



## Development of an Innovative Canva-Based Web Training Module: Implications for Teachers' Digital Competence

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**Abstract:** This study aims to develop a Canva-based training module for website creation to enhance teachers' digital competencies in supporting digital-based services for parents in the Industry 4.0 era. The study employed a Research and Development (R&D) approach using a mixed-methods design, specifically an exploratory sequential design. The development process integrated the ADDIE model with the framework proposed by Borg and Gall, encompassing the stages of needs analysis, design, development, expert validation, limited trials, and effectiveness testing. Data were collected from 30 respondents. Qualitative data were obtained through interviews, observations, and a literature review, while quantitative data were gathered through pre-tests, post-tests, mini-project assessments, and questionnaires administered to teachers participating in the training. The data were analyzed using descriptive analysis and inferential statistical tests. The qualitative findings indicated a high demand for instructional materials to support digital competency training. Quantitative results demonstrated the effectiveness of the module, as evidenced by a significant increase in the average pre-test and post-test scores from 58.3 to 79.3. Expert validation results indicated a high level of validity, with agreement rates of 77% from module experts, 78% from subject-matter experts, and 85% from website design experts. Limited trials revealed a practicality level of 87.5%, and the effectiveness test showed a statistically significant improvement, with a mean difference of -21.00 ( $t = -28.571$ ). The module includes an overview of digital service concepts, systematic steps for creating websites using Canva, guided practice through mini-projects, evaluation, and reflection. Overall, the findings indicate that the developed training module is valid, practical, and effective in enhancing teachers' competencies in developing Canva-based websites to support digital services for parents.

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## Introduction

Rapid technological developments in the Industry 4.0 era have brought significant changes to the world of education. The education system is required to adapt to the digital age and the context of changing times, where teachers no longer focus solely on classroom learning activities but are also required to have digital competencies (Utami et al., 2020). One example of a concrete action to develop digital competencies is the ability to create and manage websites as part of the educational services provided by teachers (Tomczyk, 2024). The skill of creating websites enables teachers to disseminate information efficiently, document learning activities, and strengthen communication with various stakeholders, especially parents (Indriyani et al., 2023).

Effective communication between teachers and parents plays an important role in creating a conducive learning environment. Parents are strategic partners of teachers in supporting the academic and character development of students (Fatimaningrum, 2022)



Communication is one of the main services provided by teachers to parents (Satyawati et al., 2022). In many schools, especially those studied, communication still uses WhatsApp groups, but there are several obstacles that can affect parent participation. Too many messages coming in quickly often cause important information to be buried by other conversations, making it easy to miss. In addition, the lack of grouping and neat storage of messages makes information difficult to find again or to ensure that messages have been read. As a result, communication becomes disorganized and can reduce active parent participation in school activities. Although WhatsApp is practical and widely used for communication between schools and parents, its technical structure does little to encourage parental involvement (Johari et al., 2022). Messages appear in a continuous chronological stream, causing important announcements to quickly get buried under new conversations, especially in active class groups. Messages arriving too quickly result in information overload, making it difficult for parents to identify, process, and remember important updates (S. Osman, 2024). Furthermore, WhatsApp does not provide systematic storage features such as categorized folders, for example, for important school announcements, which makes searching for previous information time-consuming and dependent on keyword searches. As a result, important documents, schedules, or information may be overlooked or requested repeatedly, reducing communication efficiency and potentially weakening parents' active participation in school affairs. This condition indicates weaknesses in school information management, particularly in maintaining a conducive school climate and providing quality services to key stakeholders, namely parents and students. Therefore, more modern and structured digital technology is needed to support a more effective, efficient, and reliable communication system (Manongga et al., 2019).

One platform that is easily accessible and supports website creation without requiring advanced programming skills is Canva, specifically through the belajar.id account. Canva provides a variety of user-friendly features for designing and publishing visually appealing and informative websites (Gu, 2017). Canva has many website templates that can be used without coding (Rahmawati et al., 2025). Through this platform, teachers can provide more optimal digital services to parents (Walimah, 2021; Zahra et al., 2024), such as sharing academic information, school programs, and learning resources (Firdayanti et al., 2024; Shierly et al., 2024). However, in reality, many teachers still lack structured guidance and training in utilizing Canva for educational website development.

Previous studies have shown that the use of digital platforms in education has a positive impact. Research by Jamiatul ilmi & Irman (2023) found that creating websites using Canva had a positive impact on junior high schools in Yogyakarta, particularly as a medium for counseling services for parents and students. Handini (2025) reported that the integration of technology through TPACK-based training modules helps teachers develop more innovative and interesting learning materials. In addition, Philipsen et al (2019) emphasized that strengthening teacher professional development contributes significantly to the effectiveness of online and blended learning. While previous studies focused on Canva for classroom media, there is a dearth of research focusing on Canva as a systematic web-based portal for parental services.

This gap shows the need for the development of systematic and applicable training modules to equip teachers with step-by-step guidelines in creating and managing educational services in the form of simple websites, namely Canva-based websites. Therefore, this study aims to describe the process of developing a training module for creating websites using Canva for teachers. This study highlights the aspects of design, implementation, validation,

and the potential impact of the developed module in improving teachers' digital competencies and strengthening more structured communication with parents through digital platforms.

### Research Method

This study employs a Research and Development (R&D) approach using a mixed-methods research design, specifically Exploratory Sequential design. According to (Creswell & Creswell, 2023), the Exploratory Sequential design is a sequential data collection process that begins with qualitative data collection and is followed by quantitative data collection. This design allows the researcher to explore initial findings qualitatively before testing or measuring them quantitatively.

This research also adopts the ADDIE model, which consists of five stages: Analyze, Design, Development, Implementation, and Evaluation. However, relying on a single model is considered insufficient because ADDIE primarily provides a systematic instructional design framework but offers limited detail in terms of iterative product testing and field validation. Therefore, these stages are synchronized and integrated with the model proposed by Gall et al (2007) which emphasizes research and development procedures, including expert validation, revision cycles, and field trials. By combining both models, this study gains a more comprehensive framework: ADDIE ensures a structured and pedagogically sound development process, while the Gall et al. model strengthens the research rigor through systematic evaluation and refinement. The merged model used in this study is presented in Table 1.

**Table 1. Synchronization of Gall and ADDIE Method**

Steps	Gall	ADDIE
1	Research and Information Collecting	Analyze
2	Planning	Design
3	Develop Preliminary Form of Product	Development
4	Preliminary Field Testing	
5	Revision Preliminary Form of Product	
6	Operational Field Testing	Implementation and Evaluation
7	Final Product Revision	

While the “steps” looks having 7 steps, from ADDIE perspective, it can be seen as four steps. Here is what happens in each step:

1) Step 1: Analyze – Information Collecting

This stage aims to identify the reasons behind the development of training modules for teachers. This activity was carried out by interviewing several teachers and principals to find out what forms of digital services had been implemented in schools, and whether training activities for developing digitalization competencies had been carried out previously, particularly those related to communication between teachers and parents.

2) Step 2: Design – Planning

At this stage, researchers compiled and developed a framework for a website creation training module using Canva based on the results of previous analyses, which included the structure and systematics of the material, as well as an overview of the competencies to be achieved by teachers.

3) Step 3: Development

The training module will be developed by incorporating material into an interactive format using Canva, which includes a basic introduction to Canva for website creation, its components and structure, as well as website creation practice. Based on a needs analysis in the initial stage using the ADDIE model, it was found that many elementary school teachers

still have limitations in website creation, while previous training has not been supported by structured modules, adequate learning resources, or effective strategies. Therefore, the researchers developed a module framework that includes organized material systematics and a competency map incorporated into learning activities, complete with methods, screenshots of website creation, and training objectives that are systematically arranged.

#### 4) Step 4: Implementation - Evaluation

At this stage, the training module was tested and evaluated through validation by module experts, design experts, and material experts to ensure its suitability for the expected objectives. Next, a field test was conducted involving 30 teachers from SD Kristen 04 Salatiga and carried out in two stages, namely a limited test and a broad test, using pre-tests and post-tests to measure competency improvement. The sampling technique used was purposive sampling, because participants were deliberately selected based on certain criteria, namely teachers who were actively involved in communication with parents and had basic digital literacy skills. This technique was chosen to ensure that the participants were relevant to the research objectives, the usefulness of the research, and able to provide reliable data regarding the effectiveness of the training module developed. Qualitative data collection was conducted through interviews, observations, and literature studies to understand the needs and digital practices in schools (Ardiansyah et al., 2023; Hasanah, 2017), while quantitative data was obtained from competency tests, website development projects, and evaluation questionnaires. Qualitative data analysis used triangulation techniques to ensure the reliability of the findings (Nashrullah et al., 2023), so that the research results had acceptable validity and consistency.

Meanwhile, quantitative data were analyzed through validity and reliability tests to ensure that the instruments were appropriate for the targeted competencies. To measure the increase between pre-test and post-test scores, a paired sample t-test was used, as the data were normally distributed and involved two related measurements from the same participants. This test was chosen to determine whether there was a statistically significant difference in teacher competencies before and after the treatment, namely the implementation of the training module. The validity test is conducted to determine whether the research instruments accurately measure the intended variables (Arikunto, 2018), while the reliability test is performed to assess the consistency of the instruments (Sugiyono, 2019). These statistical analyses are processed using SPSS software. The results of the validity and reliability tests, as well as the pre-test and post-test scores, are then interpreted based on the criteria presented in Table 2 to determine whether the module meets the required standards and effectiveness categories.

**Table 1. Categorization of Validity and Reliability Test**

Percentage	Category
81-100%	Very High
61-80%	High
41-60%	Moderately Low
21-40%	Low
1-20%	Very Low

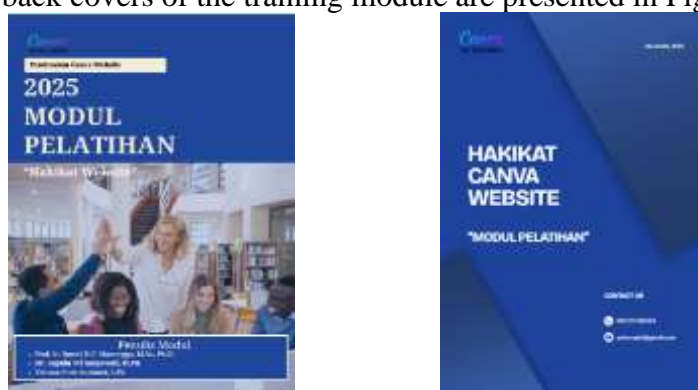
(Akbar & Razak, 2019)

## Results and Discussion

### Module Development Result

Based on the needs analysis conducted in the preliminary stage, the researchers determined the main topics of the module, which include: (1) Introduction to Canva, covering

its features and benefits in educational contexts; (2) Components in Canva, explaining essential tools, layouts, templates, and design elements; and (3) How to Use Canva for Website Creation, providing step-by-step guidance on developing and publishing a website. More specifically, the module emphasizes the creation of websites intended to support services for parents, such as sharing academic information, school programs, announcements, and documentation of learning activities. The information, school programs, announcements, and documentation of learning activities materials are systematically organized to guide teachers from conceptual understanding to practical implementation. The completed module was designed in an interactive format using Canva to ensure visual attractiveness and ease of use. The front and back covers of the training module are presented in Figure 1.



**Figure 1. Cover (front and back) of The Training Module**

### **Expert Validation Results**

The final version of the module was then subjected to expert validation to assess its feasibility and quality. Three experts were involved in the validation process: a module development expert, a subject matter expert, and a website design expert. The validation results of the training module indicate that the alignment between competency achievement indicators and the material description, as well as the consistency among the indicators, received high scores. The use of clear, concise, and appropriate language, including proper abbreviations, was also rated positively. Although the sequence of material presentation received a slightly lower score, it still met the expected standards. Overall, the module obtained a total score of 23, with a percentage of 77%, which places it in the high validity category.

The results of validation by subject matter experts show that the content of the training modules is consistent with the title of each chapter, the training achievement indicators, and the basic competencies developed. The clarity, accuracy, and completeness of the material, as well as the appropriateness and diversity of the examples provided, received high ratings. Although the clarity of the material description received a slightly lower score than the other components, this aspect still met the expected criteria. Overall, the module received a score of 39 with a percentage of 78%, placing it in the high validity category.

The validation results from design experts show that the module layout is consistent, balanced, and easy for participants to navigate. The combination of colors and fonts is considered to support readability and give a professional impression. The use of icons, images, and illustrations is also consistent with the theme. The explanations of each step in using Canva and creating a website with images or screenshots received excellent scores, as did the creativity in combining visual and interactive elements. Overall, the module design supports the achievement of training objectives without distracting from the focus of learning. The module received a total score of 34 with a percentage of 85%, placing it in the highly valid category. After implementing minor revisions based on the experts' suggestions,

the module was subjected to a limited trial involving five teachers. This limited test was conducted using a practicality questionnaire to evaluate the ease of use, clarity of instructions, relevance of the materials, and overall usability of the module. The results of the practicality test showed a score of 87.5%, which falls into the high category. This indicates that the module is considered practical, user-friendly, and appropriate for use in training activities, with no major revisions required. The following is a summary table of the results of expert validation and feasibility testing of the Canva-based interactive parent service website training module.

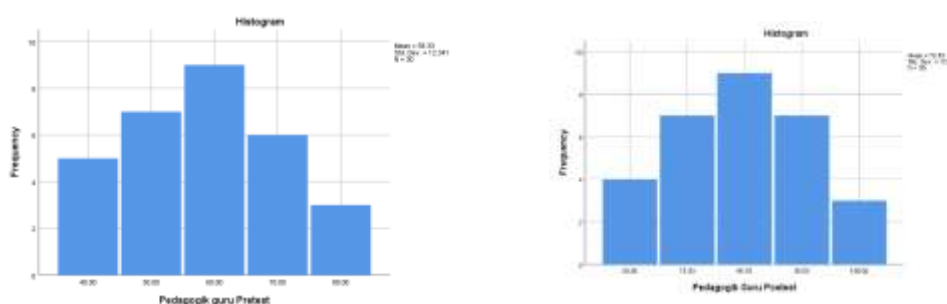
**Table 3. Results of Expert Validation and Practicality Testing of the Canva-Based Website Training Module**

No	Validation	Evaluator	Evaluation Criteria	Score	Percentage	Category
1	Module Validation	Module Development Expert	Alignment between competency achievement indicators and material description; consistency among indicators; clarity, conciseness, and appropriateness of language; systematic presentation of material	23	77%	High Validity
2	Content Validation	Subject Matter Expert	Consistency between chapter titles, training indicators, and basic competencies; clarity, accuracy, and completeness of materials; relevance and diversity of examples	39	78%	High Validity
3	Design Validation	Website Design Expert	Layout consistency and balance; readability (color and font selection); relevance of icons and illustrations; clarity of step-by-step explanations; creativity of visual and interactive elements	34	85%	Highly Valid
4	Practicality Test (Limited Trial)	5 Teachers	Ease of use; clarity of instructions; relevance of materials; overall usability in training implementation	228	87,5%	High (Practical)

### Effectiveness Test Results

The final stage involved implementing the module in a real workshop setting with all research participants. During this training session, all teachers participated actively and were required to complete a hands-on task by creating a website using Canva as part of their individual project. Before the training began, participants completed a pre-test to assess their initial knowledge and skills in creating a website using Canva. After the training was conducted, they were given a post-test to measure their learning outcomes and determine whether there was a significant improvement in their competencies. The comparison between

pre-test and post-test results was used to evaluate the overall effectiveness of the training module.



**Figure 2. Pre Test (Left) and Post Test (Right) Results**

Figure 2 indicates that the distribution of teachers' competencies before and after participating in the training using the developed module is relatively even. This finding serves as the basis for proceeding with further analysis using parametric methods. Further statistical analysis was conducted using the One-Sample Kolmogorov–Smirnov Test to examine the normality of the data distribution. The results indicated that the data met the assumptions required for parametric testing. The descriptive statistics showed that the mean score in the pre-test was 58.3, while the mean score in the post-test increased to 79.3, indicating a substantial improvement after the training program. The following are the average results of the pre-test and post-test scores that have been processed using the SPSS One-Sample Kolmogorov-Smirnov Test, which will be displayed in Table 4.

**Table 4. One-Sample Kolmogorov-Smirnov Test Results**

One-Sample Kolmogorov-Smirnov Test			
		Pre Test	Post Test
		30	30
Normal Parameters <sup>a,b</sup>	Mean	58.3333	79.3333
	Std. Deviation	12.34094	12.01532
Most Extreme Differences	Absolute	.154	.155
	Positive	.150	.148
	Negative	-.154	-.155
Test Statistic		.154	.155
Asymp. Sig. (2-tailed)		.068 <sup>c</sup>	.062 <sup>c</sup>
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			

The results show that before the training, teachers' ability to understand and create interactive service websites for parents was below par. After being given the training module, teachers' abilities improved, as evidenced by the data. Therefore, the training module not only provides theoretical knowledge, but also provides practical experience that can be applied according to teachers' needs.

Additionally, a Paired Samples t-Test was performed to determine whether the difference between the pre-test and post-test scores was statistically significant. The analysis yielded a t-value of -28.571 with a mean difference of -21.00. These results demonstrate that there was a statistically significant improvement in teachers' competencies after participating in the training. Therefore, it can be concluded that the training program had a significant positive effect on enhancing teachers' ability to create websites using Canva.

**Table 5. Paired Sample t-Test Results**

		Independent Samples Test				Levene's Test for Equality of Variances		t-test for Equality of Means		95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
nil_gab	Equal variances assumed	.072	.789	-6.678	58	.000	-21.00000	3.14465	-27.29472	-14.70528	
	Equal variances not assumed			-6.678	57.959	.000	-21.00000	3.14465	-27.29482	-14.70518	

**Table 6. Group Statistics**

Group Statistics					
	VAR00001	N	Mean	Std. Deviation	Std. Error Mean
nil_gab	Pretest	30	58.3333	12.34094	2.25314
	posttest	30	79.3333	12.01532	2.19369

The research also conducted an N-Gain test to see how effective the developed module was in improving teacher competence. Based on the descriptive analysis of 30 respondents, the average N-Gain Score was 0.8078 or equivalent to 80.78%, with a minimum value of 0.73 and a maximum of 0.88. This is in line with Hake (2009) theory of learning outcome improvement effectiveness, which categorizes N-Gain criteria into three levels: low ( $g < 0.30$ ), moderate ( $0.30 \leq g \leq 0.70$ ), and high ( $g > 0.70$ ). Since the average N-Gain value of this study is in the high category ( $g > 0.70$ ), it can be concluded that the developed module is effective in improving teachers' competence in creating websites. Thus, the Canva-based training module that was implemented has been proven to provide significant improvement and is at a high level of effectiveness in accordance with the criteria set out in Hake's theory.

**Table 7. N-Gain Score**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_Score	30	.73	.88	.8078	.04254
Ngain_Persen	30	72.73	88.37	80.7800	4.25352
Valid N (listwise)	30				

On the other hand, figure 3 presents an example of the output generated from the training program. The figure illustrates a sample website created by one of the participants, demonstrating the practical outcomes of the module implementation and reflecting the competencies achieved after completing the training.



**Figure 3 Example of Website Created in Training Program**

## Discussion

The results of this study indicate that the development of a Canva-based website creation training module was designed systematically, in line with the theoretical framework presented in the introduction. In the context of Industry 4.0, which requires teachers to have digital competencies (Tomczyk, 2024; Utami et al., 2020) this module directly addresses the



need for practical digital skills, particularly in creating and managing educational service websites. Initial analysis shows that teachers still lack structured teaching materials and learning resources that can be accessed independently, practically anytime and anywhere, in website development. Through the formulation of systematic steps, interactive designs, and competency-based learning activities that teachers want to achieve, this module is able to translate the concept of digital competence into an applicable and contextual professional development program.

Expert validation results are increasingly being taken into consideration in module development. The high validity scores from module experts, subject matter experts, and design experts (77%, 78%, and 85%) indicate that the training material is in line with the desired needs and competencies. These findings support Philipsen et al. (2019) opinion that structured professional development is crucial to the successful integration of technology in education. Additionally, the practicality score of 87.5% in the limited trial indicates that this module is easy to use and relevant to teachers' needs. This is in line with the theory that user-friendly platforms such as Canva can minimize technical barriers and empower teachers to produce digital services without requiring difficult coding skills but rather easy-to-understand ones (Gu, 2017; Rahmawati et al., 2025).

The effectiveness test results show the effectiveness of the module. There was an average score increase from 58.3 on the pre-test to 79.3 on the post-test, which was confirmed by the Paired Samples t-Test results ( $t = -28.571$ ) showing a statistically significant difference. This increase confirms that training using the developed module is effective in improving the competence of teachers in the 4.0 era. The relatively low pre-test score (58.3) indicates that teachers initially had limited competence and confidence in developing website-based information services. This was due to the absence of structured guidance, resulting in a lack of confidence in using technology. Research shows that perceived technological difficulties and low digital confidence significantly affect teachers' willingness to adopt new technologies (Scherer et al., 2019), while limited structured professional development further restricts digital readiness (Philipsen et al., 2019). The use of Canva modules and the Canva platform helps overcome these challenges by providing intuitive, drag-and-drop template-based guidance and systems that reduce cognitive load and eliminate the need for programming skills (Aini et al., n.d.) These findings support the theory that strengthening teachers' digital competence contributes to their ability to integrate technology into educational services (Indriyani et al., 2023). The individual tasks in each activity in the module proved to be effective in supporting the practical creation of websites.

As has been explained, the results of this study also emphasize the importance of a structured digital communication system in strengthening partnerships between schools and parents. In line with the introduction, communication is a key service provided by teachers to parents (Fatimaningrum, 2022; Satyawati et al., 2022), and reliance on WhatsApp groups often results in information not being properly documented. By equipping teachers with the skills to create websites based on Canva, using structured, practical, effective, and easy-to-learn modules, a more systematic, transparent, and documented communication system can be created. Thus, this training module not only improves teachers' digital competence but also contributes to strengthening educational services in line with the needs and conditions of the times. These findings can be interpreted through the Technological Pedagogical Content Knowledge (TPACK) framework, particularly in terms of strengthening teachers' abilities to use simple technology in the context of meaningful learning. This module not only provides knowledge about website creation, but also gives teachers the freedom to be creative according to their needs and interests. This is in line with research showing that teachers'



digital competence, technology effectiveness, and TPACK significantly influence the quality of technology integration in teaching practice (Mario et al., 2023). Furthermore, the latest digital competency framework states that operational, pedagogical, and creative digital skills are essential foundations for sustainable educational innovation (Cabero-almenara et al., 2020). These studies reinforce that strengthening teachers' practical and creative digital capacities contributes directly to the educational environment in providing more effective and sustainable technology-enhanced services.

## Conclusion

This study resulted in the development of a Canva-based website creation training module aimed at enhancing teachers' digital competencies in delivering more structured educational services to parents. The qualitative needs analysis revealed that teachers lack clear and systematic guidelines for continuous learning due to the absence of structured modules and the limited scope of previous training programs. Expert validation indicated that the module fell within the valid to highly valid category, with agreement rates of 77% from module experts, 78% from subject-matter experts, and 85% from design experts. The practicality test yielded a high score of 87.5%, demonstrating that the module is user-friendly and feasible for implementation. Furthermore, the effectiveness test showed a significant improvement in teachers' competencies, as reflected in the increase in the mean pre-test score from 58.3 to 79.3 on the post-test. The results of the paired-samples t-test ( $t = -28.571$ ) confirmed a statistically significant difference following the training. Overall, the findings suggest that the training module is valid, practical, and effective for broader implementation as part of teacher professional development initiatives. In addition, its application has the potential to enhance the management of school educational services by fostering more structured, transparent, and well-documented communication systems between schools and parents.

## Recommendation

Based on the results of this study, the Canva-based website creation training module is recommended for wider use as part of a strategy to improve teacher competence, particularly in strengthening digital communication services to parents. Schools can incorporate this training into professional development activities such as ongoing In-House Training (IHT) with expanded material. School principals need to establish new policies and provide facilities such as reliable internet access so that the websites created can be optimally utilized as a more organized and documented official school information medium. In addition, the Education Office can consider implementing similar training in other schools with the assistance of fellow teachers who are already experts in order to support a collaborative and mutually supportive ecosystem among colleagues. Further research is recommended to analyze several specific variables in order to understand and maximize the impact of Canva-based website modules on teachers' digital competencies. Subsequent research could include the intensity of module use, teachers' prior digital literacy levels, school type (public or private), school level (elementary, junior high, high school), and integration with other digital platforms such as Google Classroom or WhatsApp.

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