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IMPROVING DIGITALIZATION ABILITY OF AI (ASSEMBLER EDU) FOR ECONOMIC TEACHER MEETING (MGMP) IN SEMARANG, CENTRAL JAVA

[1] Widiyanto, [2] Rusdarti, [3] Wijang Sakitri

[1, 2, 3]Fakultas Ekonomika dan Bisnis; Universitas Negeri Semarang

[1]wied@mail.unnes.ac.id, [2]rusdarti@mail.unnes.ac.id, [3]wijangsakitri@mail.unnes.ac.id

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ABSTRAK

Era digitalisasi menuntut guru di Indonesia untuk lebih kreatif dan bisa menghadirkan media pembelajaran di kelas. Namun tidak semua guru mampu menggunakannya. Tujuan dari penelitian ini adalah untuk memberikan gambaran tentang pelatihan yang dapat meningkatkan kemampuan digitalisasi guru. Pelatihan dilakukan dengan cara melakukan pre-test, pemberian materi, praktik penggunaan media, mendiskusikan materi dan melakukan post test. Setelah melakukan observasi awal, observasi mendalam serta pre-test dan post-test, maka diketahui bahwa pelatihan tersebut dapat meningkatkan pemahaman tentang Chat GPT, paint 3 D, AR dan digitalisasi. Para peserta dapat mengoperasikan Chat GPT untuk membuat outline storyboard untuk keperluan penyusunan media pembelajaran pada kelas Kewirausahaan, para peserta juga dapat membuat 3D dan AR menggunakan Assembler Edu. Kedepannya, pelatihan sebaiknya dilakukan secara rutin seiring dengan perkembangan teknologi yang pesat.

ABSTRACT

The era of digitalization requires teachers in Indonesia to be more creative and present learning media in the classroom. However, not all teachers are able to use it. The aim of this study is to provide an overview of training that can improve teachers' digitalization abilities. The training was conducted by doing pre-test, giving materials, practicing the use of media, discussing the materials and doing post test. After carrying out initial observations, in-depth observations and pre-tests and post-tests, it was found that the training could increase understanding of Chat GPT, paint 3 D, AR and digitalization. The participants could operate Chat GPT to create storyboard outlines for the purposes of preparing learning media in the Entrepreneurship class, the participants were also able to create 3D and AR using Assembler Edu. In the future, the training should be conducted regularly as technology develop fast.

Address: L Building, Campus Sekaran, Gunungpati, Semarang, Indonesia, 50229

Corespondent Address:
Fakultas Ekonomika dan Bisnis, Universitas Negeri Semarang
Email : wied@mail.unnes.ac.id

INTRODUCTION

Digital platforms are essential to make work more efficient and easier. Pramusinto, Ismiyati & Yulianti (2023) viewed that technology has made human activities in education and business easier. In addition to school administration needs, teachers' ability to use digitalization is to maximize teaching and learning. For this reason, in implementing teaching and learning with the independent curriculum, the government provides infrastructure related to ICT (Information and Communication Technology), that is by providing belajar id, providing assistance with several ICT equipment, and providing an independent platform containing learning instructions using digitalization.

According to Suhartatik S.Pd M.Psi, Head of Teacher and Education Personnel Development Division of the East Java Education Office (Dindik Jatim) some time ago (Monday, 8/22/2022). "The three main objectives of the Independent Curriculum are students, students and students." This is in accordance with what was once taught by our Father of Education Ki Hajar Dewantoro, if teaching should provide teching and learning that is not repressive and makes students depressed but tries to teach students and students feel happy with their learning. In this digital era, students will like semi-game learning which is able to represent visuals in the form of reality. Therefore, learning using augmented Reality will be very interesting for students. Learning using digitalization as its basis will be more interactive and can excite students because their motivation is higher by seeing real symbols that can be seen directly. This is in accordance with the advantages of augmented Reality as follows: 1) More interactive, 2) Effective in use, 3) Can be implemented widely in various media, 4) Simple object modeling, because it only displays a few objects, 5) Production that does not cost too much, 6) Easy to operate. However, Augmented Reality also has disadvantages, including: 1) Sensitive to changes in viewing angle, 2) Makers are not too many, 3) Requires a lot of memory on the installed equipment.

Interactive teaching and learning is a form of teaching and learning that can activate students more. This is very suitable for student-oriented learning as expressed by Suhartatik in front. Furthermore, Mustaqim (2017) stated that a good teaching and learning process should contain interactive, fun, challenging, motivating aspects and provide more space for students to be able to develop creativity and independence, according to students' talents and interests. One of the things that strengthens good interactive learning that is oriented towards students is by using media and having fun, innovative, attractive characteristics and in accordance with the development of student psychology.

One of them is by learning using Assembler edu. This media has two fairly new things, namely the presence of three-dimensional visuals and what is called Augmented Reality, 3-dimensional learning can involve hands, sight, hearing, can be done collaboratively and can be seen from all directions (Fajar Dwi Mukti, 2018). While learning using Augmented Reality is the result of technology that is able to combine the virtual world and the real world that can be used by a teacher because it is able to project something abstract so that it is interactive (Kishino, 2017)

Differentiated learning as required in the Implementation of Merdeka Curriculum, provides various types of identification of student abilities, by using interactive media, the different characteristics of students can be accommodated.

In this digital era, there are five teacher skills that should be possessed to be able to provide more effective and interactive lessons, they are: (1) Designing and developing digital era Learning Experiences and assessments; (2) Being able to facilitate and inspire student learning and creativity; (3) Encouraging and modeling responsibility and digital society; (4) Becoming a model for how to work and learn in the digital era; and (5) Participating in professional development and leadership.

Several studies that have been conducted using Augmented Reality media have an impact on student learning outcomes, such as research conducted by Rahman, A. Z., Hidayat, T. N., & Yanuttama, I. (2017); Kishino, P. M. and F. (2017); and Fajar Dwi Mukti, S. P. (2018).

Furthermore, the use of Augmented Reality can increase students' motivation and creativity in learning Kishino, P. M. and F. (2017). Meanwhile, Ashari et al (2022) and Putu Rissa Putri Intari Dewi et al., (2022) explained that Augmented Reality is able to overcome the characteristics of students with different abilities, this shows that Assembler edu can be used for differentiated learning.

Figure 1. Augmented Reality

However, in the field, based on interviews with a number of economics teachers who are members of the MGMP economics in Semarang City. They are aware of the shortcomings in digital literacy. Therefore, digital-based learning media is still very limited to the use of PowerPoint (PPT) or using Canva simply.

The demand for differentiated learning, especially for driving schools, as well as digital competencies in line with the times, requires teachers to improve their digital skills. Ms. Suspeni as the head of the Semarang city MGMP Ekonomi (Musyawarah Guru Mata Pelajaran Ekonomi/Economics Teacher Meeting) stated the need for improvement for economics teachers under her care to create digital-based interactive learning media. Based on the observations made, the following are the identification of problems found in the field.

Table 1: Identification of Problems and Solutions for Making Interactive Media for MGMP/ Economics Teacher Meeting

Number	Aspects	Problems
1.	Interactive Learning Awareness	a) The number of teachers who do not understand Digital Interactive Media. b) Pengenalan Media Interaktifyang masih minim.
2.	Writing Learning Scenarios with IT	a) Never or rarely make interactive learning media b) There is still a lack of understanding of GPT chat assistance. c) Many teachers do not recognize various software for writing.
3.	Utilization of unpaid sites that can be used to create interactive media	a) There are many unpaid websites that can be utilized to create interactive media. b) Teachers are not familiar with and understand how to utilize unpaid websites.

Given the pressing need to address the identified challenges, it is imperative to conduct a comprehensive training program. This program will focus on enhancing the digital skills of MGMP/Economics teacher meeting in Semarang, Central Java, particularly in the area of digitizing AI programs (ASSEMBLER EDU). The program can provide virtual media for teaching and learning, for example showing virtual market, virtual barter, virtual bank, virtual industries and etc.

METHOD

The implementation methods in this community service activity are education, socialization, and training. The education and socialization program aims to increase economic teachers' ability and provide motivation in developing interactive, creative, attractive, and fun learning media by presenting Augmented Reality learning media. This education and socialization program is supported by making educational and socialization media in the form of engaging videos. This program is also carried out using the method of cooperation or groups, thus increasing motivation, creativity, collaboration, and a more accurate understanding.

The following method is training to explore unpaid websites and utilize them. Next is training to create interactive learning media based on analyzing the needs and characteristics of the trainees. The Devotion team will carry out training to explore unpaid sites and also provide the uses and benefits of each site that can be used to help create interactive learning media. To further facilitate the implementation of this activity, each participant is given a guide in exploring the unpaid sites that have been compiled. In the end, training to develop AI-based interactive learning media or digitization is carried out so that there is synchronization between the software used and learning media that is by the characteristics of

economic learning; this is a very beneficial thing because, in addition to the use of tools, teachers have the ability to identify the characteristics of economic learning materials.

RESULTS AND DISCUSSION

The training program was well-received by the Economics Teachers, with a majority of the participants being over 45 years old. The effectiveness of the program was demonstrated through a pre-test and a post-test, which showed a significant improvement in the participants' understanding of digitalization. These results underscore the potential impact of the proposed training program.

Table 2. Pre-Test Results.

NO.	Item	Correct answer		Incorrect answer	
		Amount	%	Amount	%
1	Knowledge of Digitization	42	70	18	30
2	How to Gain Digital Knowledge	18	45	22	55
3	Understanding of Digital Interactive Learning	25	42	35	58

Based on the table above, most of the participants are familiar with digitalization. Still, more than 50% do not understand in detail how to obtain digital media and use it in classroom learning, especially in economic subjects.

Figure 2. Participants

Participants, having received interactive media training after the pre-test, have had the opportunity to refresh their memories and enhance their teaching methods. This training has empowered them with the knowledge and skills to effectively use digital media in their classrooms, particularly in the context of economics and entrepreneurship.

1. Teaching will attract students' attention so that it can foster learning motivation.
2. The meaning of the subject matter will be more precise so that students can understand it and master the learning objectives better.
3. Teaching methods will be more varied, not just verbal narration through the teacher's words.

4. So that students don't get bored and teachers don't get exhausted, mainly when teachers teach every lesson.
5. Students do more learning activities because they listen to the teacher's description and other activities such as observing, doing, demonstrating, and others.

Factors that need to be considered in developing media are (a) barriers to development and learning which include factors of funds, available facilities and equipment, available time (teaching time and development of materials and media), available resources (human and material); (b) content requirements, tasks, and types of learning; (c) barriers from the student side by considering initial abilities and skills, such as reading, typing, and using computers, and other student characteristics; d) the pleasure (preferences) of institutions, teachers and students and cost-effectiveness. Meanwhile, in selecting media, the following criteria should be considered

1. the objectives of teaching and learning
2. the content of lessons that are facts, concepts, principles, or generalizations,
3. the practical, flexible, and enduring media
4. the teacher skills,
5. the Target grouping,
6. the technical quality.

As we navigate the era of digitalization, it's crucial for teachers to adapt and evolve. They must be proactive in designing and developing digital learning experiences, inspiring student creativity, and modeling digital responsibility. This adaptability is key to thriving in the digital era.Given the high demands of teaching, teachers in Indonesia have always belonged to sophisticated and highly structured Learning Communities that are strong in the face of change. The economics teachers who are trainees are, of course, members of the community, and they realize that they are economics or entrepreneurship teachers who are always required to keep up with the times. Moreover, entrepreneurship material has Innovative and Creative characteristics; therefore, media following AR and 3 D Technology will further encourage students to innovate and be creative to create career opportunities and prepare for the future of their students.

AI-based Interactive Media Training activities, namely Assembler Edu (3D and AR), provide experience for participants regarding various AI programs such as Chat GPT, Jenni AI, Scite AI, or similar, introduce 3D, and provide expertise in making creative Learning Media.

Figure 3. Participant activities

After the training ended, a post-test was conducted. The results of the post-test are presented in the following table and compared with the pre-test.

Tabel 3. Perbandingan Hasil Pre-Test dan Post Test

No.	Material	Average Score		Remarks
		Pre-test	**Post-test**	
1.	Understanding of GPT Chat	70	95	Increased
2.	Understanding of Paint 3 D	45	60	Increased
3.	Understanding of AR	42	50	Increasing
4.	Knowledge about Digitalization	60	93	Increasing
5.	How to acquire digital knowledge	45	50	Increasing
6.	Understanding of Digital Interactive Learning	40	85	Increasing
	Average Score	**54,5**	**74,0**	**Increasing**

Post-test results of asynchronous training materials showed significant improvement. Understanding of Chat GPT, paint 3 D, AR and digitization increased. The participants were able to operate Chat GPT to create a storyboard outline for the purposes of preparing learning media in the Entrepreneurship class, the participants were also able to create 3 Dimension and Augmenteed Reality using Assembler Edu.

CONCLUSION

Service activities by compiling AI-based Entrepreneurship Learning Media, especially in 3D and AR visualization, are a form of concern for the UNNES Community Service Team for the teachers' burden to develop themselves in the digital field in the era of the Industrial Revolution 4.0 and industrial revolution 5.0. In addition, it also helps teachers who drive the Merdeka curriculum in the digitization and teaching process so that it can be more interactive. So that the mandate of Student Center Learning can be achieved. The mandate is to build creativity and understand the integration between Pedagogics, Material Suitability and Technological Development in media development methods based on TPACK (Technological Pedagogical And Content Knowledge (TPACK), namely technological knowledge (TK), content knowledge (CK), and pedagogical knowledge (PK) (Rosyid, 2016). The results were quite encouraging because the participants were able to use the Assembler Edu application to create and display 3 D and AR. In other words, AR both in theory and practice can be mastered and can then be used to create interactive media.

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