ENGAGING VOCATIONAL COLLEGE STUDENTS' LEARNING THROUGH E- PORTFOLIO BASED DIGITAL MODULE

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ABSTRACT

This research aimed at developing an e-portfolio-based learning module integrated with multi-learning media platforms in engaging students' learning. Seventy-seven students were involved in this study. They are sophomores at a vocational college in Business Administration Department in the academic year 2021/2022. This study is a research and development typed research by implementing design-based research (DBR) to develop a digital learning module based on e-portfolio principles. Three things were accomplished as a result of this research's implementation. First, the results of the needs analysis of students who are still getting English lectures at this moment (current learners), followed by the findings of observer observations in the classroom learning implementation. Second, the outcomes of designing and creating e- portfolio-based instructional materials in the form of a digital module that is connected to various digital platforms with the aid of QR codes. The analysis findings about the efficiency of using produced electronic modules come in third. The result of the current learners' perception showed that the implementation of the e-portfolio learning model was able to improve student's learning achievements, however, the urgency in developing a digital module integrated with a multi-learning media platform was necessarily taken into account. Moreover, a digital module was designed based on the students' needs and digitalization era 4.0. Consequently, the outcome of the digital module's development had a favorable impact on students' engagement to learn in a blended learning environment.

Keywords: E-Portfolio, ESP Digital Module, Learning Engagement, Blended Learning, Self- Directed Learning

INTRODUCTION

The "Merdeka Belajar Kampus Merdeka" (MBKM) curriculum program in Indonesia focuses on using the concept of the Student-Centered Learning (SCL) method to implement learning in the classroom and outside the classroom (Amin & Muliadi, 2021). Additionally, according to Laksana et al (2021) the application of student-centered learning has been done properly. This includes the process of changing the habits of teachers who always teach in lectures to support students in the learning process and preparation for good learning, which includes learning strategies, material development, and developmental assessment to enable students to become independent learners or study groups (Laksana et al., 2021).

Current technology advancements make it easier for educators to provide effective quality learning that supports the Student-Centered Learning method using a variety of learning media. This is consistent with Lin and Chen's (Lin & Chen, 2017) assertion that in recent years, the rapid revolution of the Internet and wireless communication technology has resulted in the emergence of various interactive multimedia networks such as Facebook, Instagram, WhatsApp, and YouTube, which are used in the learning process. According to al Yastibas & Yastibas (2015), as well as Guo et al (2020), a constructivist approach that focuses on learners, supports learner-centered activities in the classroom, and defines education as "Learning by

Doing" is the foundation of modern educational methods and techniques, such as problem-solving or project-based methods, and e-portfolios. To assist students in enhancing the quality of their work and achieving their set learning objectives, portfolio development with the use of technology has evolved into an electronic portfolio, or e-portfolio, in the area of assessment and authentic learning (Lukitasari et al., 2014).

The usage of an e-portfolio as a learning technique is thought required for use in online or hybrid-based learning approaches. E-portfolios are thought to be able to assist students develop their soft skills, cultivate critical thinking patterns for problem-solving, and support autonomous learning and ongoing learning processes. Numerous experts agree, stating that e-portfolios enable students to develop their own successful learning strategies and future learning objectives relevant to their employment (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). The incorporation of the E-portfolio into the online learning process is thought acceptable, particularly in the vocational area, which emphasizes student growth through practice and creates professional graduates who are prepared for employment. This is also consistent with certain professional opinions. E-portfolios may be used as a tool to help students build their careers and job skills before they enter the workforce, according to Mobarhan et al (2015) and Ciesielkiewicz (2019). This is also consistent with findings made by Wakimoto & Lewis (2014) in research involving graduate students enrolled in counseling or psychology programs. According to the findings of his study, students are given e-portfolios as resources for both job searching and career advancement. Therefore, it can be inferred that using an e-portfolio can have a long-term effect on students' professional growth in the future, particularly for those who pursue study in a vocational subject.

The goal of this project is to create hybrid teaching materials for English for Specific Purposes that are based on e-portfolios and incorporate a variety of processes, such as curriculum design, evaluation, and methodologies that emphasize mastery-based learning in students. The generated teaching materials center on six aspects or core concepts of (Macías, 2012) e-portfolio implementation: (1) capacity as a source of education; (2) feedback; (3) self-assessment; (4) teacher-student contact; (5) student-platform interaction; and (6) the learning process. Additionally, according to (Nurhayati & Sumbawati, 2014), e-portfolio may employ an evaluation model that consists of three elements: 1) self-assessment, 2) peer assessment, and 3) assessment by lecturers on a specific assignment. Furthermore, online learning that is linked with e-portfolios is stated to be effective if it considers numerous variables such as perception, communication, motivation, and student connectivity (the relationship between two people) (Bolliger & Shepherd, 2010). According to their explanations, (Macías, 2012) fundamental principles encompass the critical elements mentioned by other experts. So, in order to produce instructional materials for e-portfolio-based learning, this fundamental idea must be applied as a guide in practice.

Relying on the e-portfolio concept stated above, this study combines a hybrid learning technique in the classroom process and refers to the course as e-portfolio-based English for specific purposes (ESP). This instructional design was created to assist business majors in enhancing their English language proficiency so they may succeed in the workplace and industry. According to the literature study, e-portfolio-based ESP course implementation is still infrequent, particularly in Indonesia. Depending on this, this research gives a detailed course

description, covering the process of planning, developing, and assessing student participation in the learning process through the use of the generated digital module.

METHODS

Design-Based Research (DBR), developed by Amiel & Reeves (2008), is the research methodology used in this study. Design-based research (DBR) strives to create learning-related products and systems, including learning techniques, learning materials, and learning environments. These components are designed and then developed so that issues in the world of education can be solved and the world of education can advance. The creation of e-portfolio-based teaching resources using the hybrid learning approach is the end result of the Design Based Research (DBR) technique used in this study. Tel Amiel and Thomas C. Reeves (2008) outline the steps of the DBR technique in a journal article titled "Design-Based Research and Educational Technology: Rethinking Technology and the Research Agenda" as follows:
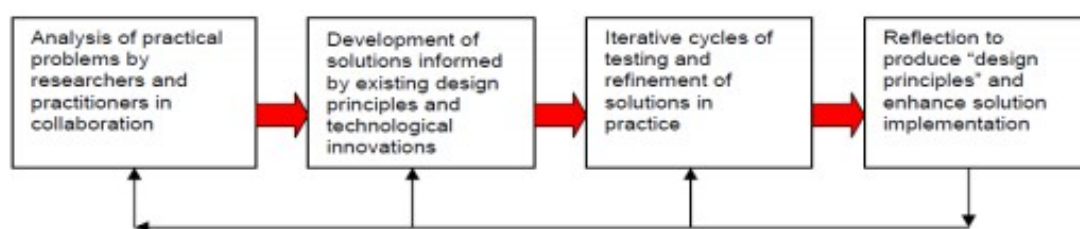
Figure 1. Design Based Research Framework according to Amiel and Reeves (2008)

As seen in the image above, the DBR approach has four general steps, which are as follows (Amiel & Reeves, 2008): 1) Identification and analysis of the issue; Designing a solution; testing and refining it repeatedly; and reflecting to generate design and execution principles. The first is the identification and analysis of problems, which is the first stage of research using the DBR method. The researcher must identify and analyze the problems to be studied before going to the field, starting with his anxiety-related issues, the causes of these issues, and potential solutions. The second step is solution design, in which the solution is created depending on the context of the problem that happens in order to achieve the study objectives. The third stage of testing involves an iterative loop in order to achieve the best final design. In this study, the final stage is the final reflection, which results in design concepts or designs. Typically, this reflection is done by speaking with specialists in domains relating to the issue at hand.

Analyzing students' attitudes regarding e-portfolio implementation and the urgency of creating e-portfolio learning materials is the first stage in creating the e-portfolio based digital module. The data collection tool is a questionnaire with 30 multiple choice questions and 1 open ended question. Designing and creating educational materials that are connected with digital media platforms in the form of electronic modules is the next stage. Once a product is created, it is implemented by using it during the teaching and learning process. Additionally, a product implementation review is done to see how engaged the students are in their learning.

RESULTS AND DISCUSSION

Three things were accomplished as a result of this research's implementation. First, the results of the needs analysis of students who are still getting English lectures at current time (current learners), followed by the findings of observer observations in the classroom learning

implementation. Second, the outcomes of designing and creating e-portfolio-based instructional materials in the form of a digital module which is connected to various digital platforms with the aid of QR codes. The analysis findings about the efficiency of using produced electronic modules come in third. These three concepts are based on the DBR approach, which entails four steps in creating a final product, which in this case is a set of instructional materials packaged as an electronic module and connected to various digital platforms via a QR code.

The findings of delivering questionnaires to 77 students connected to the adoption of the e-portfolio in the classroom that they have experienced will be described in detail in the form of tables and graphs. The table below shows how the six elements are generally applied:

Table 1. Results of Tabulation on Student Perceptions on the Implementation of E-Portfolio

No	Aspect	Score (%)
1	Capacity as a source of education	82%
2	Feedback	86%
3	Self-Evaluation	83%
4	Student-Lecturer & Student-Student Interaction	80%
5	Student-platform interaction	85%
6	Learning process	81%
7	The urgency of developing electronic modules	86%

The e-portfolio development model that had been developed was carried out optimally, as can be seen from table 1 above. This is demonstrated by the fact that more than 80% of all e- portfolio implementation components have been implemented. The accomplishment rate for e- portfolios as a source of education is 82 percent, which is the primary factor. Additionally, the feedback component achieved 86 percent of its goals. accomplishment in the area of self-evaluation is at an 83 percent level of achievement. Additionally, the percentage of contact between students and the lecturer and between students was 80 percent. Additionally, the platform's student engagement component had an 85 percent success rate. Up to 81 percent of the objectives were met in terms of the learning process. This study analyzes the level of urgency in the creation of digital modules in addition to the five criteria for evaluating the use of e-portfolios in the classroom. According to the questionnaire's results, students believe it is crucial to develop the digital module. This is evident from the percentage level in this area of urgency, which exceeds 86 percent. Additionally, the responses to the open-ended questions students were asked reveal and support the reasons why this digital module has to be developed. Furthermore, the students' perspectives on the value of creating an e-module that connected with many learning media platforms varied widely. The majority of students believe that using e- module may help them study in a more active learning environment. Moreover, students also claimed that the learning process would be more flexible and updated with the e-module. In addition, students believe that the learning process with e-module may give a more conducive learning environment, increase their motivation and facilitate self-directed learning.

The urgency and implementation of the e-portfolio learning model, which was previously designed for the hybrid or blended learning process in the classroom (Laksana et al., 2021), may be characterized based on the findings of the requirements analysis in the preceding paragraph. According to the questionnaire's results, students' English learning abilities can be enhanced by using an e-portfolio-based learning approach. The authors create an electronic

module that may be combined with various current digital teaching resources since it is urgently important to construct e-portfolio-based teaching materials using the hybrid/blended approach in light of the heavily echoed digitization process. Students are then able to study the content, complete the exercises, and work on the projects in any location using their mobile device. The development of this digital module used design-based research model. The way the subject matter is presented in this digital module has a great influence on the effective language acquisition and the development of language skills (Ellederová, 2021).

Furthermore, the development of this digital module was also drawn by the theoretical and empirical concepts for general English coursebook design from several potential authors (Harwood, 2010; Harwood, 2014; McDonough et al., 2013; Mishan, 2015; Tomlinson, 2008; Tomlinson, 2012; Tomlinson, 2016; Tomlinson & Masuhara, 2017). The illustration below shows how the instructional module model that will be created is structured:
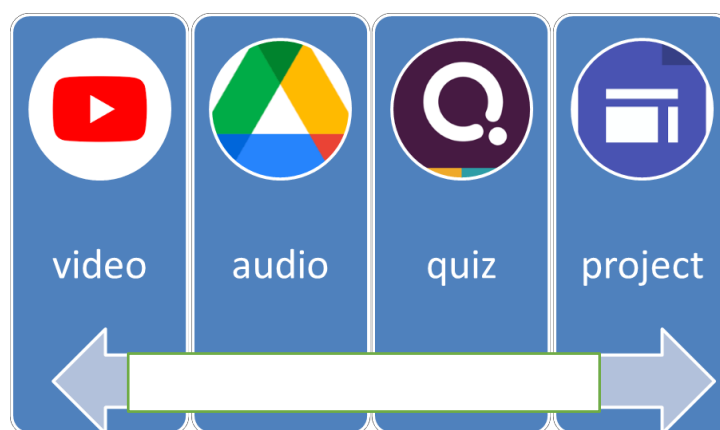
Figure 2. An electronic module design model based on an integrated multi-media digital/ hybrid e- portfolio.

The design model will be utilized as a guide in creating electronic modules that are combined with digital multi-media, as can be seen in the image above. With the aid of a QR code, the current digital multi-media is integrated. The constructed electronic module will then display the QR code. The integration of e-portfolio-based digital instructional resources may be accomplished with the help of this QR code function. For additional information, see the method of creating instructional modules, which incorporates digital teaching resources that may be accessed through modern mobile devices. Researchers created an electronic teaching module with 10 chapters using this design.

There are ten chapters in the electronic module that will be addressed, including: 1) The first subject is self- and other-identification. This unit contains 5 activities. The second topic, describing famous people in business, has 7 activities. The third unit, expressing likes and dislikes about online business, has 6 activities. The fourth unit talks about describing and marketing products/services in business and has 6 activities. The fifth unit talks about sending emails in business. Five different activities make up this unit's activities. 6) The sixth unit, which has six activities, addresses career (job interviews). 7) The business presentation, which is subdivided into 8 actions, is covered in the seventh unit. 8) After that, the eighth section covers themes like socializing and fostering cross-cultural understanding in the workplace. There are 6 activities included in this subject. 9) The ninth subject in this e-module is commercial telephone usage. There are 8 different activities available. 10) The final subject is on business achievements and problems. This unit has 5 activities.

Quizzes, audio, video, text, and other material are all included in this electronic module. Several digital platforms, including YouTube, Google Drive, Quizz, Google Sites, and others, are also integrated to support the media utilized in this one electronic module in addition to the media that are already included in it. With the aid of the QR code function, which can serve as a forum for access in connecting all these teaching media, the integration of the aforementioned platforms and media can be made possible. You can examine the images below to better understand the final shape of the electronic module product:

Figure 3. Activity on unit 1 page 5

One of the activities that incorporates audio media and the Google Drive platform in the process of listening activities is shown in the image above. The audio content used is audio from native English speakers that is immediately saved on Google Drive and integrated with the QR code procedure, allowing students to access the audio they require for learning by just scanning the QR code. As a result, learning is made simpler for students because they can directly hear the audio from the activities provided to help them get better at listening. Students don't need to play their educational audio on additional devices when using an integrated system such as this. Students can quickly access this audio media using only one device, namely cell phones. As a learning material, this electronic module offers authentic audio that includes conversational activities.

This module offers the integration of video media in the learning process as a learning resource for students in addition to the QR code integration with real audio media discussed above. Through this module, users can immediately access videos that are available on the YouTube page. See the illustration below for further information:

Figure 4. Activity on unit 1 page 8 and 12

The incorporation of the QR code on the YouTube page's video content is depicted in the figure above. The students can view the video explanation on this electronic module by scanning the QR code that has been provided, and this will provide them access to the material that is provided in some sections. The information covered in some units is directly explained in a video that has been incorporated with the QR code. Because the videos utilized are legitimate and come straight from native English speakers, the integration of this video media is very beneficial for students in learning the topic and learning new vocabulary as well as their learning resources in enhancing their listening abilities. Finding video references for the English for Business subject covered in class no longer needs to be a confusing experience for students.

This module offers written content and text media in addition to the two types of media already described. It also offers extra comprehension through video media, which may be viewed via YouTube by scanning the QR code provided. Additionally, the exercises that are interwoven into the book assist students identify new words and assess their vocabulary knowledge through practice tasks like filling in the blanks from the videos they view using the accompanying QR code. Practice questions are incorporated into the text integration as well, which can aid pupils in expanding their vocabulary in English. Some of the available practice questions include access to the Quizizz platform, giving students a new perspective on their study. See the information below for a more thorough integration of text with the exercises and audio described above:
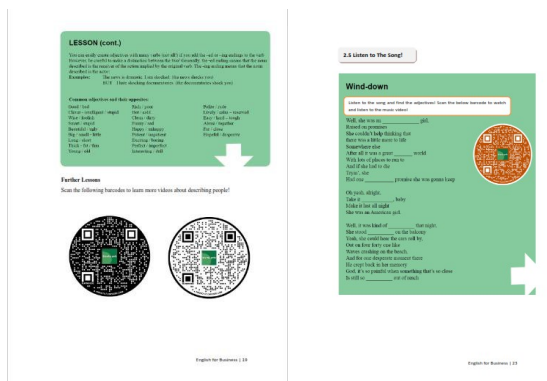
Figure 5. Activity on unit 2 page 18 (textual materials mixed with the addition of visual materials to increase readers' understanding) and page 23 (providing fill-in-the-blank exercises with video media in addition to text media)

Combination of written content with various media, such as video, may be seen in the image above. Video is utilized as both an additional learning tool and a test of students' vocabulary knowledge (figure 6). The YouTube platform is used in Figure 6 to link to a learning video that provides an extra comprehension of what has been stated in the offered text material. This is done in order to promote the e-portfolio component, specifically the viability of online media as a teaching tool. As a result, this component is included in the e-module to assist students in understanding the usefulness, efficacy, and value of the media as a learning resource as well as how to inspire students to study more effectively. Additionally, practice exercises that assist students increase their vocabulary proficiency and listening skills are linked with the video medium. The purpose of this activity's element, which is students' engagement with the learning platform, is to promote the e-portfolio component. The utilization of digital platforms and media in this electronic module ought to promote student engagement with the chosen learning environment, hence enhancing learning outcomes.
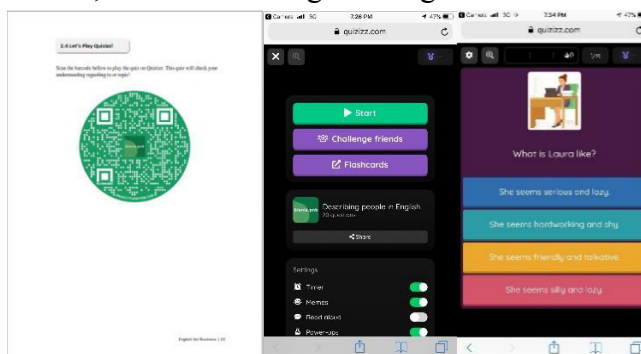

Figure 6. Integration of QR in E-Module to Quizizz Platform

On the Quizizz platform, a QR code integration with the quiz is displayed. By scanning the available QR code, students can immediately access the exercise they are given. Students will be directed straight to the quizizz page on the digital quiz platform after scanning the QR code in the image above, where they can take advantage of hybrid/blended quiz tasks. Additionally, students have the option of inviting their friends to the quiz. n addition, the image above depicts how the Quizizz platform appears after scanning the QR code found on the electronic module. The features offered on the Quizizz platform are really cutting-edge and give the impression of learning while having fun. In addition to allowing students to respond to and complete the quiz questions, this platform also offers extra bonus features similar to those seen in gaming platforms. When using this platform to complete their studies, pupils are further motivated by this. A component that can improve student engagement with the chosen learning platform is the inclusion of the Quizizz platform.

The major platform, which also serves as a way of interaction between students and students with lecturers on projects assigned by lecturers, in addition to the Quizizz platform, which is utilized as a medium for student learning activities, is the usage of Google Sites. The primary component of this electronic module that can offer a forum for the application of this learning e-portfolio procedure is the google sites platform. See the illustration below for more information on the Google Sites platform's e-portfolio feature:
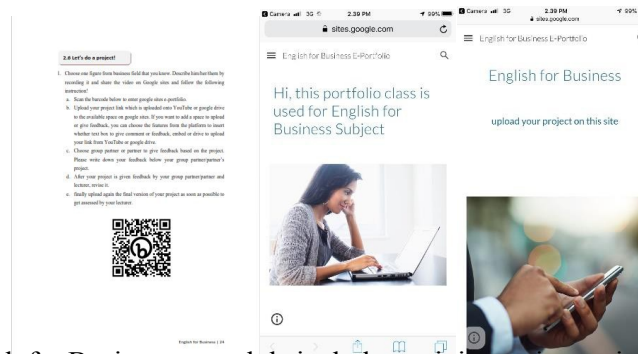
Figure 7. The English for Business e-module includes activity project training that is integrated with the e-portfolio in each course.

The directions and processes that instructors give their students for working on projects are shown in the image above, along with the creation of an electronic portfolio using the Google Sites platform. To access and complete the e-portfolio procedure on the Google Sites page created for this e-portfolio implementation platform, students can scan the QR supplied. Each unit comes with the directions shown in the image, but the projects needed for each unit change depending on the subjects covered in each unit. In real life, students can comment on and have debates about projects created on this digital platform. Additionally, this platform offers a number of tools that students can employ to complete this e-portfolio-based learning process. Moreover, the above images also show the first stage of the e-portfolio learning process deployment. Students can upload completed projects and leave comments and critiques on this website so that dialogue can take place to help students enhance each other's completed learning outcomes. Students can see the work of their friends, which is used as inspiration in the process of self-improvement, after uploading the results of the projects they have completed. This allows them to comment on the outcomes of other friends' projects and provide suggestions for themselves. The deployment of this e-portfolio can take place on this Google Sites platform in a productive and efficient manner. Through e-modules created to enhance English learning for business, digital media/platforms that were previously offered individually in the e-portfolio-based learning process can now be accessible simultaneously and independently.

Implementation in the teaching and learning process in the classroom comes next after the design and development of the teaching materials in the form of electronic modules. The researcher will discuss the usefulness of this electronic module in the context of implementing the learning process over the course of six meetings in the next paragraph. A questionnaire was supplied to gauge the effectiveness of using this e-module after the implementation of the learning process by giving the e-module based on this e-portfolio. Results that will detail and depict the effectiveness of implementing e-modules based on e-portfolios in detail in graphic form were obtained from the results of administering questionnaires to 77 students about the implementation of e-modules based on e-portfolio in the classroom that they had experienced.

Furthermore, the result of the questionnaire demonstrates the favorable effects on students of all aspects of evaluating the execution of the developed e-module based on the e-portfolio. This is demonstrated by the fact that above 85% of all e-module evaluation criteria were implemented, which is a significant achievement. It is clear from the discussion of the five factors used to assess the use of e- modules based on e-portfolios in this hybrid approach that the e-modules that have been created can have a substantial impact on students' learning both online and offline. This is consistent with what the experts had to say about how e-

portfolios let students establish their own independent learning environments. Additionally, experts claim that e-portfolios assist students in developing their own successful learning strategies and future learning objectives relevant to their employment. Rees in (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). From this justification, it can be seen that the e-module was created by combining various digital platforms and other media with the integration of a hybrid method, in this case using a QR code system, so that the platform and digital media integration could be realized in an electronic module that users could access. Students can be accessible dynamically and utilizing a smartphone.

Additionally, generation Z students—those born between 1995 and 2010—were the ones in the international business management study program that benefited from the integration of e-portfolio based digital module in their learning process. This shows that this generation has individuals who are tech-savvy, adaptive, smart, and more tolerant of cultural variety. This generation is also globally connected and networked in a virtual environment. Gen-Z is more independent than the generation before it was. Young people of millennial generation frequently make judgments without taking into account the obligations and concern of others. Additionally, Gen-Z youth want to learn and grow independently. Learning resources that once had to be searched in person at the library can now be easily accessed only through online services. This shows that the e-portfolios built on digital modules and integrated with multiple learning media platforms have been tailored to the needs of millennial students. In addition, using digital media can help students develop strong learning engagement.

CONCLUSION

The study's conclusions place a strong emphasis on designing educational materials as electronic modules with an e-portfolio that use hybrid and reciprocal approaches throughout implementation. With this hybrid approach, the design of the e-portfolio-based electronic module is centered on instructional resources and practice projects that support students in developing their learning skills and learning independence. With this hybrid approach, students can autonomously construct successful learning for themselves and future learning goals relevant to their vocations thanks to e-portfolio-based English learning. Students are given questionnaires to complete as part of a needs analysis process that precedes the design of this electronic program. The findings of the needs analysis in the preceding section can be used to explain the necessity of implementing the e-portfolio learning model that was created before the hybrid or blended learning process in the classroom. According to the survey results, students' English learning abilities can be enhanced by using an e-portfolio-based learning approach. The authors create an electronic module that can be integrated with different existing digital teaching media so that students can study material and project exercises easily, flexibly, and anywhere using the mobile device they have. This is done because the authors recognize the urgency in developing e-portfolio-based teaching materials with the hybrid/blended method given the intensively echoed digitalization process.

Following the completion of the needs analysis, a hybrid e-portfolio-based electronic module is designed and implemented by incorporating a QR code. The e-module is implemented for students after the design is created and it is developed. A questionnaire with 5 features is utilized as a total measure in evaluating this e-module in order to assess and identify the efficacy of the generated e-module. This questionnaire was completed by 77

students in total, and the results demonstrated that students benefited from the use of the produced e-portfolio-based e-module. This is demonstrated by the fact that above 85% of all e-module evaluation criteria were implemented, which is a significant achievement. Moreover, the students who were the research sample were included in the millennials generation category, are also supported this positive result, where this generation is very easy to adapt to technology so it is easy to comprehend the materials from e-module based e-portfolio which are integrated with various media platform in developing their learning engagement.

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