Edulib 15(1) (2025) 121-128

EDULIB

Journal of Library and Information Science

Journal homepage: http://ejournal.upi.edu/index.php/edulib/index

Technopreneurship Training On Making Smart Pop-Up Books Based On Augmented Reality To Support "Penguatan Profil Pelajar Pancasila (P5)" In Elementary Schools

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ABSTRACT

Technopreneurship is an endeavor that combines the use of information technology with conventional business. It is a form of innovation and creativity that enables businesses to continue to grow sustainably. Technopreneurship skills are necessary for every student, which is in line with the target program of UPI's strategic plan regarding the development of student entrepreneurship. Students, as the younger generation with high sensitivity, ability, and creativity, can develop their entrepreneurial spirit by identifying opportunities in entrepreneurship and turning them into a livelihood. Success in various entrepreneurship competitions, although not always a measure of ability, can serve as the easiest indicator to assess whether the training process has achieved the expected targets. In this context, the training in creating smart pop-up books based on augmented reality is expected not only to benefit elementary school students in strengthening their Pancasila learner profile but also to enhance the technopreneurship skills of students in the Library and Information Science Program.

ARTICLE INFO

Article History:

Submitted/Received 26 Jan 2025

First Revised 02 Feb 2025

Accepted 02 Mar 2025

First Available Online 28 Apr 2025

Publication Date 01 May 2025

Keywords:

Augmented reality, Smart Pop Up Book, Technopreneurship,

1. INTRODUCTION

An entrepreneur is defined as someone who organizes, manages, and takes risks in a business or company. The profession of entrepreneurship is a vital sector for the development of human resources and a nation's economy. In August 2023, the ratio of start-up entrepreneurs reached 35.21%, while the ratio of established entrepreneurs was 3.04% of the total national workforce [1]. The requirement for a country to be considered developed is that the number of entrepreneurs must be more than 14% of its population [2]. Therefore, acceleration and facilitation are needed so that Indonesia's economic actors can increase significantly. In this regard, UPI has great potential to equip its students or prospective graduates with entrepreneurial competencies, given the diverse backgrounds of UPI students and the support of educational and modern campus facilities.

One of the mandatory competencies that students or prospective graduates must have in the curriculum of Universitas Pendidikan Indonesia (UPI) is entrepreneurship. This aligns with the target program of the 2021-2025 UPI strategic plan, which focuses on developing creativity through enhancing students' talents, interests, reasoning, and entrepreneurship. Additionally, UPI, as a state-owned university PTN BH, is committed to continuously improving its income-generating capacity (IGU). To that end, it is necessary to consider various business opportunities that have the potential to generate significant income for UPI. Students, as the younger generation with high sensitivity, ability, and creativity, are capable of developing their entrepreneurial spirit by identifying opportunities in entrepreneurship and turning them into a livelihood. The rise of young people running online businesses is a positive development for the realization of the technopreneurship movement, which has indeed been a government policy program in recent years.

Technopreneurship is a combination of the words technology and entrepreneurship, which can be defined as the process of establishing and collaborating between business and technology application as a supporting instrument and as the basis of the business itself, both in terms of processes, systems, parties involved, and products produced. Technopreneurship is an endeavor that combines the use of information technology with conventional business and is a form of innovation and creativity to ensure that businesses continue to grow sustainably. The concept of technopreneurship is based on technology as a tool for entrepreneurship, for example, the emergence of online application businesses, security system businesses, and so on [3].

The use of research-based high technology is what gives universities their edge in developing technopreneurship [4]. The development of technopreneurship at Universitas Pendidikan Indonesia (UPI) requires synergy and collaboration between three pillars, namely academics, businesspeople, and the government, known as the Triple Helix Technopreneurship Model. The role of academics is expected to be to develop new inventions or innovations and disseminate technology-based entrepreneurship education widely. Meanwhile, another role of academics is to prepare the younger generation, who are expected to become future leaders in the field of technopreneurship.

The academic potential of students in the Library and Information Science Study Program in the field of information management, both conventional and digital, can be a positive potential for the development of entrepreneurship at the University. Students can develop

technopreneurship skills, one of which is through the concept of repackaging information specifically for elementary school children. Currently, technology is developing rapidly. Many processes that were previously manual are now shifting to computerized processes. One area that has changed is learning media.

In learning activities, educators need to choose appropriate learning media and games. The learning media and games chosen must be safe, educational, appropriate for the child's development, and in line with the times. One aspect that needs to be applied to children from an early age is literacy skills. Early literacy learning will be beneficial for children's development because it makes it easier for them to interact with others and communicate. Children will also be open to learning new things and developing their creativity and critical thinking skills.

Education must focus on three pillars, namely knowledge, skills, and personal qualities. In this regard, the six types of literacy that must be practiced and established as the core of education are (i) literacy, (ii) numeracy, (iii) science literacy, (iv) digital literacy, (v) financial literacy, and (vi) cultural and civic literacy. Next, the skills that are prioritized and made the focus of education include critical thinking, creativity, communication, and collaboration. Finally, religiosity, integrity, masculinity, nationalism, and cooperation need to be recognized as core characteristics of education [5]. Currently, the Ministry of Education and Culture has created a Pancasila Student Profile program as outlined in Peraturan Menteri Pendidikan dan Kebudayaan Nomor 22 Tahun 2020 tentang Rencana Strategis Kementerian Pendidikan dan Kebudayaan Tahun 2020-2024:

Figure 1. Pelajar Pancasila
Source: https://ditpsd.kemdikbud.go.id/hal/profil-pelajar-pancasila

Based on the image above, it can be described that there are six characteristics of Pancasila students, including: i) Faithful, devoted to God Almighty, and noble in character. Students understand religious teachings and beliefs that can be applied in their daily lives. There are key elements of faith in God Almighty and noble character: a. religious character; b. personal character; c. character towards other people; d. character towards nature; and e. character towards the state. ii) Global diversity, which means that students need to preserve their noble culture, locality, and identity while remaining open-minded when interacting with other cultures, to foster mutual respect. iii) Cooperation, which means that Pancasila students can work together willingly so that activities can run smoothly, easily, and lightly. iv)

Independence is a character trait that Pancasila students must possess, as they are responsible for their learning process and outcomes. v) Critical thinking is the ability to process both qualitative and quantitative information, which can build connections between various pieces of information, analyze information, evaluate it, and draw conclusions. vi) Creativity is a characteristic of Pancasila students who can modify and produce something original, meaningful, useful, and impactful, as well as produce work through original actions.

One specific medium that can be used to reinforce P5 is the smart pop-up book. The smart pop-up book is a three-dimensional perceptual tool that displays objects more interestingly and clearly. This makes children more enthusiastic about learning and stimulates their creativity and imagination. Babies' awareness of a situation will also become more accurate. This learning medium is able to stimulate children's imagination and creativity. This learning medium is three-dimensional in order to depict objects more realistically, thereby increasing children's curiosity, making it easier for them to recognize the shapes of objects, and expanding their vocabulary.

Based on the reality described, in relation to Technopreneurship, our community service program this time is through Technopreneurship training for the younger generation in the digital era, especially for students of the Library and Information Science Study Program. We hope that through this activity, the skills of the younger generation will improve, especially in the field of information technology, so that they can make better use of the technology that has been created as a supporting medium in business.

2. METHODS

Entrepreneurship-based community service workshop (PkM in the field of entrepreneurship) entitled Technopreneurship Training in Making Augmented Reality-based Smart Pop-up Books to Support "Penguatan Profil Pelajar Pancasila" (P5) in Schools. This workshop activity was conducted for students of the library and information science study program. The learning process phase in the workshop program included stages as shown in the image below:

Figure 2. Workshop program activities

A. Planning

Entrepreneurship-based community service planning (PkM in the field of entrepreneurship) with the title Technopreneurship Training in Making Augmented Reality-Based Smart Pop-Up Books to Support "Penguatan Profil Pelajar Pancasila" (P5) in Schools is an activity to improve the ability to make Augmented Reality-Based Smart Pop-Up Books. The planning for this community service workshop program is as follows:

i. Development of the activity plan. This activity involves planning related to the

development of a coaching program, determining the participants who will be coached, and communicating with the students who will be involved in the community service program.

ii. Preparation of teaching materials for community service activities (PkM).
iii. Monitoring and evaluation of the program.
iv. Preparation of reports.
v. Program dissemination.

The community service program based on entrepreneurship (PkM in the field of entrepreneurship) entitled Technopreneurship Training in Making Augmented Reality-Based Smart Pop-Up Books to Support "Penguatan Profil Pelajar Pancasila" (P5) in Schools is as follows:

Table 1. Work plan and activity schedule

No	Activity	Month						Person in Charge
		1	2	3	4	5	6	
1.	Designing Community Service Activities (PkM)	v						Dr. Linda Setiawati, M.Pd.
2.	Analyzing training implementation opportunities	v						Dr. Linda Setiawati, M.Pd.
3.	Developing FGD Planning and Guidelines	v						Gema Rullyana, M.I.Kom.
4.	Implementing FGD (1)		v					Gema Rullyana, M.I.Kom.
5.	Drafting of FGD Results		v					Suci Yanti Ramadhan, M.A
6.	Assistance 1			v				Dr. Hj. Linda Setiawati, M.Pd.
7.	Review of Assistance Program 1				v			Ardiansah, M.I.Kom.
8.	Assistance 2				v			Gema Rullyana, M.I.Kom.
9.	Review of Assistance Program 2					v		Gema Rullyana, M.I.Kom.
10.	Implementation of FGD (2)					v		Yayu Wulandari, M.I.Kom.
11.	Drafting of Report						v	Yayu Wulandari, M.I.Kom.

B. Implementation

In general, this program is implemented through a research and development approach, but on a limited scale with a narrow scope. In this context, an analysis of various program requirements was conducted beforehand, followed by the creation of a program design as a hypothetical model. The next stage involves knowledge transfer through workshops, training, mentoring, and monitoring and evaluation. The detailed stages in the development of this program's implementation are illustrated in the following chart:

Figure 3. Entrepreneurship-based community service (PkM in the field of entrepreneurship) entitled Technopreneurship Training in Making Augmented Reality-based Smart Pop-up Books to Support the Strengthening of "Penguatan Profil Pelajar Pancasila" (P5) in Schools

The chart above shows the detailed stages of the entrepreneurship-based community service workshop program (PkM in the field of entrepreneurship) entitled Technopreneurship Training in Making Augmented Reality-Based Smart Pop-Up Books to Support the Strengthening of "Penguatan Profil Pelajar Pancasila" (P5) in Schools. The first stage is program analysis, in which a program needs survey is conducted. In order to facilitate the implementation of a targeted program, a survey must be conducted. Thus, the results of the program needs survey can be used as the basis for implementing a program that is in line with the needs in achieving the objectives of the program. Then, the program system design is developed, which is the process of developing the specifications of a new program system based on the recommendations from the needs analysis results. The second stage is program initiation. One of the objectives of program initiation is to map participants in entrepreneurship-based community service training (PkM in the field of entrepreneurship) entitled Technopreneurship Training in Making Augmented Reality-Based Smart Pop-Up Books to Support the Strengthening of "Penguatan Profil Pelajar Pancasila" (P5) in Schools. The third stage is knowledge and skills development. This stage is an applied stage in the entrepreneurship-based community service program (PkM in the field of entrepreneurship) entitled Technopreneurship Training in Making Augmented Reality-Based Smart Pop-Up Books to Support the Strengthening of "Penguatan Profil Pelajar Pancasila" (P5) in Schools. The fourth stage is the monitoring, evaluation, and sharing stage. This stage aims to control and measure the shortcomings and successes of a program, in this case, the entrepreneurship-based community service program (PkM in the field of entrepreneurship) entitled Technopreneurship Training in Making Augmented Reality-Based Smart Pop-Up Books to Support the Strengthening of "Penguatan Profil Pelajar Pancasila" (P5) in Schools.

3. RESULTS AND DISCUSSION

The evaluation of training program effectiveness includes four levels of evaluation, namely: level 1 – Reaction, level 2 – Learning, level 3 – Behavior, and level 4 – Result a. Evaluating Reaction evaluates the reaction of training participants by measuring customer satisfaction. A training program is considered effective if the training process is enjoyable and satisfying for participants, motivating them to learn and practice. In other words, participants will be motivated if the training process is satisfactory for them, which will ultimately elicit a positive reaction from participants. Conversely, if participants are not satisfied with the training process they are participating in, they will not be motivated to continue with further training.

The success of the training process is inseparable from the interest, attention, and motivation of the training participants in following the training activities. People will learn better when they respond positively to the learning environment. The satisfaction of training participants can be assessed from several aspects, namely the material provided, the facilities available, the strategies used by the instructor to deliver the material, the learning media available, the activity schedule, and the menu and presentation of the meals provided.

Evaluating Learning. There are three things that instructors can teach in training

programs, namely knowledge, attitudes, and skills. Training participants are said to have learned if they have experienced a change in attitude, improvement in knowledge, or an increase in skills. Therefore, to measure the effectiveness of a training program, these three aspects need to be measured. Without a change in attitude, an increase in knowledge, or an improvement in skills among training participants, the program can be said to have failed. This evaluation of learning is sometimes referred to as the assessment of learning outcomes (output). Therefore, in measuring learning outcomes (learning measurement), it means determining one or more of the following: i). What knowledge has been learned? ii). What attitudes have changed? iii). What skills have been developed or improved?

Evaluating Behavior Evaluation at level 3 (behavior evaluation) differs from attitude evaluation at level 2. Attitude assessment at level 2 focuses on attitude changes that occur during training activities, which are more internal in nature, while behavior assessment focuses on behavioral changes after participants return to work. Whether the changes in attitude that have occurred after participating in training will also be implemented after participants return to work, so that this behavior assessment is more external in nature. What behavioral changes occur in the workplace after participants take part in the training program? In other words, what needs to be assessed is whether participants feel happy after participating in training and returning to work. How can participants transfer the knowledge, attitudes, and skills acquired during training to be implemented in their workplace? Since what is being assessed is behavioral change after returning to the workplace, this level 3 evaluation can be referred to as an evaluation of the outcomes of the training activity.

Evaluating Results. Evaluation of results at level 4 focuses on the final results that occur because participants have taken part in a program. The final results of a training program include increased production, improved quality, reduced costs, reduced number of workplace accidents, reduced turnover, and increased profits. Some programs aim to improve work morale and build better teamwork. In other words, it is an evaluation of the impact of the program.

4. CONCLUSION

One specific medium that can be used to reinforce P5 is the smart pop-up book. The smart pop-up book is a three-dimensional perceptual tool that displays objects more interestingly and clearly. This makes children more enthusiastic about learning and stimulates their creativity and imagination. Babies' awareness of a situation will also become more accurate. This learning medium is able to stimulate children's imagination and creativity. This learning medium is three-dimensional in order to depict an object more realistically, thereby increasing children's curiosity, making it easier for them to recognize the shape of objects, and expanding their vocabulary.

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5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this

article. Authors confirmed that the paper was free of plagiarism.

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