STUDENT PERSPECTIVES ON THE EFFECTIVENESS OF E-PORTFOLIO BASED DIGITAL MODULES IN A HYBRID LEARNING ENVIRONMENT: A CASE STUDY IN BUSINESS ADMINISTRATION

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Abstract
This study explores students' perceptions regarding the effectiveness of e-portfolio-based digital modules in a hybrid learning environment. The study involved 77 students in the Business Administration Department of a vocational college during the 2021/2022 academic year. Data was collected through a questionnaire with five aspects of e-module implementation and semi-structured interviews. The results indicate that the e-module created has a substantial impact on students' learning, both online and offline. Experts have previously indicated that e-portfolios allow students to build their independent learning environments, and students in this study confirm that access to electronic modules through smartphones offers a new learning approach. However, further development of the module into web-based materials is recommended to help students learn more efficiently. Overall, the integration of e-portfolio-based digital modules in a hybrid learning environment provides students with positive effects on their independent learning process.
Keywords: E-Portfolio, Students' perception, Digital Module

Abstrak
Studi ini mengeksplorasi persepsi mahasiswa tentang efektivitas modul digital berbasis portofolio elektronik dalam lingkungan belajar hibrid. Studi ini melibatkan 77 mahasiswa dari Departemen Administrasi Bisnis di sebuah perguruan tinggi vokasional selama tahun akademik 2021/2022. Data dikumpulkan melalui kuesioner dengan lima aspek implementasi e-modul dan wawancara semi-terstruktur. Hasil penelitian menunjukkan bahwa e-modul yang dibuat memiliki dampak yang signifikan pada pembelajaran mahasiswa, baik secara daring maupun tatap muka. Para ahli sebelumnya telah mengindikasikan bahwa portofolio elektronik memungkinkan mahasiswa untuk membangun lingkungan belajar independen mereka, dan mahasiswa dalam penelitian ini mengkonfirmasi bahwa akses ke modul elektronik melalui smartphone menawarkan pendekatan pembelajaran baru. Namun, pengembangan lebih lanjut dari modul ke dalam materi berbasis web disarankan untuk membantu mahasiswa belajar lebih efisien. Secara keseluruhan, integrasi modul digital berbasis portofolio elektronik dalam lingkungan belajar hibrid memberikan dampak positif pada proses pembelajaran mandiri mahasiswa.
Kata kunci: E-Portofolio, Persepsi Siswa, Modul Digital

INTRODUCTION

In order to apply learning both within and outside of the classroom, the "Merdeka Belajar Kampus Merdeka" (MBKM) curriculum program in Indonesia focuses on implementing the idea of the Student-Centered Learning (SCL) approach (Amin & Muliadi, 2021). The COVID-19 pandemic has forced educational institutions to shift from traditional face-to-face learning to hybrid learning, which combines online and offline learning. Hybrid learning provides flexibility for students to access learning materials at their own pace, time, and place (Laksana et al., 2021). This learning approach has led to the emergence of e-portfolio-based digital modules, which enable students to build their independent learning environments. E-

portfolios are digital collections of evidence that demonstrate students' learning, skills, and achievements. These portfolios allow students to reflect on their learning progress, set goals, and receive feedback from peers and instructors. The aim of this study is to explore students' perceptions regarding the effectiveness of e-portfolio-based digital modules in a hybrid learning environment (Yastibas & Yastibas, 2015).

Through the use of a range of instructional media, educators may now more easily deliver high-quality instruction that supports the student-centered learning approach. Furthermore, Lin & Chen (2017) claimed that a number of interactive multimedia networks, including Facebook, Instagram, WhatsApp, and YouTube, have emerged recently as a result of the Internet's and wireless communication technology's rapid revolution. These networks are used in the learning process. Additionally, Yastibas & Yastibas (2015) and Guo et al (2020) claimed that the foundation of contemporary educational approaches and techniques, such as problem-solving or project-based learning, and e-portfolios, is a constructivist approach that focuses on learners, supports learner-centered activities in the classroom, and defines education as "Learning by Doing". Moreover, Portfolio creation with the use of technology has developed into an electronic portfolio, or e-portfolio, in the areas of evaluation and genuine learning to help students improve the quality of their work and meet their designated learning objectives (Lukitasari et al., 2014).

In order to utilize online or hybrid learning methodologies, the use of an e-portfolio is considered to be a prerequisite. It is believed that e-portfolios can help students improve their soft skills, promote critical thinking abilities for problem-solving, and facilitate independent learning and continuing learning processes. According to several experts, e-portfolios let students create their own effective learning methodologies and long-term learning goals related to their careers (Babovič et al., 2019; Klenowski et al., 2006; Bolliger & Shepherd, 2010; Huang et al., 2011; Cepik & Yastibas, 2013; Nurhayati & Sumbawati, 2014; Wetcho & Na-Songkhla, 2019; Barrot, 2021).

Particularly in the vocational field, which stresses student progress via practice and produces professional graduates who are equipped for work, the integration of the E-portfolio into the online learning process is believed to be appropriate. Additionally, this is in line with certain expert viewpoints. According to Mobarhan et al (2015) and Ciesielkiewicz (2019), e-portfolios may be utilized as a tool to assist students develop their careers and job skills prior to entering the workforce. This is also in line with studies on graduate students enrolled in counseling or psychology programs conducted by Wakimoto & Lewis (2014). The results of their study showed that e-portfolio is provided to students as a tool for both job searches and career promotion. The use of an e-portfolio may therefore be extrapolated to have a long-term impact on students' professional development in the future, especially for those who pursue studies in a vocational field.

Although previous studies have highlighted the benefits of e-portfolios, limited research has investigated the effectiveness of e-portfolio-based digital modules in a hybrid learning environment. This study seeks to address this gap by exploring students' perceptions of e-portfolio-based digital modules and their impact on students' learning outcomes.

The COVID-19 pandemic has disrupted traditional learning methods, and educational institutions have had to adopt new approaches to ensure that learning continues. Although hybrid learning provides flexibility and convenience, it also presents challenges such as lack of social interaction, inadequate technical support, and limited access to learning materials. Therefore, it is essential to investigate innovative teaching methods such as e-portfolio-based digital modules and their

impact on students' learning outcomes in a hybrid learning environment.

This project's objective is to investigate the impact of hybrid teaching materials for English for Specific Purposes that were developed using e-portfolios and incorporate a range of procedures, including curriculum design, evaluation, and methodologies that place an emphasis on students' mastery-based learning. The created instructional materials are focused on six elements or fundamental ideas of (Macías, 2012) e-portfolio implementation: (1) its potential as a teaching tool; (2) feedback; (3) self-assessment; (4) teacher-student engagement; (5) student platform interaction; and (6) the learning process. Additionally, according to Nurhayati & Sumbawati (2014), an e-portfolio may use a three-part evaluation model: self-assessment, peer-assessment, and assessment by lecturers on a particular assignment. Additionally, it is said that e-portfolio-linked online learning is successful if it involves taking into account a variety of factors, including student connection (the bond between two individuals), perception, communication, and motivation (Bolliger & Shepherd, 2010). They claim that fundamental principles include the important components identified by other experts (Macias, 2012). Therefore, this essential concept must be used as a model in order to create educational materials for e-portfolio-based learning.

This study incorporates a hybrid learning method in the classroom setting and refers to the course as e-portfolio-based English for particular reasons, basing it on the aforementioned e-portfolio idea (ESP). To help business majors improve their English language skills and be successful in the workplace and industry, an instructional design was developed. E-portfolio-based ESP course implementation is relatively uncommon, particularly in Indonesia, according to the literature analysis. Based on this, the research provides a thorough description of the effectiveness of the e-portfolio-based digital module in supporting the students' learning engagement toward their learning goals in a hybrid or blended learning environment from the perspective of the students.

METHOD OF RESEARCH
Operational Design
The study was qualitatively conducted as a case study to scrutinize an in-depth detail of the issue based on the real circumstance (Creswell & Creswell, 2017) The elemental consideration in employing the qualitative method is because the study attempted to disclose the particularities instead of merely summarizing narrow views. Also, the study used a case study to enable the researchers to develop an in-depth analysis of the issue (Stake, 1995; Yin, 2018).

Subjects and Sample
A population is a collection of individuals representing a common set of traits. For instance, the population of directors would consist of all secondary school directors in a school region while the population of educators would consist of all educators. A population can either be tiny or enormous. You must decide which group you wish to consider (Creswell & Poth, 2016). Regarding the study's objective, the study population consisted of second semester business administration students at the vocational institution.

In research, the sample is referred to as the population's representation. According to Creswell & Creswell (2017), a sample is a subset of the chosen population that the expert researcher plans to look at in order to form hypotheses. In a perfect world, the researcher would be able to select a sample of people who would represent the whole population. Purposive sampling is used initially. Purposive sampling, in its simplest form, is the deliberate selection of a particular sample in accordance with the needs (properties, traits, characteristics, and criteria). The pupils were chosen by the researcher from three classrooms for the study. The second semester at that business department has six classes.

The questionnaire was completed by 77 students in total. However, the interview session only included nine students.

Research Instruments and Data Collection

Data for the study came from both surveys and interviews (Phellas et al., 2011). Students were given a survey to fill out in order to determine how they felt about the use of digital modules with e-portfolios in the teaching and learning process. Additionally, the information from the interview was utilized to supplement the information from the questionnaire. To determine if an e-portfolio-based digital module is successfully aiding students with their learning engagement in both an offline and online learning environment, the questionnaire results were evaluated and studied using a few phases. Additionally, the information gleaned from the questionnaire was strengthened using the interview data.

Data Analysis Techniques

The quantitative data collected through the questionnaire was analyzed using descriptive statistics. The qualitative data collected through the interviews was analyzed using thematic analysis.

RESEARCH AND DISCUSSION
Research Findings

The findings from the distribution of questionnaires to 77 students about the deployment of e-modules based on e-portfolios in their classes were gathered, and they will be presented in a detailed, graphical format. Figure 1 shows how assessing the execution of the created e-module based on the e-portfolio has positive impacts on students in all aspects. This is shown by the fact that more than 85% of the e-module assessment criteria were followed, which is a noteworthy accomplishment. The examination of the five criteria used to rate the effectiveness of e-portfolio-based e-modules in this hybrid method shows that the developed e-modules may significantly influence students' learning both online and offline. The explanation of each element will be given with the narrative

and data supplied in the sub-points below, so read on to learn more information about the sub-aspects of the e-module assessment based on the e-portfolio being implemented. The following graphic illustrates how efficacy is often applied:
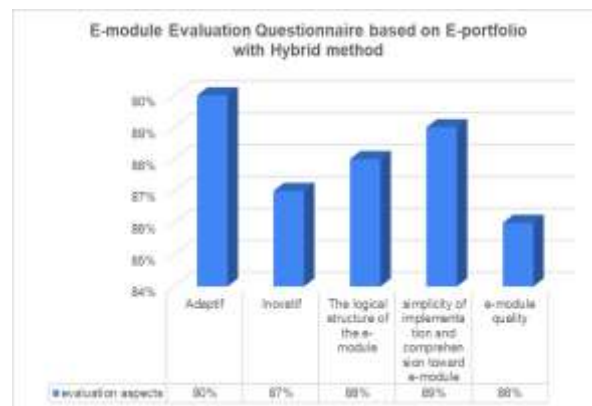

Figure 1. E-module Evaluation Questionnaire based on E-portfolio with Hybrid method

Adaptive Aspect of e-module

Regarding how adaptable the created e-modules are to the learning process in the classroom, there are four connected assertions. 77 students completed the questionnaire after the learning process including the use of the created e-module was presented. The answers to the four questions show that students believe the e-portfolio-based e-module is particularly adaptable to both online and off-line study. Additionally, according to the findings of the four statements, students answered, on average, more than 85% of the four sub-variables/aspects included in the questionnaire. This indicates that the created e-module is very dynamic and adaptive when used in hybrid learning. The graph below provides further information.
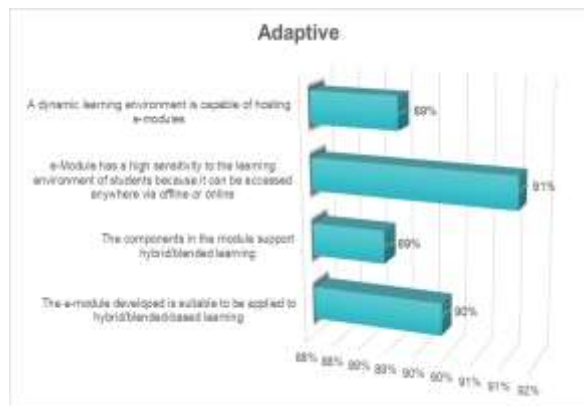
Figure 2. The questionnaire results from the evaluation of students' perceptions on the adaptive aspect

From the image above, it can be inferred that every question posed to students on the adaptive feature receives a very vigorous response. This is evident from the first claim, which talks about how e-modules may be used in a setting where students provide a value of 89% for the dependent variable. Additionally, students gave the second claim about how sensitive e-modules are to the learning environment of students (access that is possible in both online and offline learning situations) a score of 91%. Additionally, students gave the third statement—which talks about how this e-components module's facilitate hybrid learning—an 89% rating. Students gave the final statement, which discussed how well the e-module applied in hybrid or blended learning, a score of 90%. From the four assertions, it can be inferred that the students' hybrid/blended learning process is greatly aided by the e-module built on the e-portfolio.

Innovative aspects of e-portfolio-based E-module/digital module

Regarding how innovatively the e-module has been created with the classroom learning process, there are three linked remarks in this aspect. 77 students completed the questionnaire after the learning process including the use of the created e-module was presented. Students believe that this e-portfolio-based e-module is extremely innovative in both online and offline learning processes, according to the findings of the three questions. Averaging over 85% of the three sub-variables/aspects listed in the questionnaire, according to the findings of the three statements provided, were provided by students. This indicates that the e-module was highly creative in fostering student excitement for the learning process. Refer to the graph below for further information.
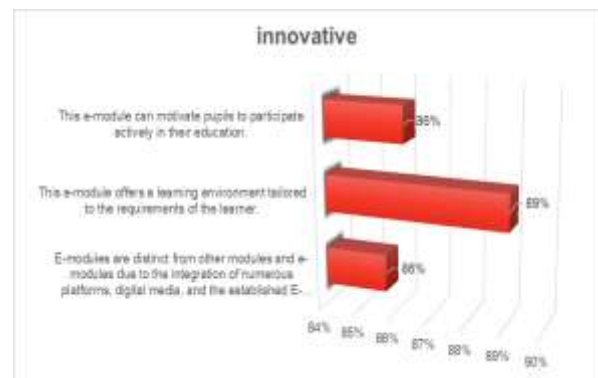

Figure 3. student impressions of innovative characteristics as measured by a questionnaire

As from image above, it can be inferred that every question posed to students on creative elements receives a highly vigorous response. This is evident from the first claim, which talks about how e-modules may motivate students to participate actively in the learning process, and where students provide a value of 89% for the dependent variable. Additionally, the second assertion about this e-module, which offers a learning environment that meets students' needs, receives a 91%. Additionally, students gave the final statement, which claims that this e-module differs from other modules/e-modules by combining the integration of multiple platforms or digital media and implemented e-portfolios, a score of 89%. This e-portfolio-based e-module is quite unique in the

hybrid/blended learning method used by students, it can be inferred from the three assertions.

Logical Structure of the E-Module

There are three connected claims concerning the produced e-logical module's structure in this aspect. 77 students completed the questionnaire after the learning process including the use of the created e-module was presented. The three statements' findings show that students believe the e-e-portfolio-based module's structure is extremely reasonable in how it applies to both online and off-line learning. Averaging over 85% of the three sub-variables/aspects listed in the questionnaire, according to the findings of the three statements provided, were provided by students. This indicates that the produced e-module is logical and related from one element to another. Look at the chart below for further information.
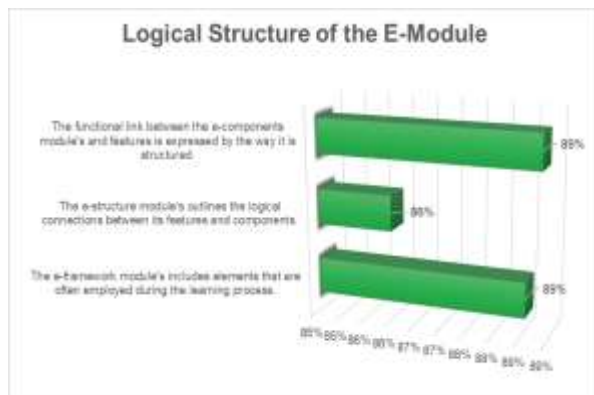

Figure 4. The questionnaire is the outcome of a study that looked at how students perceived the logicalness of the e-module structure

From the image above, it can be inferred that any question posed to students on the logical nature of the e-module structure receives a very vigorous response. This is evident in the first statement, which talks about the e-structure module's and how its features/components communicate their functional relationships, where students gave the sub variable a score of 89%. Additionally,

students offer an assessment of 86% on the second statement about the logic of the e-module structure, which outlines the connections between its parts and characteristics. Students gave the final statement, which addressed the presence of e-module features and components in the learning process, an evaluation of 89%. It is clear from the three remarks that the e-module built around the e-portfolio is highly rational in its design and use of components to support students' hybrid/blended learning processes.

Simplicity in Application and Comprehension

There are five connected claims concerning how this built e-module is simple to learn and use in this aspect. 77 students completed the questionnaire after the learning process including the use of the created e-module was presented. These e-portfolio-based e-module students are extremely simple to grasp and implement in the learning process, according to the findings of the five claims. Averaging over 85% of the three sub-variables/aspects listed in the questionnaire, according to the findings of the three statements provided, were provided by students. This indicates that the created e-module is practical for students to comprehend and use during the learning process. Look at the chart below for further information.
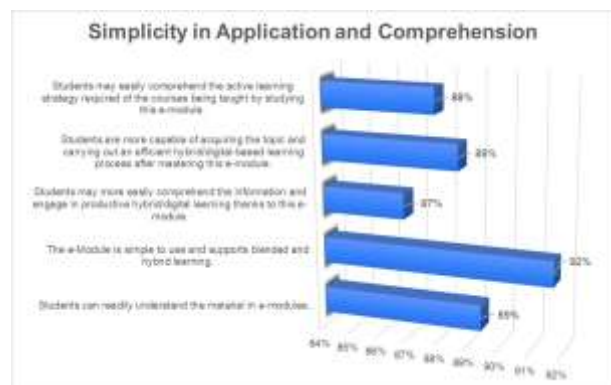

Figure 5. The questionnaire results from the evaluation of student perceptions on the ease of understanding and application of this e-portfolio

According to the image above, every question asked of students on how simple it is to comprehend and use e-portfolios receives a highly enthusiastic response. This is evident from the first claim that claims that "students are easily able to comprehend the active learning strategy that is the demand for the courses being taught by studying this e-module," where students provide a value of 88% on the sub-variable. Furthermore, students gave the second statement, "By comprehending this e-module, students are more confident in acquiring the subject and executing an effective hybrid/digital-based learning process," an 89% on the quiz. Additionally, students gave a score of 87% to the third claim, which reads, "Through this e-module, it is simpler for students to grasp content and successful hybrid/digital-based learning." Students gave the fourth statement, "e-Module is straightforward to utilize in enabling hybrid/blended learning," a score of 92%. Additionally, students gave the last statement—"e-module information is straightforward for pupils to understand"—an 89% rating. From the five assertions, it can be inferred that the students' hybrid/blended learning process is greatly facilitated by the e-module built around the e-portfolio.

E-module quality

Regarding the quality of e-modules that have been created with the learning process in the classroom, there are three related statements. These are: the arrangement of e-modules based on the proper learning philosophy, the components of e-modules that ensure the implementation of quality learning, and relationships. a realization of an autonomous and active student learning style between the elements and features in the e-module. The three statements' findings show that students believe this e-module, which is based on an e-portfolio, is of very high quality and supports learning both online and off. Averaging over 85% of the three sub-

variables/aspects listed in the questionnaire, according to the findings of the three statements provided, were provided by students. This indicates that the produced e-module is of excellent quality in promoting the implementation of an autonomous and active learning approach by students. Look at the chart below for further information.
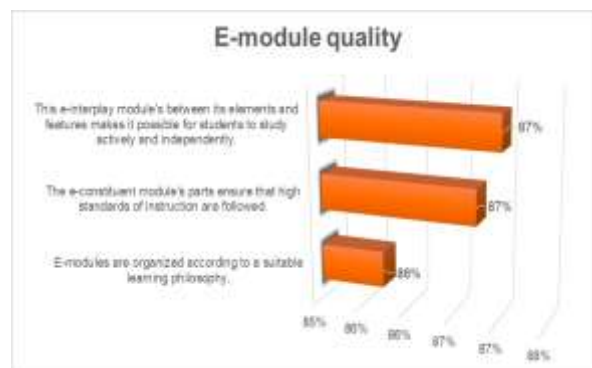

Figure 6. Results of the e-portfolio-based questionnaire measuring students' impressions of the quality of e-module.

From the image above, it can be inferred that every question student had about the e-quality module received an excellent response. This is evident in the first statement, which talks about how e-modules are organized based on the proper learning philosophy, where students provide a value of 87% for the sub-variable. Additionally, students gave the second statement about the elements of e-modules that guarantee the execution of quality learning an 87%. Additionally, students gave the last statement—about how the interaction between the features and components in the e-module permits the implementation of an independent and active student approach to learning—a score of 86%. From the three assertions, it can be inferred that the students' use of a high-quality e-module based on an e-portfolio in their hybrid or blended learning process.

Discussion

It is clear from the discussion of the five factors used to assess the usage of e-modules based on e-portfolios in this hybrid

approach that the e-modules that have been created may have a substantial impact on students' learning both online and offline. This agrees with the experts' observations regarding how e-portfolios enable students to create their own independent learning settings. E-portfolios, according to experts and previous research, can let students create their own effective learning methodologies and long-term learning goals related to their careers. (Babovič et al., 2019; Klenowski et al., 2006; Gülbahar & Tinmaz, 2006; Bolliger & Shepherd, 2010; Huang et al., 2011; Cepik & Yastibas, 2013; Nurhayati & Sumbawati, 2014; Wetcho & Na-Songkhla, 2019; Barrot, 2021; Muin & Hafidah, 2021). From this justification, it is clear that the e-module was developed by integrating a hybrid method, in this case using a QR code system, to combine various digital platforms and other media in order to realize the platform and digital media integration in an electronic module that users could access. Students can be reached on demand and through a smartphone.

Furthermore, the result of the interview with nine students showed positive responses toward the implementation of e-portfolio based digital module in their learning process especially in assisting them in their self-directed learning process and engagements both in offline and online situation. These results are in line with the positive result showed on questionnaire responses. Furthermore, the students state that an electronic module that can be accessed by students dynamically and that can be accessed using a smartphone has given a new learning approach to the them, however the further development of the module into web-based materials is fully recommended to help the students learn more efficiently.

CONCLUSION

The explanation of the five criteria used to rate the effectiveness of the e-portfolio-based e-module in this hybrid method makes it evident that the e-module that have been built may have a significant

influence on students' learning both online and offline. This is in line with what professionals have said about how e-portfolios enable students to create their own autonomous learning settings. Additionally, the students claim that a dynamically accessible electronic module that can be accessed on a smartphone has given them a new learning approach and assisted them to engage more to their learning. However, it is strongly advised that the module be further developed into web-based materials to aid the students in learning more effectively. Thus, it can be concluded that the platform and digital media integration in the form of an e-module can have a favorable impact on the students' autonomous learning process in a hybrid environment. However, a development into web-based materials is highly advised.

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