



# Enhancing teachers' competencies in information technology through infographics training as an alternative learning media

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## ABSTRACT

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Many teachers struggle to utilize technology to create interactive, creative, and innovative learning media. They often face challenges in selecting and using the wide variety of available learning tools, which leads them to rely on traditional methods such as textbooks. Additionally, the lack of skills in using technology-based media, such as infographics, hinders their ability to enhance the quality of teaching in line with the demands of the digital era. This study aims to describe the implementation of infographic training as an alternative learning media at SMPN Satap 2 Palangka Raya. The training was designed to enhance teachers' competencies in utilizing information technology, especially within the limitations of available resources. Using the Assets-Based Community Development (ABCD) approach, the training leveraged existing facilities such as school laptops, smartphones, and premium Canva accounts. The training activities included an introduction to infographic design, hands-on practice with Canva, intensive mentoring, and an exhibition of participants' works. The results indicate that the training was conducted as planned with active teacher participation, despite technical challenges such as limited internet connectivity. This training also highlighted the importance of sustained support, such as providing adequate technological infrastructure by schools and local governments, to improve the effectiveness of similar programs in the future.

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## 1. INTRODUCTION

Teachers hold the authority, duties, and responsibilities to lead and facilitate the teaching and learning process in schools. They play a crucial role in shaping potential human resources for development within the educational scope. To achieve this goal, teachers must actively participate in improving the quality of classroom instruction (Lu'mu et al., 2023). One way to contribute to this development is by enhancing their competencies and professionalism in line with the demands of educational advancements. As technology progresses rapidly, so does the development of learning media. However, many teachers still struggle to utilize technology to create interactive, creative, and innovative learning media, despite

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the abundance of information available on social media (Ristiawan et al., 2023). Moreover, teachers often face challenges in selecting and using the vast array of available learning media, leading them to revert to traditional textbooks (Noviyanti et al., 2020). This issue hinders the educational development, which is a fundamental obligation for teachers to improve the quality of learning.

Learning media are essential tools that support classroom activities, facilitating the teaching process and enhancing students' interest in learning (Noviyanti et al., 2020). One effective learning medium that teachers can use is infographics (Murray et al., 2017). Infographics are a blend of information and graphics, serving as a visual representation of information, data, or knowledge. They are not only visually appealing but also effectively convey complex data, facts, and realities in an organized manner. Using infographics simplifies intricate information, making it easier to understand and remember (Ismaeel & Mulhim, 2021; Puspitasari & Hemelia, 2023). Studies show that learners retain about 10 percent of what they hear, 40 percent of what they say, and 50 percent of what they see (Noviyanti et al., 2020). Thus, visually focused learning media, such as infographics, can significantly aid in students' comprehension and retention of material while helping teachers deliver technology-based instruction more efficiently.

To streamline and expedite the creation of infographics, the PKM team recommends using Canva as a learning media tool. Canva is a popular graphic design application that enables teachers to create educational content or design learning media, including presentations, posters, videos, photo collages, and infographics (Ulfa et al., 2023; Wiyanah et al., 2022). It offers numerous features, including a variety of infographic templates, making it easier for teachers to design learning materials (Ulfa et al., 2023). Accessible via devices such as smartphones and laptops with an internet connection, Canva supports teachers in utilizing digital media, developing engaging materials for students, and independently designing and producing learning tools (Pratiwi et al., 2023). Teachers simply need to visit Canva's website ([www.canva.com](http://www.canva.com)) through a browser on their laptops or download the app on Android or iOS smartphones (Marsuki et al., 2023).

### Current Condition

Based on observations conducted with the partner school, SMPN Satap 2 Kota Palangka Raya, the teachers were already familiar with Canva. Some had used Canva as an alternative for creating PowerPoint presentations but had not utilized it to design learning media in the form of infographics. The primary difference between PowerPoint and infographics lies in the number of pages displayed and their conciseness. While both are visually appealing, infographics require fewer pages and present information in a concise yet comprehensive manner.

Additionally, the teachers faced limitations in terms of facilities and infrastructure for creating technology-based learning media. The most accessible device for internet use, which all teachers owned, was a smartphone.

### Partner Overview

The PKM partner institution is SMP Negeri Satu Atap 2 Palangka Raya, abbreviated as SMPN Satap 2 Kota Palangka Raya, the 18th junior high school in Palangka Raya, Central Kalimantan Province. Established on July 1, 2007, the school is located at Jalan Bukit Manuah No. 119, Kelurahan Petuk Bukit, Rakumpit District, Kota Palangka Raya. It has an accreditation rating of C, with 13 teachers and 32 students (as of December 2023). The distance from downtown Palangka Raya to the partner school is approximately 60 kilometers, requiring about 1 hour and 30 minutes of travel.

Reflecting on the situation and challenges faced by SMPN Satap 2 Kota Palangka Raya, the PKM team from FKIP Universitas Palangka Raya conducted a community service program by organizing a

training titled "Infographics Training as an Alternative Learning Media for Subject Teachers at SMPN Satap 2 Kota Palangka Raya."

### **Partner Issues**

Based on the situational analysis above, the PKM team identified the need to enhance teachers' competencies in utilizing information technology to design engaging infographic learning media for students using Canva. The challenges faced by the partner institution include limited facilities and infrastructure to support the creation of learning media. Additionally, teachers face difficulties in selecting appropriate information technology-based learning media from the vast variety available, which aligns with the teaching and learning process and current educational demands.

Given these challenges, the PKM team from FKIP Universitas Palangka Raya prioritized addressing the main issue by leveraging resources accessible to the teachers at SMPN Satap 2 Kota Palangka Raya. The steps taken to resolve these priority challenges included collaborating with the school to conduct training and mentoring sessions on creating infographic learning media using Canva. The team also utilized available resources, particularly the smartphones owned by the teachers, to facilitate the process. Furthermore, training and mentoring sessions were organized to help teachers design infographic learning media through Canva. Lastly, an exhibition was held to showcase the infographic learning media created by the teachers, highlighting their achievements and the potential of the tools introduced.

### **Relevance of the Implemented Program**

Based on the identified issues faced by the partner, the PKM Team provided solutions related to the use of learning media in schools. The main problem was the lack of creativity among teachers in creating digital-based learning media. The training designed by the PKM Team aimed to enhance digital literacy among teachers at SMPN Satap 2 Palangka Raya. The limited digital literacy training opportunities available to the teachers were addressed through this program, which aimed to improve participants' skills in understanding and mastering digital literacy.

The training focused on using Canva to create infographics. Canva is a popular application among the general public due to its accessibility and ease of use for creating posts and announcements on social media. It is also well-known among educators for offering presentation media similar to PowerPoint but with more attractive and interactive designs. To enhance the digital literacy knowledge and skills of teachers at SMPN Satap 2 Palangka Raya, the PKM Team provided training specifically on infographics. Compared to PowerPoint, infographics present data in a more concise manner while still delivering the desired information effectively.

During the implementation, the PKM Team involved two students in the training process and fieldwork. These students contributed their substantial digital literacy skills to the program. Additionally, the PKM Team coordinated with the partner institution regarding activity administration and classroom management, including ensuring safety and orderliness throughout the training sessions.

### **Program Goals and Benefits**

The main goal of this PKM program is to develop technology-based learning tools to enhance the potential and teaching competencies of teachers at SMPN Satap 2, located in the Rakumpit river basin area, Rakumpit Subdistrict. The development in question involves creating infographic learning media tailored to the subjects taught, designed using the Canva application, so that teachers are capable of independently creating engaging, technology-based learning media. Additionally, the teachers were given the opportunity to showcase their work in the form of infographic learning media.

## **2. METHODS**

This community service program uses the Assets-Based Community Development (ABCD) approach. This approach focuses on utilizing existing assets within the community as the foundation for development, ensuring that the training activities are carried out effectively and efficiently. In the context of SMPN Satap 2 Palangka Raya, the assets utilized include the available facilities at the school, such as laptops, wifi connections, and teacher accounts that are registered and have access to Canva's premium features. By utilizing these resources, the infographic training can be conducted without additional costs for devices or software, focusing instead on developing the teachers' skills in maximizing the technology they already possess.

The infographic training as an alternative learning media for subject teachers will take place at SMPN Satap 2 Kota Palangka Raya. The partner school is located at Jalan Bukit Manuah No. 119, Petuk Bukit Village, Rakumpit Subdistrict, Kota Palangka Raya. The school is about 60 km from the city center, approximately a 1 hour and 30 minute drive. The activity will be carried out in three sessions, with each session lasting 4 hours (240 minutes). Each session is designed to be conducted in stages, including training, mentoring, and showcasing the participants' work.

The target audience for this activity is all subject teachers at SMPN Satap 2 Kota Palangka Raya, totaling 13 teachers. Involving all subject teachers ensures equal professional competency among teachers and enhances the quality of learning at the school. It also facilitates synergy between different subject areas, better collaboration in developing learning materials, and consistent improvement in the quality of education across the school's curriculum. The participants of this training activity will be 10 teachers who teach various subjects at SMPN Satap 2 Kota Palangka Raya. The following conditions for participation were agreed upon with the school as the partner: (1) Participants will be appointed by the principal of SMPN Satap 2 Kota Palangka Raya; (2) Participants must be willing and committed to attending all three training sessions, which will take place over two weeks, with the sessions planned for weekends; (3) Participants are encouraged to bring electronic devices that can support the training, such as laptops, tablets, or suitable smartphones.

### **Activity method**

The devotion method that will be used in this training includes 3 stages, namely: (1) Preparation; (2) Implementation; and (3) Evaluation.

#### **Preparation Stage**

In the preparation stage, the first step is to identify the participants' needs and expectations regarding infographic learning. After that, the training materials are prepared based on the identified needs to ensure their relevance and effectiveness. Additionally, coordination with the school is carried out to provide facilities and meet other technical requirements necessary for the implementation of the activity.

#### **Implementation Stage**

In the implementation stage, a pre-activity reflection (pre-survey) is conducted first to assess the participants' knowledge and abilities before the training. Then, the training begins with an introduction session, where the objectives, benefits, and plan of the activities are shared with the participants. Next, an interactive and practical training session is conducted to provide a deeper understanding of how to create infographics as a learning medium. Finally, hands-on guidance is provided to the participants in the process of creating infographics, using various applications and tools that suit their needs.

### **Evaluation Stage**

In the evaluation stage, a summative evaluation is conducted after the completion of all activities to assess the infographics produced and the effectiveness of the training through exhibitions and presentations. In addition, a comprehensive reflection on the process and outcomes of the activities, as well as the lessons learned, is carried out, with the aim of providing recommendations for further steps required after the training concludes. Reflection will also be conducted individually by participants through a post-survey to evaluate the impact and benefits of the training on the participants.

### **Evaluation design**

The evaluation method used to measure two indicators of the training's success are: self-reflection through questionnaires to assess participants' knowledge of the theory presented about infographics as an alternative learning medium, and the product outcome in the form of an infographic used as a learning medium to measure participants' ability to implement the knowledge gained during the training. Before the training, participants are given a pre-survey about infographics. The questions cover initial understanding of the definition of infographics, types of infographics, the benefits of using infographics as a learning medium, the steps for creating infographics, and how to use infographics as an alternative learning medium. This pre-survey aims to measure the participants' prior knowledge or what they already know about infographics before the training.

To assess the success indicators in increasing knowledge about infographics, the improvement in participants' knowledge and motivation to use infographics is measured. After all training sessions are completed, participants are asked to complete a post-survey. The questions will cover the definition of infographics, the benefits of using infographics as a learning medium, the steps for creating infographics, how to use infographics, and the participants' motivation to use infographics as an alternative learning medium.

Another evaluation method given to participants is the infographic product creation project. This evaluation aims to measure participants' ability to apply the knowledge gained during the training. The infographic products created by participants will then be exhibited at the school and viewed by the school community. These infographic products will also be presented by the participants. The infographic products and the ability to present them will represent the achievement of the skills targeted by the training.

## **3. RESULTS AND DISCUSSION**

### **Implementation of Infographic Training**

The infographic training for teachers at SMPN Satap 2 Kota Palangka Raya is a program designed to enhance teaching capabilities through visual media. The event began with a welcoming session, aimed at creating a friendly atmosphere during the first meeting, where essential concepts and techniques of infographics were presented interactively. In the second meeting, teachers received direct guidance to apply the knowledge they had learned and create engaging and informative infographics. On the third day, all the infographic creations were showcased at the school, giving teachers the opportunity to share their creativity and inspire students and fellow educators. This activity is expected to enrich the learning process at SMPN Satap 2 Kota Palangka Raya.

The infographic training for the teachers at SMPN Satap 2 Kota Palangka Raya was conducted on July 15, 2024, starting from 10:00 AM until completion. The training aimed to improve teachers' skills in presenting lesson materials in an engaging and informative way through infographics. During the

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session, participants were invited to understand the fundamentals of infographic design and how to use it in an educational context. With an interactive atmosphere, the teachers were given the opportunity to practice creating infographics relevant to the subjects they teach, while also sharing experiences and creativity with each other. The hope is that this training will motivate teachers to be more innovative in creating teaching materials that capture students' attention.

Out of the thirteen teachers who participated in the training, eight had heard of or used the Canva application, while five had never used it. The teachers accessed Canva through smartphones, laptops, tablets, or a combination of these devices. They learned about the application through colleagues, social media (such as Facebook, Instagram, or TikTok), and workshops/seminars. Additionally, the majority of the teachers had been using Canva for more than six months. Some of the designs they had created included PowerPoint presentations, posters, photo edits/collages, resumes/CVs, pamphlets, videos, and logos, but only one teacher reported having created an infographic design. Of the eight teachers familiar with or using Canva, all agreed that Canva had a positive impact on their development as educators.

### **Implementation stages**

#### **Training**

This stage took place on the first day of the Community Service program. During this stage, a presentation was delivered explaining the activities that would be carried out, the materials provided for practice, and the techniques that would be used in creating the project. During the presentation, examples of similar products made from plastic bottle waste were also shown. This was intended to help the participants understand what types of products could be made from the plastic waste, as well as inspire them by showcasing successful projects.

#### **Mentoring**

The consultation activity for the infographic training using Canva at SMPN Satap 2 Kota Palangka Raya was held on July 18, 2024, starting at 10:00 AM until completion. During the consultation, the teachers appeared enthusiastic as they explored Canva's features, asked questions, and discussed the best ways to create engaging infographics for their teaching materials. The teachers also shared creative ideas and supported one another in the infographic creation process. This collaborative spirit created an inspiring atmosphere for the training, where each teacher felt motivated to apply these new skills in their classrooms, making the learning process more engaging and effective for the students.

#### **Exhibition**

The infographic product exhibition created by the teachers at SMPN Satap 2 Kota Palangka Raya was held on July 23, 2023, starting at 10:00 AM until completion. The service team printed the infographics designed by the teachers and handed them directly to them. As part of the event, a group photo was taken to celebrate this collaborative work. The produced infographics were then displayed in the teacher's room and the school's laboratory room, giving the entire school community an opportunity to appreciate and utilize innovations in delivering teaching materials. This exhibition not only highlighted the creativity and dedication of the teachers but also demonstrated the school's commitment to improving the quality of education through effective visual media.

#### **Discussion**

The infographic training based on Canva at SMPN Satap 2 Kota Palangka Raya aims to empower teachers in utilizing simple technology to enhance the quality of learning. The implementation process of

this training aligns with the theory of community empowerment (Zimmerman, 2000), which emphasizes the importance of providing individuals with the skills and confidence to become active agents of change within their communities.



**Figure 1.** The atmosphere when the infographic training was carried out

**Figure 2.** Teachers continue working on infographics and consulting

**Figure 3.** The teacher displays the results of the infographic work that has been printed

### Preparation Stage

In the preparation phase, the Assets-Based Community Development (ABCD) principle is applied to maximize the use of local resources such as school laptops, internet networks, and the premium Canva accounts already owned by the teachers (Lu'mu et al., 2023). This theory emphasizes that successful empowerment projects should leverage the existing strengths of the community rather than relying on external resources. Thus, the training not only teaches technical skills but also harnesses the potential of the community to support the sustainability of the program.

Furthermore, the theory of participatory development by Chambers (2012) serves as a guide in designing the training materials. The preparation phase involves gathering input from the teachers to ensure the content aligns with their needs. This approach ensures that participants feel they play an active role in the training, which is a key principle of participatory empowerment.

### Implementation Stage

The implementation phase begins with an introduction to Canva as an easy-to-use graphic design tool for creating infographics. The theory of collaborative learning is applied by encouraging participants to work in groups, share experiences, and discuss solutions to the challenges they face (Putnam & Borko, 2000; Ristiawan et al., 2023). This approach not only enhances the technical skills of the participants but also fosters social capital through interaction and cooperation.

For example, the intensive mentoring session during the training aims to build participants' confidence, especially those less familiar with technology. Zimmerman (2000) notes that individual empowerment occurs when individuals feel supported in facing challenges and are given opportunities to develop their potential. Through direct guidance from the facilitator, participants who were initially hesitant were able to complete the task of creating infographics relevant to their subjects.

The training implementation also reflects the theory of diffusion of innovations by Rogers et al. (2014). In this context, Canva acts as a technological innovation adopted through the training. The hands-on practice sessions are designed to accelerate the adoption process by providing direct experiences that are relevant and easy for the teachers to understand.

## **Closing Stage**

The final stage of the training involves participants presenting their work and engaging in group discussions. This activity not only provides an opportunity to share ideas but also helps build participants' confidence in showcasing their work. From a community-based empowerment perspective, this step is crucial in reinforcing a sense of accomplishment and ensuring that participants have the ability to integrate technology into their practices (Diana et al., 2024; Wiyannah et al., 2022).

## **Relevance to Theory**

### **Empowerment Theory (Zimmerman, 2000)**

This training provides teachers with new skills and confidence to integrate Canva into their teaching processes. By emphasizing the use of existing resources, this training not only enhances individual capacity but also strengthens the community as a whole.

### **Assets-Based Community Development (Lu'mu et al., 2023)**

The utilization of local resources such as school laptops and available internet reflects the principles of asset-based empowerment. Focusing on local resources allows the training to remain relevant and easily accessible without relying on significant investments in new technology.

### **Participatory Development (Chambers, 2012)**

The active involvement of participants in training sessions and discussions demonstrates the application of this theory. Teachers are actively engaged in determining the direction of the training, ensuring that the outcomes are relevant to their needs.

### **Diffusion of Innovations (Rogers et al., 2014)**

Through hands-on practice, this training accelerates the adoption of Canva as a learning tool. Teachers who were initially skeptical are able to see the tangible benefits of using this application to create teaching media.

## **Implementation in Local Context**

This training also highlights the importance of tailoring interventions to the local context. By using Canva, which is compatible with available devices, the training ensures that all participants can follow along without major obstacles. This approach reinforces the principle of inclusivity, which is central to community empowerment theory (Putnam & Borko, 2000; Puspitasari & Hemelia, 2023).

For future training, it is important to expand the application of diffusion of innovations theory by providing ongoing support to teachers who may take longer to master the technology. Additionally, providing more practical examples of how infographics can be applied in teaching can strengthen the relevance of the training to the daily teaching needs (Pratiwi et al., 2023).

## **4. CONCLUSION AND RECOMMENDATIONS**

The Infographics Training as an Alternative Teaching Media for Subject Teachers at SMPN Satap 2 Palangka Raya has been successfully carried out as planned. The training took place over three days. After the training, participants were able to create infographics ready for use in the teaching and learning process, with all participants providing positive feedback and committing to implement Canva in their teaching. This training also encouraged teachers' creativity in presenting complex information visually,



making it easier for students to understand and enhancing the quality of teaching in the classroom. Additionally, the training fostered collaboration among teachers, allowing them to share ideas and discuss the implementation of infographics, which shows the potential for the continued use of infographics in the future.

The implementation of this infographics training needs to be expanded to other schools facing similar challenges in utilizing technology for learning, particularly for teachers who are not yet accustomed to using technology-based teaching media. To ensure the training is effective, ongoing support for teachers is necessary, such as through working groups or online discussion forums, where they can exchange experiences and ideas in applying infographics as a learning medium. Furthermore, the training materials need to be developed to be more varied, not only focusing on infographics but also covering other topics such as creating learning videos, animations, or interactive presentations, which can help teachers create innovative and engaging learning media. In practice, support from schools and the government is crucial, especially in providing facilities and infrastructure like adequate technology devices and internet access to support the use of Canva in teaching and learning activities. It is also important to conduct the training regularly, so that this community service activity can yield more optimal and sustainable results in helping teachers improve their technology competencies.

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