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Developing In-House Training Module: The Excitement of Learning Media Through Canva to Enhance ICT Competency of Elementary School Teachers

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Abstract: This study aims to: (1) analyze training models for enhancing information and communication technology (ICT) competency among elementary teachers, and (2) develop an In-House Training (IHT) module to improve ICT skills. Using Research and Development (R&D) methodology, the study progressed through three phases: preliminary research, module development, and testing. Fourteen teachers and principals from SD Negeri 38 Palembang participated as subjects. The study produced "The Excitement of Learning Media Through Canva", a validated IHT module demonstrating high feasibility, with 88.54% (material experts) and 91.07% (media experts) approval rates. Practicality assessments rated the module 4.56/5 (very good), while effectiveness was confirmed by post-test scores averaging 90.66%. These results affirm the module's validity, practicality, and effectiveness for teacher training. Novelty lies in the module's integration of Canva as a user-friendly, creative tool for ICT skill development, tailored specifically for elementary educators. Practical implications include providing schools with a ready-to-implement, cost-effective training solution that enhances digital literacy. The study contributes to educational technology by offering a replicable model for teacher professional development, bridging the gap between ICT theory and classroom application. Future research could explore longitudinal impacts on teaching practices or adapt the module for diverse educational contexts.

Keywords: In-House Training Module, Learning Media, Teachers' Information Communication Technology Competence

A. Introduction

Education is a necessity and is understood as a process of developing values in accordance with human nature, which has reason, soul, and body. The presence of education in the dynamics of life has been able to shape humans into beings with a higher civilization compared to other creatures (Suardana et al., 2023). The definition of education in the broad sense is life. This means that education is all the knowledge learned throughout life in all places and situations that have a positive influence on the growth of each individual being. That education takes place throughout life

(lifelong education). Teaching in the broad sense is also a process of teaching activities, and implementing learning can occur in any environment and at any time (Dolfing et al., 2021; Müller & Mildenberger, 2021). Literally, the meaning of education is education carried out by a teacher to students. It is hoped that adults for children can provide examples, learning, guidance, and improvement of ethics and morals, as well as explore the knowledge of each individual. The teaching provided to students is not limited to formal education administered by those in authority; in this case, the role of the family and community is crucial, serving as a forum for development that can awaken and develop knowledge and understanding (Ide & Beddoe, 2024; Rodela & Bertrand, 2021).

Education, in the narrow sense, is a school. This system applies to individuals with student status, namely pupils at school or students at a university (formal educational institution). The father of education, Ki Hajar Dewantara, famously stated, "Ing Ngarso Sung Tulodo" (in front, set an example), "Ing Madyo Mangun Karso" (in the middle, build and encourage), and "Tut Wuri Handayani" (from behind, give encouragement). Therefore, efforts to develop resources that meet these educational needs require a program designed to the maximum, including the implementation of training that can improve the quality of existing resources in schools, especially teaching and administrative staff (Adewumi et al., 2019; Díez et al., 2020). In simple terms, Connolly et al. (2019) stated that a teacher as a leader (manager) as a functional staff member who is given the task of leading the learning process for the students he organizes, or a place where interaction occurs between teachers who give lessons and students who receive lessons. As a profession, teachers are required to act professionally in carrying out their activities as educators, teachers, motivators, mediators, mentors, and other teacher functions for students and other administrative tasks, both in the classroom and outside the classroom (community environment) (Hauge & Wan, 2019).

Considering the importance of professional teachers in carrying out the educational process at the school level, various methods and strategies are carried out by the government so that teacher performance is in accordance with community expectations and educational goals (Anwar, 2020). According to Afriadi & Tola (2022), professional teacher development is based on three evaluation standards, namely skills, knowledge, and responsibility. Furthermore, it is stated that high-quality professional teacher development should meet five criteria, namely: (1) in accordance with school, national, and regional goals and other professional learning activities, including evaluation formats for teachers; (2) focus on the main content and models of meaningful learning strategies; (3) give special opportunities to be active in learning as a new teaching strategy; (4) give opportunities to collaborate with other fellow teachers; and (5) implement ongoing follow-up and feedback programs.

Education is considered to have transformed into a fundamental human need. Given its importance, humans are increasingly placing it at the forefront of their efforts to advance humanity. Essentially, education is a process of liberating students from

ignorance, incompetence, powerlessness, untruth, dishonesty, and evil in their hearts, morals, and faith (Yusuf et al., 2023). This makes education crucial because, as time progresses, humans are required to free themselves from the folly inherent in ignorance. Several reasons why humans need education include the belief that education helps free them from ignorance, poverty, and backwardness (Yunus, 2021). To escape ignorance, humans strive to obtain an education. This can be seen in the events of pre-independence Indonesia, where many citizens were uneducated, and human life at that time was highly vulnerable to influence. This was because citizens were still trapped in a cycle of ignorance, poverty, and backwardness. Society was easily exploited, fooled, and controlled by others. They tend to lack principles in life, making them easily colonized by other nations. This contrasts with the situation if people are able to obtain education, which allows them to develop principles in behavior and creative thinking. This will undoubtedly lead others to respect and awe them.

According to Rahimi & Oh (2024), the application and adaptation of technology in the learning environment is a necessity in facing changes in the era of globalization. Developments in information and communication technology have impacted the world of education, particularly in the learning process. Technological developments have given rise to innovative and creative learning models in the learning process, thereby developing teacher competency (Garzón Artacho et al., 2020; Skrbinjek et al., 2024). Competence is an action or performance that reflects potential, knowledge, skills, and attitudes related to a particular profession. This definition demonstrates that competence is a unified whole that reflects a person's appearance, abilities, and behavior. According to convergence theory, competence is formed from the integration of human potential with their environment (Deev & Finogeev, 2023). This means that humans are born with a number of innate potentials or abilities that then interact with their surrounding environment (including education), thus developing new, more mature competencies. Teacher competence relates to the concept of the nature and duties of teachers. It is a set of knowledge, skills, and behaviors that teachers must possess, internalize, master, and actualize in carrying out their professional duties. These competencies consist of pedagogical, professional, personality, and social competencies (Law of the Republic of Indonesia No. 14 of 2005 concerning Teachers and Lecturers, 2005).

Regulation of the Minister of National Education No. Law No. 16 of 2007 explains that pedagogical competence includes understanding students, designing and implementing learning, evaluating learning outcomes, and developing students to actualize their various potentials. Professional competence is a broad and in-depth mastery of learning materials, encompassing mastery of the school curriculum and the scientific substance that underpins the material, as well as mastery of the structure and methodology of the learning. Personality competence is a personal ability that reflects a solid, stable, mature, wise, and authoritative personality, serving as a role model for students, and possessing noble character. Social competence is a teacher's ability to communicate and interact effectively with students, educational staff, parents, and the

surrounding community (Minister of National Education of the Republic of Indonesia, 2007). One indicator of teacher competence that the author focuses on is Information and Communication Technology (ICT) competence. Teacher Information and Communication Technology (ICT) competency is the teacher's ability to develop learning innovations by utilizing ICT in planning, implementing, and evaluating learning, in the aspects of pedagogical, personal, professional, and social competency.

According to the Regulation of the Minister of National Education Number 16 of 2007, Information and Communication Technology (ICT) competencies for teachers have at least two functions, namely Information and Communication Technology (ICT) as self-development and Information and Communication Technology (ICT) as a support for the learning process. The determination of Information and Communication Technology (ICT) competencies as one of the teacher competencies is a logical consequence of the large positive influence of Information and Communication Technology (ICT) on educational activities, such as accelerating teacher access to various learning resources, accelerating teacher administrative work, helping teachers explain abstract and complex materials, and making it easier for teachers to send their performance reports to government portals. Information and communication technology can be used to revitalize the learning process, which can ultimately adapt students to the environment and the world of work (Zhao et al., 2023). Therefore, teachers, in addition to having the ability to teach in the classroom, must also be able to integrate the use of ICT in learning.

The Information and Communication Technology (ICT) competency of elementary school teachers has become an interesting topic to study, as the government has aggressively implemented various ICT-based learning resource programs. These include batik (creating ICT-based teaching materials), the Rumah Belajar website, the Ki Hajar Dewantara competition, Mobile Education, Educational TV, iPerpusnas, and so on. These various programs are one way the government motivates and improves teachers' ICT competency. Along with the increasingly rapid development of Information and Communication Technology (ICT), several challenges remain for teachers at SDN 38 Palembang related to ICT competency. These include: a) The projectors available in the classroom and in the teacher's office are rarely used. Teachers' reasons for not using them include hassle, fear of short circuits, children making noise when using the projector, lack of digital teaching materials for presentations, inability to create PowerPoint presentations, and inability to connect the projector to a laptop. b) The use of computer and language laboratories in established elementary schools is also still suboptimal. Teachers' reluctance to use laboratories is due to their comfort with verbal learning methods and their lack of comfort with Information and Communication Technology (ICT) devices. Damaged computers are not immediately repaired, resulting in fewer computers available than the number of students who will use them. The aforementioned issue of Information and Communication Technology (ICT) competency among elementary school teachers is a shared responsibility of the government, schools, communities, and teachers themselves.

Meanwhile, according to Savov et al. (2019), multimedia is a presentation tool characterized by a functional combination of text, images, sound, animation, and video, some or all of which are organized into a coherent program. By using multimedia learning media, teachers can utilize existing educational resources appropriately. Supported by learning and educational technology, the teaching and learning process is expected to be more engaging. Conversely, teachers' limited competence in utilizing multimedia ultimately hinders its use at SDN 38 Palembang. According to Musfah, J., 2011, the use of multimedia in learning can teach students something new and enable schools to face change with confidence. To address this, teachers' Information and Communication Technology (ICT) competencies need to be improved. One strategy for improving teachers' ICT competencies is through In-House Training (IHT). As the years go by, all aspects of life, including social, cultural, economic, artistic, and information and communication technology (ICT), continue to evolve. ICT development is the most rapid in the current era. According to Wikipedia, ICT encompasses two aspects: information technology and communication technology. Information technology encompasses everything related to the processing, use as a tool, manipulation, and management of information, while communication technology encompasses everything related to the use of tools to process and transfer data from one device to another.

Therefore, ICT has a broad meaning, encompassing all activities related to the processing, manipulation, management, and transfer of information between media. Therefore, in today's modern era, humans, from children to adults, cannot escape the development of ICT. Almost everyone is familiar with and utilizes ICT technology in their lives. Technology significantly simplifies work and daily needs and provides a variety of entertainment for those who desire it. Many things can be observed in the school environment, where advances in technology force humans to be more prepared for change, namely the transition from manual to electronic systems. In today's education world, many schools have switched to using electronic systems for administration and teaching and learning. Examples of these changes include the adoption of e-learning or e-education in the teaching and learning process, as well as the transition from physical libraries to e-libraries. These are just a few examples of system changes that have kept pace with the times. All of this will not be balanced without the support of quality teachers and good management. Quality education is born from quality teachers. Teachers should have academic qualifications and competencies. In addition to requiring qualified and competent teachers, schools must provide the appropriate infrastructure to support education within the school.

This is also supported by Darling-Hammond (2021), who stated that being a professional teacher means that the work of a teacher can only be carried out by someone who has academic qualifications, competencies, and teacher certification. Without these academic qualifications and competencies, the quality of the education produced will decline over time. With the availability of quality teachers and adequate educational facilities, education must be supported by a curriculum established by the government.

Training practices for learning development generally implemented in Indonesia are public training. These are organized by the government or external organizations, bringing together participants from various educational institutions. Furthermore, training programs that support teacher professionalism, such as Subject Teacher Conferences (MGMP), Teacher Working Groups (KKG), and various other forms of training, are generally conducted outside of schools. Studies have shown that implementing MGMP or KKG activities presents various obstacles to improving teacher competency, including difficulty developing appropriate strategies to attract teachers, a lack of innovation in determining engaging and creative training methods, limited learning media, and a lack of competent human resource support for event organizers (Sukirman & Mirnawati, 2020). Meanwhile, other studies have shown that training through Teacher Working Groups (KKG) programs is considered effective in improving teacher competency (AR et al., 2019). Based on these studies, public training activities have both strengths and weaknesses in their implementation. Thus, it is important to conduct a separate study to highlight the other aspects of internal training, also known as in-house training.

Training conducted in schools (in-house training), as the center of the educational process, requires a concept that addresses the needs of stakeholders, particularly teachers as the primary actors in the learning process. According to Murphy (2020), training specifically focuses on providing specific skills or helping employees improve performance deficiencies. Training is a learning process that seeks to change the target's behavior. This behavioral change encompasses three aspects: cognitive, affective, and psychomotor. Changes in these three aspects are difficult to observe without understanding what is being measured and how. In-house training programs, as a solution to address the dynamics of the educational process in every educational institution, require a needs-based concept (needs assessment). Consistent and continuous in-house training guarantees quantity but also requires quality assurance. To ensure that the training to be carried out is in accordance with the needs of the organization, position, and individual employees so that its quality is guaranteed, a training needs analysis is required first. Based on this opinion, the presence of an in-house training program should provide a solution that is able to answer the needs of teachers, especially in teaching and learning practices.

State Elementary School 38, Ilir Barat II District, Palembang City, is a school with a high level of achievement, as evidenced by the students of SDN 38 Palembang winning several championships in the competition. In mid-2019, SDN 38 Palembang received an accreditation rating of A, indicating a very good level of achievement. With a total of 15 study groups (rombel), which are in Ilir Barat II, Palembang City, for elementary school level. The still conventional teaching method is one of the weaknesses at SDN 38 Palembang; of the 17 educators who are class teachers, less than 25% are capable and can present lessons using computers. Educational facilities in the form of multimedia at SDN 38 Palembang are considered adequate, including 1 liquid crystal display (LCD) projector, 3 laptops, and an internet connection. With a total of 20

teachers, only 2 or 4 teachers use laptops as a learning medium; however, LCDs are rarely used as a learning medium.

SDN 38 Palembang has already implemented a trial of the 2013 curriculum in 2013, so its teachers are already familiar with the teaching system. The thematic 2013 curriculum requires materials that are not limited to a single teaching material, such as textbooks distributed by the school, but can be obtained from various sources, such as the internet and other books. Different answers from each student, originating from different sources, require teachers to summarize and present them to students. To make the summaries more engaging, they can be presented using audiovisual or multimedia media. In addition to the 2013 curriculum, SDN 38 Palembang has also implemented the Merdeka curriculum. This curriculum requires teachers to integrate learning with ICT. Based on the background and explanation above, the researcher felt the need to assist teachers and principals in developing a guide and conducting further research on the Development of In-House Training Modules to Improve Information and Communication Technology (ICT) Competencies in Elementary School Teachers.

B. Methods

The type of research used is R&D (Research and Development). This research is also called development research, which is used to produce certain products and test the effectiveness of the product. This research was conducted at one of the 38 Palembang Elementary Schools, Ilir Barat II District, Palembang City, from March 2025 to April 2025. Development research, according to Borg and Gall, is a powerful strategy for improving practice. It is a process used to develop and validate educational products." This definition can be explained as "research and development is a powerful strategy for improving practice." In this study, the development model uses a procedural model, which is descriptive in nature, to outline the steps taken to produce a product. The Research and Development (R&D) design used in this study is the design developed by Borg and Gall (Gall et al., 2007). The research and development (R&D) steps into three stages: the preliminary study stage, the development stage, and the model testing stage. The flow of the three stages of the R&D model is as follows: (1) the preliminary study consisting of literature review, field survey, and product draft preparation; (2) the development stage consisting of limited trials and extensive trials; (3) the model effectiveness test stage, which is analyzed using feasibility test scores.

The stages carried out by researchers in development research are the preliminary study, model development, and model effectiveness. The preliminary study is the initial stage for development. This stage consists of three steps: first, literature review; second, field survey; and third, preparation. Product draft. A literature review was conducted to explore concepts and theories related to the product or model to be developed, namely an In-House Training (IHT) module titled "The Excitement of Learning Media Through Canva" to improve the information and communication technology (ICT) competency of elementary school teachers. A field survey was conducted to obtain data on the teaching system and multimedia utilization

implemented by teachers at SDN 38 Palembang. Based on the field survey and the needs analysis results, the next step was to design the IHT module product to improve ICT competency.

After obtaining data and an overview of learning activities at SDN 38 Palembang, a draft model and product were developed based on the results of a field survey. This included a draft In-House Training (IHT) module titled "The Excitement of Learning Media Through Canva" to improve the information and communication technology (ICT) competencies of elementary school teachers. Following the successful development of the In-House Training (IHT) module, a two-stage trial of the model and product development was conducted: a limited trial and a broader trial. Prior to the trial, the draft model was subjected to expert validation. The design validation test consisted of two stages: a material expert test and a media expert test. The limited trial was conducted with a sample of teachers and the principal at SDN 38 Palembang, with one meeting. The teacher implementing the trial implemented the learning based on the module. During the IHT, observations were made, noting key points made by the teachers, highlighting the strengths and weaknesses of the IHT implementation. Based on the findings from the IHT, improvements were made to the module, or areas of concern were noted. Then, improvements were made to the draft In-House Training (IHT) module model titled "The Excitement of Learning Media Through Canva" to improve the information and communication technology (ICT) competency of elementary school teachers. A meeting was then held to discuss the findings from the pilot test. The pilot test was conducted with a sample of SDN 38 Palembang, with a larger number of meetings, namely seven.

Model effectiveness is the testing stage of the resulting model. The developed model was compared with a conventional model, with the experimental and control groups described. No improvements were made to the module model during the pilot test; both used the model developed in the pilot test. If respondents deemed the product feasible and engaging, the development was considered complete, resulting in a final product. If the product was not perfect, the pilot test results were used to refine and refine the learning materials, ultimately resulting in a final product ready for use. Data analysis techniques in this study were used to develop a module that met the criteria for validity, practicality, and effectiveness. In this development research, the developed model was considered practical if experts and practitioners stated that it could be theoretically implemented in the field and its implementation was categorized as good. In this study, a response questionnaire was used to obtain data on the practicality of the module's use. A learning outcome test was used to determine the module's effectiveness. This data was obtained by documenting the results of the training outcome test taken by the training participants (teachers). In this study, the module was considered effective if the percentage of classical learning completion of the training outcome test achieved a minimum classification of good.

C. Results and Discussion

The development model used in this study is a research and development (R & D) model into three steps, namely the preliminary study stage, the development stage, and the model testing stage. The flow of the three stages is 1) a preliminary study consisting of literature studies, field surveys, and preparation of product drafts; 2) a development stage consisting of limited trials and extensive trials; and 3) the stage of testing the effectiveness of the model, which is analyzed with a feasibility test score. Next, in the design stage, the researcher designs the module to be developed in the form of an initial draft. The design stage includes the preparation of test standards, media selection, format selection, and initial design. Next is the development stage; at this stage the researcher validates the instrument used for module validation. After validating the instrument, the researcher validates the module with material and media experts.

The results of this validation are in the form of a product assessment with a questionnaire used to determine the level of feasibility of the module being developed in terms of module characteristics and selected media aspects to suit expectations. The final step is dissemination. The designed and revised module, based on the suggestions and input of experts and users, is then reprinted for use in an In-House Training (IHT) module titled "The Excitement of Learning Media Through Canva" to improve the information and communication technology (ICT) competency of elementary school teachers. At Public Elementary School 38 in Palembang, due to budget constraints, researchers only printed a few modules at this stage to distribute to teachers and the principal. Based on the data analysis above, the module was validated by material experts and media experts. The module's feasibility test, validated by material experts and media experts, met the expected criteria, with the assessment standard using a Likert scale with a 4-point assessment category.

A score of 4 represents very feasible, a score of 3 represents feasible, a score of 2 represents moderately feasible, and a score of 1 represents inadequate. The assessment scores were then summed, yielding an average score of 88.54% from the material experts and 91.07% from the media experts. The data analysis concluded that the module was highly valid and feasible for limited testing, with revisions as recommended. In a limited trial conducted once at SD Negeri 38 Palembang to assess the enthusiasm of 13 teachers and the principal. From the limited trial, the enthusiasm of the teachers and principal was obtained, so a wider trial was then conducted. In the wide trial of 7 meetings from March to April 2025, each meeting discussed 1 chapter of material, as evidenced by the attendance list attended by 13 teachers and the principal. In this limited trial at the end of the meeting, the researcher added material on how to operate an LCD projector as a support for technology-based learning media. Therefore, it was suggested by the training participants to add it to the module so that if participants forget how to operate it, they can refer back to the module. Then the module was revised according to these suggestions.

This module was deemed suitable for acceptance and use as an IHT (In-House Training) tool if training participants successfully completed the module. To obtain this data analysis, the researchers conducted two steps: First, a practicality test using a questionnaire to assess the practicality of the module's use. The data analysis yielded a score of 4.56, categorized as very good. Therefore, it is suitable for use in the In-House Training (IHT) module titled "The Excitement of Learning Media Through Canva" to improve the information and communication technology (ICT) competencies of elementary school teachers. Second, the module's effectiveness was tested using pre- and post-training learning outcome tests with a minimum completion criterion (KKM) of 75. The pretest results showed an average score of 67.35% of participants who had not yet completed the module and 32.65% who had completed the module. Meanwhile, the posttest results showed an average score of 90.66%, or 13 participants who had completed the module, and 10.34% who had not yet completed the module. The academic completion assessment criteria interval was >80, thus categorizing it as very good. Therefore, based on the analysis of the learning outcome test, the module used was declared effective and therefore suitable for use in the In-House Training (IHT) module titled "The Excitement of Learning Media Through Canva" to improve the information and communication technology (ICT) competency of elementary school teachers.

The module structure does not include answer keys and assessment criteria, so that during training, evaluation can only be conducted by the facilitator. In contrast, the In-House Training (IHT) module titled "The Excitement of Learning Media Through Canva" to improve the information and communication technology (ICT) competency of elementary school teachers in this study includes answer keys and assessment criteria so that participants can assess their understanding of the learning material, either by the facilitator or independently. This research is in line with research conducted by Panjaitan (2024) entitled Development of In-House Training Modules for Learning Media to Improve Information and Communication Technology Competencies in Elementary School Teachers at SD Negeri 98 Palembang. The results of the validity test by experts obtained the results that the module is suitable for use in a limited trial with revisions.

The results of data analysis from the learner respondent questionnaire were 4.49, and the results of the learner instructor response questionnaire were 4.56 and were classified as very good; the module was declared practical. The revised module was then tested on a limited trial, and the results obtained were acceptable and can be used as an in-house training module to improve information and communication technology competencies among elementary school teachers. The use of modules as media in in-house training is considered capable of improving information and communication technology competencies among teachers at SD Negeri 98 Palembang. This module is expected to be used as an independent learning medium in the use of PowerPoint presentation applications along with internet utilization and LCD projector operation. In conclusion, this research module can improve Information and Communication Technology (ICT) competency through in-house training, resulting in

a final product in the form of an in-house training (IHT) module entitled "Understanding PowerPoint Through Canva." Several previous studies examining the benefits of training in improving ICT competency and subject teacher skills through IHT used pre-existing modules. In contrast, this study conducted training to improve ICT competency using a module developed by the researcher. Therefore, this research has a distinct appeal compared to previous research.

D. Conclusion

This study successfully developed and validated an In-House Training (IHT) module titled "The Excitement of Learning Media Through Canva" to enhance ICT competency among elementary school teachers. The research yielded three key results: First, the module demonstrated high validity, receiving approval ratings of 88.54% from subject matter experts and 91.07% from media experts. Second, extensive trials confirmed its practical applicability for improving teachers' digital skills at SDN 38 Palembang. Third, the final product comprised eight comprehensive learning units covering essential Canva applications and presentation technologies, from basic tools to advanced operations like LCD projector use. Practical implications of this study are significant. The module provides schools with a ready-to-implement, cost-effective training solution that addresses the growing need for digital literacy in education. Its structured approach - combining theoretical knowledge with hands-on Canva practice - offers teachers immediately applicable skills for creating engaging learning materials. The successful implementation at SDN 38 Palembang serves as a model for other institutions seeking to enhance their staff's ICT capabilities through in-house professional development. For future research, three key directions emerge: (1) investigating the module's long-term impact on teaching practices and student learning outcomes, (2) adapting the content for diverse educational contexts (e.g., rural schools or different grade levels), and (3) expanding the training to incorporate emerging digital tools beyond Canva. Additionally, research could explore the optimal duration and frequency of such training sessions to maximize knowledge retention and application. This study contributes to the field of teacher professional development by demonstrating how targeted, practical ICT training can be effectively delivered through school-based programs. The module's success highlights the potential for similar approaches to address other digital competency gaps in education systems.

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