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Improving Teachers' Digital Literacy Competence through Cap Cut-Based Instructional Video Production at SMA Negeri 1 Banyuasin

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ABSTRACT
The rapid development of digital technology requires teachers to enhance their digital literacy competencies, particularly in developing interactive learning media. However, many teachers still have limited skills in producing video-based instructional materials. This study aimed to analyze the effectiveness of CapCut-based instructional video training in improving teachers' digital literacy competencies at SMA Negeri 1 Banyuasin. The study employed a quantitative approach using a pre-experimental one-group pretest–posttest design involving 25 teachers. Data were collected through a digital literacy competency questionnaire using a five-point Likert scale and analyzed using paired sample t-test. The results showed a significant improvement in teachers' competencies after the training. The mean score of understanding increased from 1.71 to 4.53 (increase = 2.82), while the mean score of interest increased from 1.74 to 4.37 (increase = 2.63). These findings indicate that hands-on, structured training effectively enhances both technical mastery and positive attitudes toward technology integration in learning. In conclusion, CapCut-based training contributes significantly to strengthening teachers' digital literacy and supports pedagogical transformation in secondary education. The findings highlight the importance of experiential training models as a practical strategy for sustainable digital competence development in schools

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INTRODUCTION

Digital transformation has reshaped the landscape of education across various levels, including secondary schools [1]. The integration of technology into classroom practice is no longer optional but has become an essential component of effective learning delivery [2]. Schools are increasingly expected to adopt digital tools that support interactive and flexible learning environments. In many educational institutions, however, the utilization of digital media remains limited to basic presentations and administrative tasks [3]. Teachers often rely on conventional instructional approaches, while the potential of digital-based learning media, particularly instructional videos, has not been fully optimized.

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The urgency of strengthening teachers' digital competence becomes more evident as students are part of a generation that is highly exposed to audiovisual and technology-driven content. Learning processes that fail to adapt to this reality risk decreasing student engagement and motivation. Educational institutions are therefore required to ensure that teachers possess adequate digital literacy skills, not only to operate technology but also to design meaningful digital learning content [4]. The use of audiovisual media has been shown to enhance students' motivation and cognitive engagement in the learning process [5]. The gap between technological development and teachers' practical competence in producing digital media highlights the need for structured and context-based training programs [1].

This study focuses specifically on improving teachers' digital literacy through practical training in developing instructional videos using CapCut at SMA Negeri 1 Banyuasin. The selection of video-based media is grounded in previous findings that emphasize the effectiveness of interactive audiovisual content in improving learning quality and participation [6]. The scope of the research is limited to measuring changes in teachers' competence before and after the training program. The study does not examine broader institutional policy or long-term curriculum reform, but concentrates on the effectiveness of hands-on training as an intervention to enhance teachers' technical and creative skills in video-based learning media production.

The objective of this research is to analyze the effectiveness of CapCut-based training in improving teachers' digital competence in producing instructional videos. The study aims to identify changes in participants' understanding and technical skills after the training implementation and to evaluate the contribution of the program to strengthening digital-based instructional practices in the school context.

Literature Review and Problem Statement

Previous studies indicate that digital video-based learning media contribute significantly to improving instructional quality and learner engagement. Interactive instructional videos integrate visual, audio, and textual elements, enabling students to process information more effectively and meaningfully [7]. Research examining the use of CapCut in educational settings demonstrates that mobile-based video editing applications can enhance creativity and support the development of digital learning content [8]. Practical training approaches that emphasize hands-on experience have also been shown to strengthen participants' technical competence and confidence in producing instructional media [9]. Similarly, Kenmahdy et al. report that learning-by-doing strategies in Canva and CapCut training programs significantly improve digital competence among educators [10] . Despite these findings, most existing studies focus on elementary education students, university students, or community youth groups, while empirical research examining structured video-production training for senior high school teachers remains limited.

This limitation reveals a research gap in evaluating the effectiveness of structured, practice-based training programs aimed specifically at improving teachers' digital literacy in secondary education contexts. Prior research has largely emphasized creativity development or student learning outcomes rather than systematically measuring changes in

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teachers' competencies before and after training interventions [8]. Consequently, there is a need for empirical investigation into whether mobile-based video editing training can substantially enhance teachers' digital competence in instructional media production. Based on this gap, the research problem is formulated as follows: Does CapCut-based instructional video training effectively improve teachers' digital literacy competence at SMA Negeri 1 Banyuasin? Accordingly, the hypothesis proposes that practice-oriented CapCut training has a positive and significant effect on enhancing teachers' digital competence in producing video-based instructional media.

METHOD

This study employed a quantitative approach using a pre-experimental one-group pretest–posttest design. This design was used to measure changes in participants' competencies before and after the intervention within the same group without a control group. The model is considered appropriate for evaluating short-term training programs aimed at improving practical competencies [11]. By comparing pretest and posttest scores, the effectiveness of the intervention can be directly analyzed based on the changes observed after the treatment [12].

The training activity was conducted on August 20, 2025, at SMA Negeri 1 Banyuasin. The intervention consisted of a structured training program on instructional video production using the CapCut application. The training materials included: (1) an introduction to audiovisual-based learning media concepts, (2) a demonstration of the main features of the CapCut application, (3) hands-on video editing practice (learning by doing), and (4) evaluation and feedback on participants' outputs. The hands-on approach was selected because it has been shown to effectively enhance digital competencies through active and reflective learning experiences [7].

The activity was conducted face-to-face using interactive lectures and technical mentoring methods. The opening session of the activity is shown in Figure 1.

Figure 1. Documentation of the opening session of the CapCut-based instructional video training at SMA Negeri 1 Banyuasin

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The implementation of the training session is presented in Figure 2.

Figure 2. Documentation of the training implementation of CapCut-based instructional video production at SMA Negeri 1 Banyuasin

The practical video production session is illustrated in Figure 3.

Figure 3. Documentation of the hands-on practice session in developing CapCut-based instructional videos at SMA Negeri 1 Banyuasin

After the material presentation session, participants conducted independent practice under the supervision of the service team. Each participant produced one simple instructional video based on their respective subject areas. This product-based training model was intended to ensure that the competencies acquired were not only conceptual but also applicable in real classroom contexts [5].

The research procedure consisted of three main stages. The first stage involved administering a pretest to measure the initial level of teachers' digital literacy competencies, particularly in video editing feature mastery, instructional design principles, and audiovisual element utilization. The second stage was the implementation of the hands-on training with direct mentoring. The third stage involved administering a posttest using the same

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indicators to maintain measurement consistency. The overall research procedure is presented in Figure 4.

Figure 4. Research Procedure of the One-Group Pretest–Posttest Design

The sample consisted of 25 teachers from various subject areas at SMA Negeri 1 Banyuasin. The sampling technique used was purposive sampling, considering that the participants were active teachers with limited experience in developing video-based instructional media. This technique is commonly applied in intervention-based educational research targeting specific participant characteristics. The research instrument was a digital literacy competency questionnaire using a 5-point Likert scale. The instrument measured three main indicators:

1. Technical ability in operating CapCut features,
2. Instructional design quality in video development, and
3. Creativity and clarity of audiovisual presentation.

The Likert scale was chosen because it is effective in measuring perceptions and competency levels in educational research. Data were analyzed using a paired sample t-test to examine differences between pretest and posttest mean scores at a significance level of $\alpha = 0.05$. Prior to conducting the parametric test, the data were tested for normality using the Kolmogorov–Smirnov test to ensure the normal distribution assumption was met. If the data were not normally distributed, the non-parametric Wilcoxon signed-rank test was used as an alternative. This analytical approach is commonly applied in competency development studies employing a pretest–posttest design [13].

RESULTS AND DISCUSSION

Results

Based on the analysis of pretest and posttest data, a significant improvement was observed in teachers' digital literacy competencies after participating in the CapCut-based instructional video training at SMA Negeri 1 Banyuasin.

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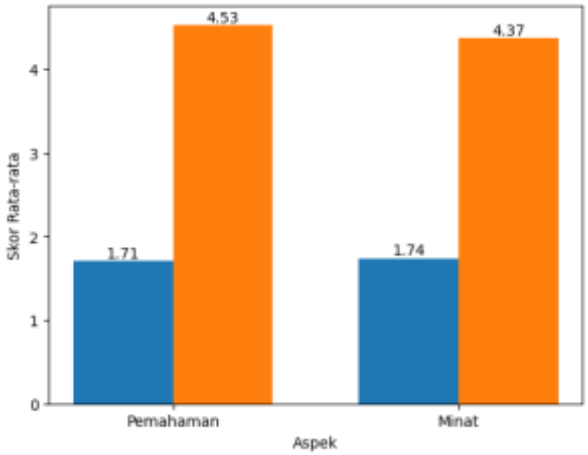

Figure 5. Comparison of the mean scores before and after the training

These increases indicate a substantial transformation in both cognitive and affective aspects. The higher improvement in the understanding score suggests that the hands-on training approach was effective in enhancing teachers' technical mastery of instructional video editing processes.This finding is consistent with the results of CapCut training conducted for teachers at SMA 20 Pangkajene Kepulauan, which demonstrated that structured training programs significantly improved teachers' digital skills and enthusiasm in developing video-based instructional media [14]. The study emphasized that digital competence has become an essential requirement for teachers in responding to the challenges of digital-era education.

Furthermore, research on web-based instructional material training in Pandeglang Regency revealed that prior to the training, most teachers only "occasionally" integrated technology into their teaching practices. After the training, however, there was a noticeable improvement in teachers' skills and professionalism [15]. This pattern of improvement aligns with the findings at SMA Negeri 1 Banyuasin, where structured training had a tangible impact on enhancing digital literacy. In addition, studies examining teachers' strategies in designing interactive instructional videos indicate that the use of applications such as CapCut represents an adaptive strategy in addressing the characteristics of digital-native learners [16]. This reinforces the present findings that mastering video editing applications is not merely a technical skill but also part of a broader pedagogical transformation.

Similarly, findings from video editing skills training conducted for rural youth demonstrated that CapCut training not only improved technical abilities but also expanded participants' awareness of digital economic opportunities [12]. Although conducted in a different context (rural youth), the principle of improving digital literacy through practical training shows parallels with the results of the present study.

Discussion

The improvement of teachers' digital literacy competence can be analyzed through several theoretical perspectives. First, from the perspective of TPACK (Technological Pedagogical Content Knowledge), CapCut training not only enhances technological proficiency but also promotes the integration of technology, pedagogical strategies, and

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instructional content. This strategy aligns with the digital learning media development approach, which emphasizes adaptation to the characteristics of learners in the digital era.

Second, based on experiential learning theory, practice-based learning provides direct experience that accelerates the internalization of knowledge. The increase in understanding scores by 2.82 points demonstrates the effectiveness of the learning by doing approach in educational technology training.

Third, the increase in interest by 2.63 points indicates a positive shift in teachers' attitudes toward the use of technology in learning. This finding is consistent with studies on CapCut-based video editing skills training, which show that hands-on practice enhances participants' confidence and readiness to produce digital content

CONCLUSION

This study demonstrates that the CapCut-based instructional video training conducted at SMA Negeri 1 Banyuasin significantly improved teachers' digital literacy competencies. The findings indicate substantial increases in both understanding and interest, reflecting improvements in cognitive mastery and affective readiness toward technology integration in learning. These results confirm that structured, hands-on training effectively enhances teachers' technical abilities in producing video-based instructional media. The findings align with previous studies reporting that practical digital media training contributes positively to teachers' professional competence and technology adoption in educational settings [14], [15]. Consistent with the Technological Pedagogical Content Knowledge (TPACK) framework, the improvement observed in this study suggests that strengthening technological knowledge through guided practice can support pedagogical transformation [16]. The similarity with prior research lies in the effectiveness of experiential and product-based training models, while this study contributes specifically by providing empirical measurement through a pretest-posttest design within a senior high school context. The observed differences in magnitude of improvement may be attributed to participant characteristics, initial competency levels, and the structured mentoring approach implemented during the training. From a practical perspective, the results highlight the importance of experiential learning strategies in digital literacy development. The substantial increase in understanding scores indicates that direct practice and immediate feedback facilitate deeper skill acquisition compared to theoretical instruction alone. Moreover, the improvement in teachers' interest suggests that well-designed training programs can foster positive attitudes toward sustainable technology integration in classroom practices.

This study contributes to the development of community service-based professional training models by demonstrating that short-term, structured interventions can produce measurable improvements in digital competence. Practically, the training model can be replicated in other schools with similar characteristics to support digital transformation in education. However, this study has several limitations. The use of a one-group pretest–posttest design without a control group limits the ability to generalize causal inferences. Additionally, the relatively small sample size and short-term evaluation period may not fully capture long-term competency retention and classroom implementation outcomes. Future

research is recommended to involve larger and more diverse samples, incorporate control groups, and examine the long-term impact of video production training on instructional quality and student learning outcomes. Further studies may also explore the integration of digital literacy training within sustainable professional development frameworks to strengthen its broader educational impact.

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