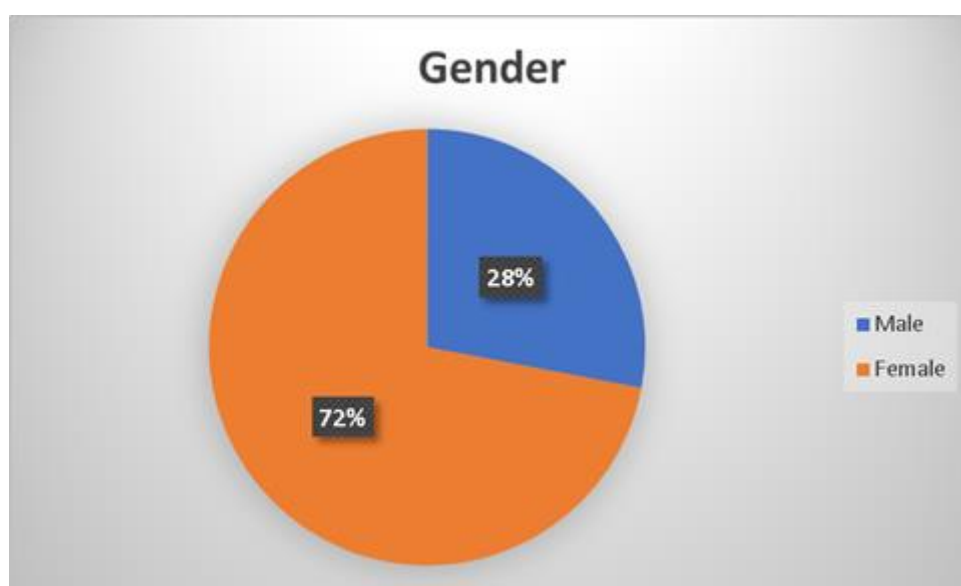


Figure 1 Diagram Pie about Gender Use E-Portfolio

Source: Primary data, 2022

The diagram showed about 72% female is better than male about 28% for appearance electronic portfolio. Supported by Toheri and Nuraisyah, (2012) The multiple comparisons test showed that the female appearance portfolio was the with a mean value of 80.412 with a value of 75.850 to 84.974. Muhtadi, et. Al., (2022) shows the mean score of learning independence for male are 3.74, while female students are 3.84 with a significant difference value of 0.031. Finally female is better than male for score of learning appearance electronic portfolio.

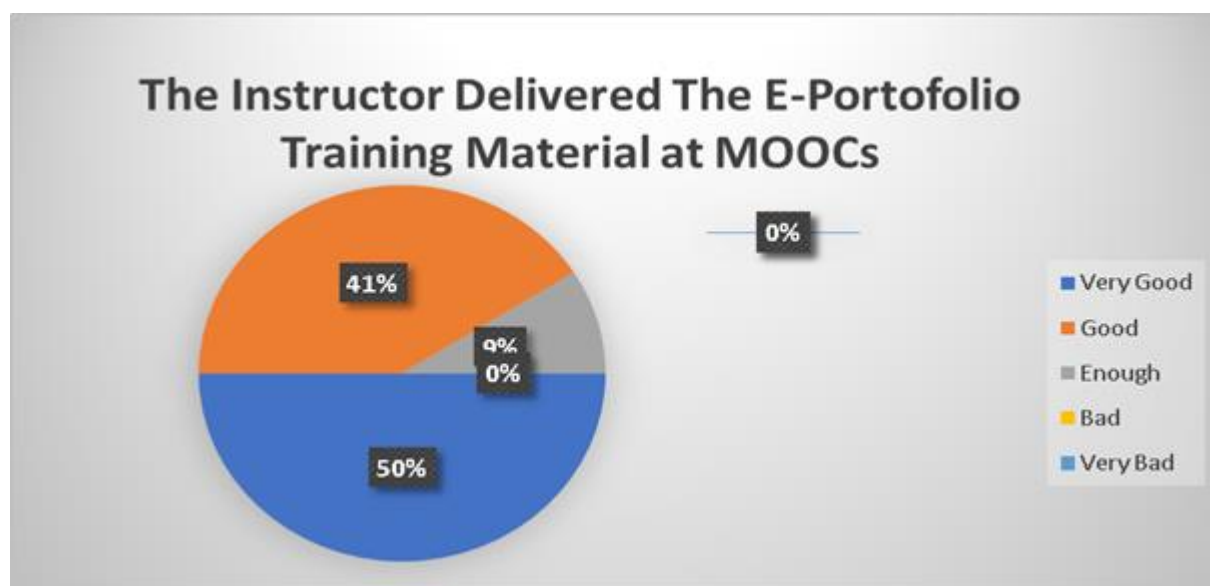


Figure 2 Diagram Pie about
The Instructor Delivered The E-Portofolio Training Material at MOOCs
Source: Primary data, 2022

The diagram showed about 50% the participants said was very good. Then about 40% the participants said was good. Also about 9% the participants said enough about the instructor delivered the E-Portofolio training material at Massive Open Online Course (MOOCs). Supported by Lokollo and Arman research, (2021) about E-Portofolio model was effective in assess students learning achievement, tracking, and diagnosing deficiencies that require improvement. Supported by Firmansyah, Chandra and Aripin research, (2019) about electronic portfolio by web based Moodle showed about 82% very good software engineering aspects. Also about 75% have a good visual aspects. Then about 78% have a good visual communications. Finally electronic portfolio can improve the assignment and student learning

outcome. Fikri research, (2014) showed learning instrument of e-portofolio have a positive respond. Conclusion E-Portofolio is effective for students learning achievement and outcome.

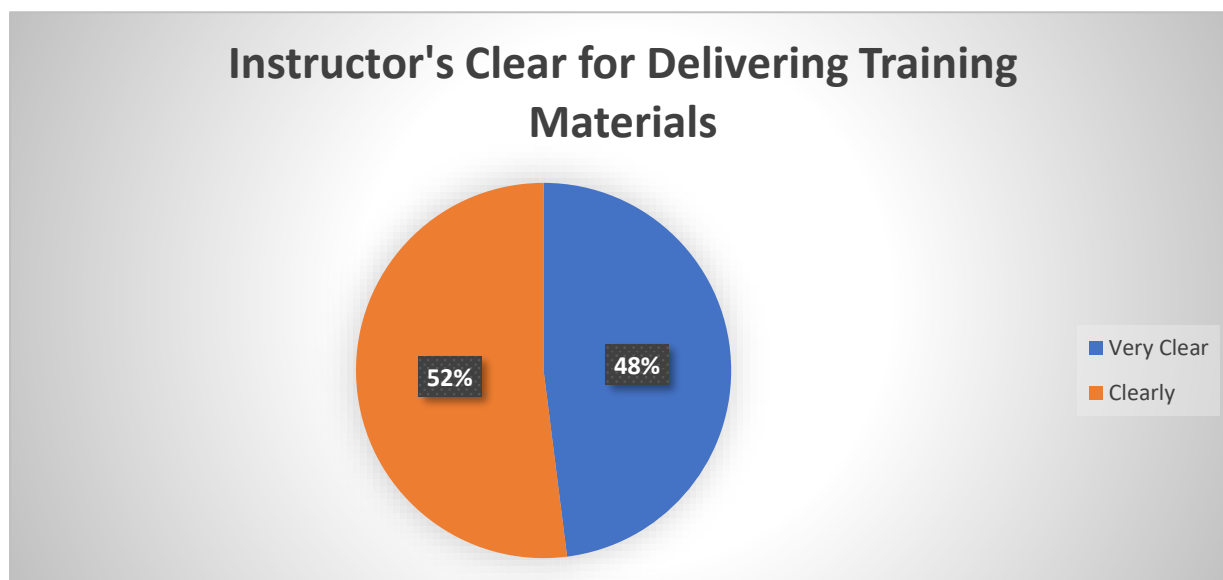


Figure 3 Instructors Clear for Delivering Training Materials

source: primary data, 2022

From the diagram, it can be seen that participants stated 52% were good at understanding lecturers in delivering training materials, 48% were very good, and 0% were quite good, not good, and very bad. Supported by Akramunnisa, (2021) student learning outcomes have increased the frequency of student attendance, activeness and seriousness of students in the teaching and learning process according to the results of observations during the action. Supported by Erawanto and Triantoro, (2022) showed the lecturer is declared active value 86.49%. Students are also declared active value 85.76%. The module is declared effective and learning is declared complete with a value of 91.77%. Student responses to the use of the module are positive by 1.85%. The lecturer's response to the use of the module was positive by 1.89%. Thus the portopolio-based citizen project module meets the requirements of validity, practicality and effectiveness. In conclusion, the use of E-Portfolios increases student attendance, activeness and seriousness of students in the teaching and learning process

according to the results of observations during the action. The portfolio-based citizen project module meets the requirements of validity, practicality, and effectiveness.

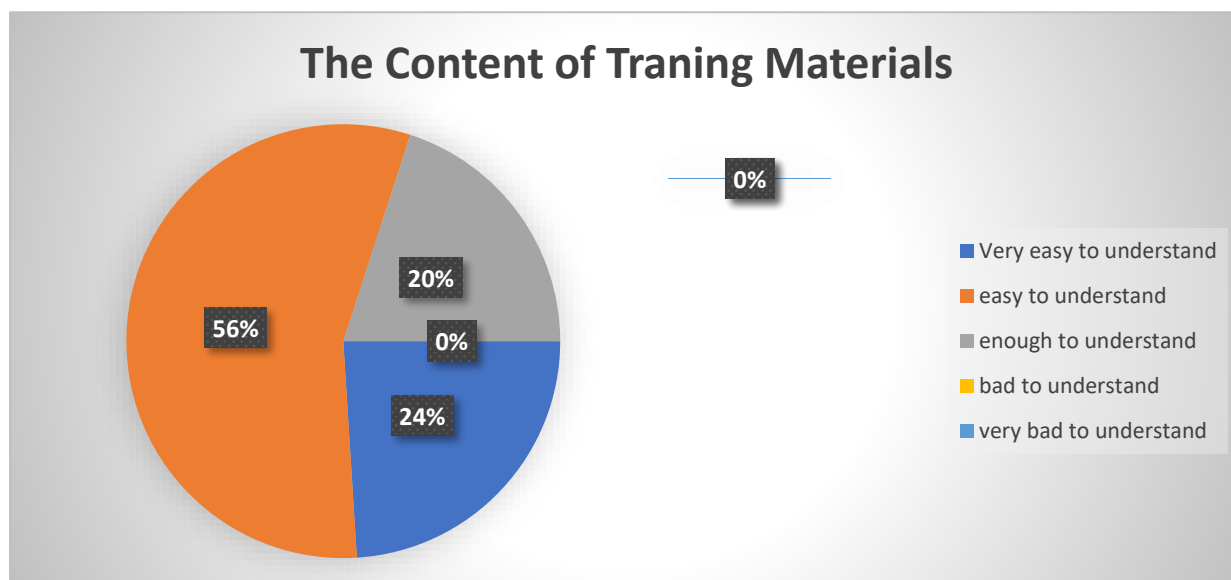


Figure 4 The Content of Training Materials

Source: primary data, 2022

From the diagram it can be seen that the participants stated that 56% of the content of the training material was understood, 24% was very well understood, 20% was enough to understand, 0% was less understood and very poorly understood. According to Dewanti, Puspita, and Haka, (2022) stated that the media in the aspect of feasibility from material experts obtained a percentage of 92% with very feasible criteria, media experts obtained a percentage of 91% with very feasible criteria, language experts obtained a percentage of 76% with feasible criteria. Biology teacher responses to e-portfolio products obtained a percentage of 85.93% and responses from 31 students obtained a percentage of 83% with very feasible criteria. Based on these results, it is concluded that the website-based e-portfolio product is feasible to use as an assessment media and teaching and learning process. Supported by Erawanto and Triantoro, (2022) showed that the module was declared effective and learning was declared complete with a value of 91.77%. The student response to the use of the module was positive at 1.85% and the lecturer's response to the use of the module was positive at 1.89%. Thus, the portfolio-based citizen project module meets the requirements of validity, practicality and effectiveness. In conclusion, the website-based e-portfolio product is suitable for use as an assessment media

and teaching and learning process. and portfolio-based citizen project modules meet the requirements of validity, practicality and effectiveness.

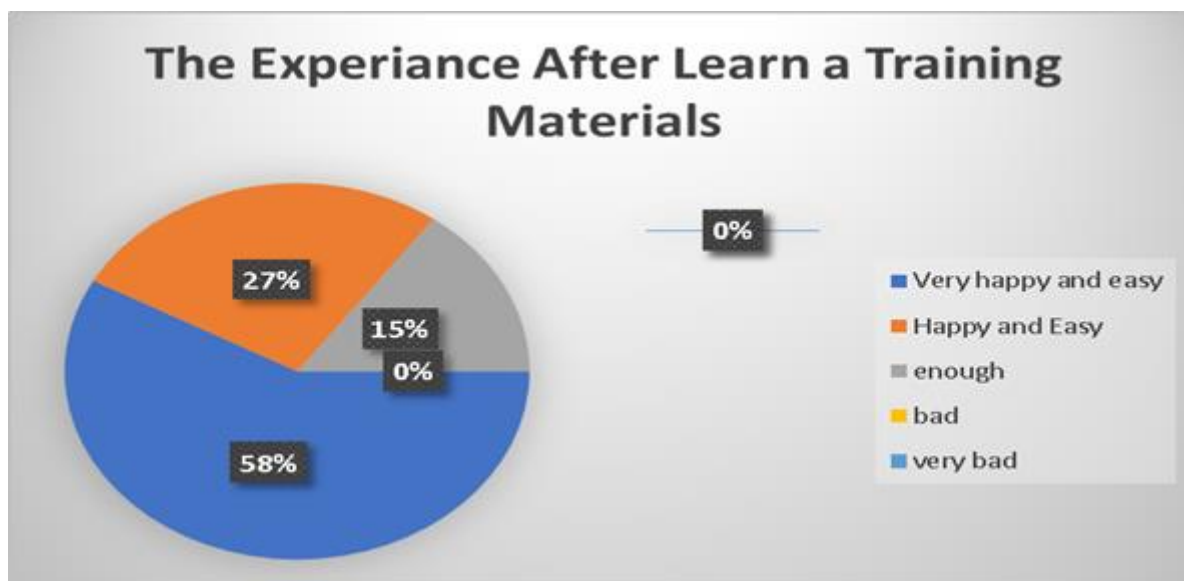


Figure 5 The Experience After Learn a Training Materials

Source: primary data, 2022

from the diagram, it can be seen that participants in attendance stated that 58% found the experience at this meeting very enjoyable, 27% found it enjoyable and 15% found it moderately enjoyable, 0% found it unpleasant and very unpleasant. Supported by Gafur and Milaningrum, (2015) showed that (1) there were four structures of procedure text written by the students, they were goal, ingredients/ materials, steps/ procedures, and evaluation, (2) there were any changes of the students' writing product after assessing through portfolio assessment developmentally. it can be compared from the students' writing between the first draft and the final draft for each topic given in which the aspects of writing process, organizational features, language features and clarity of writing found in the final draft have been stated and described effectively and meaningfully than the first draft written by the students. from the findings above, it can be implied that using portfolio assessment gave better result on the students' ability in writing the procedure text. Research by Fikri, (2014) result showed that learning instrument of e-portfolio is properly used and students have positive respond on project based learning with eportfolio. Finally, portfolio assessment provides better results on students' ability to write procedural texts and e-portfolio learning instruments can be used well and students can use them well.

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REFERENCES

- Akramunnisa. (2021). Implementation of Portfolio Assessment to Improve Learning Outcomes of Informatics Engineering Students in Operations Research Course. *Jurnal Pendidikan dan Pembelajaran. Volume 1. Number 2. PP. 95-100.*
- Ardhana, W. (2000). Learning Reform Facing the Middle Ages. Paper presented in Seminar and Panel Discussion of National Learning Technology V, Organized by the Learning Technology Study Program Postgraduate Program, Universitas Negeri Malang in collaboration with the Indonesian Education Technology Professional Association (IPTPI) Malang Branch on October 7th 2000. Malang: Universitas Negeri Malang.
- Cranney, J., Kafod, M., Huon, G., Jensen, L., Levin, K., and McAlpine, I. (2005). Portfolio tools: learning and teaching strategies to facilitate development of graduate attributes. Was access at 26 March 2022 from <http://science.uniserve.edu.au/pubs/procs>.
- Dewanti, R., Puspita, L., and Haka, N.B. (2022). Development of a Website-Based E-Portfolio to Improve Students' Habits of Mind Biology Class X Students. Lampung: UIN Raden Intan. [Thesis]
- Erawanto, U., and Triantoro, M. (2022). Project-based Citizen Learning Module Portfolio-based Project Citizen Learning Module to Help Improve Critical Thinking Skills of Students. *Jurnal Pendidikan, Riset dan Konseptual. Volume. 6. Nomor. 3. PP. 367-373.*
- Fikri, K. (2014). E-Portfolio Development in Project Based Learning in Animal Physiology Course in Biology Education Study Program Biology Education. *Jurnal Pancaran. Volume 3. Number 2. PP. 17-24.*

- Firmansyah, S., Chandra, E., and Aripin, I. (2019). Development of Electronic Portfolio (E-Portfolio) as a Biology Learning Assessment. *Journal Bio Educatio*. Volume 4. Nomor 2. PP. 47-57.
- Gafur, A., and Milaningrum, E. (2015). Writing Procedure Texts Assessed Using Portfolios For Fourth Semester Students at the Department of Catering at Politeknik Negeri Balikpapan. *Jurnal Sains terapan*. Volume. 1. Nomor. 2. PP. 54-64.
- Lakin, M.B., Lombardo, L., & Spires, M. (2003). Work and Professional Studies: A Work-based Curricular for Returning Adults Students. AHEA/Aliaance Conference (Extending the Boundaries of Adult Learning)
- Lokollo, L., and Arman. (2021). The Development of E-Portfolios Model for Value-Added Assessment for Pre-Service Teacher Education. *Jurnal Pendidikan*. Volume 6. Number 12. PP. 1942—1946
- Lorenzo dan Ittelson. (2005). An Overview Of Institutional E-Portfolios. Educase Learning Initiative. (Online), [http://net.educause.edu/ir/library/pdf/ELI3002 .pdf](http://net.educause.edu/ir/library/pdf/ELI3002.pdf), was access in 26 March 2022.
- Miftahudin. (2010). Implementation of character education at SMK Roudlotul Muftadiin, Paper presented at the national seminar: Strategy and Implementation of National Character Education at the Education Unit Level, Balitbang Kemendiknas, August 28-29, 2010. Jakarta: Ministry of Education.
- Muhtadi, A., Ismaniati, C., Haryanto., Miyarso, E., and Dwi, J.D. (2022). Gender Perspective: Independent Learning of Generation Z in Online Learning. *Journal of Educations Technology*. Volume 6. Number 2. PP. 191-198.
- Rais. (2010). Development of Project Based Learning Model: An Effort to Improve Academic Skills of Students of Mechanical Engineering Department UNM. Report Year II Research DP2M DIKTI -LEMLIT UNM.
- Sugiyono. (2014). Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D). Bandung: Alfabeta.

Sweat-Guy, R., & Buzzetto-More, N. A. (2006). A Comparative Analysis of Common E-Portfolio Features and Available Platforms. (Online), <http://proceedings.informingscience.org>., was access at 23 march 2022.

Toheri, and Nuraisyah, I.S. (2012). The Effect of Portfolio Type Assessment in Mathematics Learning on Student Achievement in Terms of Gender. *Jurnal Eduma. Volume. 1. Number. 1. PP. 30-42.*

