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# The utilization of audio-visual media in optimizing learning outcomes in Catholic religious education and ethics for grade XII students at Vocational School Sanggau

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## ABSTRACT

This study addressed challenges in schools regarding learning outcomes in Catholic Religious Education and Ethics or Pendidikan Agama Katolik and Budi Pekerti (PAK and BP) that have not reached the Criteria for Achievement of Learning Objectives or Kriteria Ketercapaian Tujuan Pembelajaran (KKTP), alongside insufficient utilization of learning media, particularly audio-visual media. This study aimed to examine the influence of audio-visual media on learning outcomes in PAK and BP for grade XII students at Vocational School Sanggau. Employing a quasi-experimental design with a non-randomized assignment, this study utilized a post-test-only control group structure. Data were collected through a multiple-choice assessment administered to each class after the completion of the learning process. Assessment scores were analyzed using SPSS 27 for Windows to evaluate normality, homogeneity, and independent-sample t-tests. The results demonstrated that learning achievement completeness was 38.0% in the control class and 70.4% in the experimental class. The data were normally distributed ($p > 0.05$) and homogeneous ($p = 0.082 > 0.05$). Independent sample t-test results revealed a significance value of $0.014 < 0.05$, thus accepting $H_1$ and rejecting $H_0$, indicating that audio-visual media significantly influence learning outcomes in PAK and BP for Grade XII students at Vocational School Sanggau. The effect size analysis using Hedges' g yielded a point estimate of 0.732, which indicated a large effect size. Therefore, this study concludes that audio-visual media interventions have substantial effects on learning outcomes.

**Keywords:** audio-visual media, learning outcome, catholic religious education and ethics

## 1. INTRODUCTION

Technological advancements have increasingly influenced various aspects of human life, exemplified by the current trajectory of Artificial Intelligence (AI) and digital transformation. These developments have fundamentally altered the educational landscape, necessitating the integration of technology into pedagogical practices to enhance the quality of education. One significant technological application in education is the use of audio-visual media as a learning tool.

Audio-visual media simultaneously convey messages through both visual and auditory channels (Ramli, 2012, p. 85). According to Budiarti (2017, p. 22), audio-visual media encompass teaching tools and facilities that simultaneously utilize sight and hearing to achieve learning objectives. Halawa et al. (2023, p. 355) emphasized that audio-visual media stimulate multiple senses and promote critical thinking development. Video represents a particularly effective form of audio-visual media, integrating sound and visual components in ways that enhance its pedagogical appeal and efficacy (Yuanta, 2020, p. 92). By employing audio-visual media such as instructional videos, educators enable students to more readily and efficiently comprehend and retain messages.

Learning outcomes encompass cognitive, affective, and psychomotor development, representing the ultimate goal of education and reflecting the holistic maturation of learners (Alafnan, 2025). Within the context of the Independent Learning Curriculum or Kurikulum Merdeka Belajar (KMB), these three domains are integrated rather than separated, incorporating competency assessments and the Pancasila Student Profile Strengthening Project or Projek Penguatan Profil Pelajar Pancasila (P5). Catholic Religious Education and Ethics or Pendidikan Agama Katolik and Budi Pekerti (PAK and BP) is a fundamental subject designed to develop students' faith and moral consciousness in accordance with Catholic Church teachings (Dwilinda, 2020, p. 34).

Preliminary observations and interviews conducted at SMK Negeri 1 Sanggau revealed significant challenges in PAK and BP instruction. Students have difficulty comprehending learning materials delivered through conventional textbook-based approaches, resulting in suboptimal learning outcomes. Specifically, student achievement scores consistently failed to meet the Learning Objective Achievement Criteria or Kriteria Ketercapaian Tujuan Pembelajaran (KKTP) established by the school at 60% or above. The Catholic Church's official position, as articulated in Evangelii Nuntiandi (art. 45), affirms institutional openness to media utilization in faith education processes (Pope Paul VI, 1975, p. 47). Consequently, this study was designed to examine whether and to what extent audio-visual media intervention could enhance learning outcomes in PAK and BP instruction at the secondary level.

The urgency of integrating audio-visual media is also related to the changing characteristics of contemporary learners. Students are increasingly exposed to digital communication, image-based information, and short-form video narratives, making purely verbal or textbook-centered instruction less sufficient for sustaining attention and supporting comprehension. In this context, instructional media should not be treated as decorative learning aids, but as structured pedagogical resources that help teachers organize concepts, sequence explanations, and connect learning materials with students' prior experiences (Ramli, 2012; Yuanta, 2019).

Audio-visual media are particularly relevant for topics that require students to connect abstract concepts with concrete examples. PAK and BP instruction often involves theological, moral, and ethical ideas that are not always easy for students to visualize through printed texts alone. By combining narration, imagery, examples, and sound, audio-visual media can transform difficult concepts into more accessible learning experiences and reduce the cognitive distance between lesson content and students' everyday realities (Budiarti, 2017; Halawa et al., 2023).

The emphasis on learning outcomes in this study must therefore be understood beyond cognitive achievement alone. Educational outcomes ideally include the development of knowledge, attitudes, values, and skills, which correspond to cognitive, affective, and psychomotor domains (Alafnan, 2025). Within religious education, this multidimensional understanding is especially important because successful learning is not limited to students' ability to recall concepts, but also includes their capacity to interpret values, make ethical judgments, and demonstrate responsible behavior in social life (Dwilinda, 2020).

In vocational school settings, the use of contextual and experience-based learning media is even more important. Students are generally prepared not only for further education, but also for direct participation in the workplace and community life. Therefore, PAK and BP learning should be able to present moral and religious values in ways that are practical, contextual, and connected to real situations. Audio-visual media can support this need by presenting cases, narratives, and visual scenarios that encourage students to relate religious teachings to concrete social and professional contexts (Halawa et al., 2023; Yuanta, 2019).

The learning problem identified at SMK Negeri 1 Sanggau indicates that low achievement in PAK and BP cannot be interpreted simply as a student-related issue. It may also reflect the suitability of instructional strategies, the accessibility of learning materials, and the extent to which media are used to support comprehension. When students consistently fail to meet the KKTP, teachers need to evaluate whether the learning process provides sufficient explanation, interaction, and reinforcement. Previous studies have shown that instructional media can influence students' attention, motivation, and achievement when it is aligned with learning objectives (Budiarti, 2017; Ramli, 2012).

Furthermore, the integration of media in Catholic religious education is consistent with the broader educational and ecclesial recognition of communication media as instruments for transmitting values and forming human understanding. Evangelization and faith education require communicative strategies that are able to reach learners in meaningful and relevant ways. The use of media in this context is therefore not contrary to religious instruction; rather, it can serve as a bridge for presenting faith-based values in a language and format that students can understand (Pope Paul VI, 1992; Dwilinda, 2020).

Despite the growing use of digital media in education, empirical studies focusing specifically on audio-visual media in PAK and BP learning remain limited, particularly in vocational school contexts. Many discussions of educational media remain general and do not adequately examine how media influence measurable learning outcomes in specific subjects. This creates a research gap because the effectiveness of media may vary depending on subject matter, student characteristics, classroom conditions, and teacher implementation (Halawa et al., 2023; Mulyatiningsih, 2019).

Based on these considerations, this study contributes by providing empirical evidence on the use of audio-visual media in PAK and BP instruction through a quasi-experimental approach. The design allows the study to compare learning outcomes between students taught using conventional media and those taught using audio-visual media in an authentic school setting. By combining achievement analysis with effect size estimation, this study seeks not only to determine statistical significance but also to assess the practical magnitude of the instructional intervention (Cohen et al., 2007; Mulyatiningsih, 2019).

## 2. METHOD

This study employed a quasi-experimental design with a non-randomized assignment. Quasi-experimental designs are appropriate when random assignment of participants to conditions is not feasible, yet researchers seek to evaluate causal relationships between variables in authentic educational settings (Mulyatiningsih, 2019). This design utilized a post-test-only control group structure, wherein two existing classes received different interventions without random assignment. The control group received traditional instruction using conventional media, whereas the experimental group received instruction utilizing audio-visual media. Posttest assessments were administered to both groups following the completion of the instruction to measure learning outcomes.

The research population encompassed 48 students in Grade XII at SMK Negeri 1 Sanggau, taught by the same instructor. The control group comprised 21 students from the Computer and Network Engineering or Teknik Komputer Jaringan (TKJ) class, while the experimental group comprised 27 students from the Financial Accounting or Akuntansi Keuangan (AK) class. Non-probability sampling was employed, wherein not all population members had an equal selection probability (Iriani et al., 2022, p. 124). Both groups were taught the same content using identical learning materials and duration, with the primary distinction being the instructional media employed (conventional media for the control group and audio-visual media for the experimental group).

The data collection instrument comprised a 17-item multiple-choice assessment developed using a two-stage validation process. The initial validation involved a content review by education experts and Catholic Religious Education specialists to ensure curricular alignment and pedagogical appropriateness. Construct validity was subsequently assessed through item-total correlation analysis using SPSS 27 for Windows with 50 pilot respondents from a comparable population to the target population. Validity criteria required corrected item-total correlation values of $r \geq 0.2$, while instrument reliability was determined using Cronbach's alpha coefficient with a minimum threshold of $\geq 0.6$ (Sufren & Natanael, 2014). Data analysis included descriptive statistics (means, percentages, and achievement mastery rates), normality assessment (Shapiro-Wilk test), homogeneity evaluation (Levene's test), comparative analysis (independent sample t-test), and effect magnitude estimation (Hedges' g). All inferential procedures were conducted using SPSS 27 with an $\alpha = 0.05$ significance level.

## 3. RESULTS AND DISCUSSION

### 3.1. Results

#### 3.1.1. Validity and Reliability Test Results

Validity testing ensures that the measurement instruments accurately assess the intended constructs. This study employed expert judgment and construct validity approaches. Expert validation involved content specialists evaluating the alignment with curriculum standards and pedagogical objectives. Construct validity was assessed through item-total correlation analysis, with items meeting the criterion of $r \geq 0.2$ retained for final use (Sufren & Natanael, 2014, p. 56).

**Table 1. Initial Validity Test Results (Preliminary Validation)**

| Item Number | Corrected Item-Total Correlation | Status |
|---|---|---|
| 1 | 0.287 | Valid |
| 2 | 0.305 | Valid |
| 3 | 0.156 | Invalid |
| 4 | 0.412 | Valid |
| 5 | 0.365 | Valid |
| 6 | 0.289 | Valid |
| 7 | 0.421 | Valid |
| 8 | 0.334 | Valid |
| 9 | 0.298 | Valid |
| 10 | 0.378 | Valid |
| 11 | 0.356 | Valid |
| 12 | 0.287 | Valid |
| 13 | 0.148 | Invalid |
| 14 | 0.398 | Valid |
| 15 | 0.321 | Valid |
| 16 | 0.289 | Valid |
| 17 | 0.345 | Valid |
| 18 | 0.401 | Valid |
| 19 | 0.165 | Invalid |
| 20 | 0.356 | Valid |

**Source:** Processed from primary data (2025)

Table 1 presents the preliminary validity testing results for the initial 20-item instrument administered to 50 pilot study respondents. Three items (items 3, 13, and 19) failed to meet the validity criterion ($r \geq 0.2$) and were consequently removed from the final instrument. The remaining 17 items demonstrated adequate item-total correlations and were retained for use in assessing PAK and BP learning outcomes across both the control and experimental groups.

**Table 2. Final Validity Test Results (17 Items Used in Study)**

| Item Number | Corrected Item-Total Correlation |
|---|---|
| 1 | 0.323 |
| 2 | 0.431 |
| 4 | 0.397 |
| 5 | 0.683 |
| 6 | 0.391 |
| 7 | 0.454 |
| 8 | 0.374 |
| 9 | 0.361 |
| 10 | 0.202 |
| 11 | 0.417 |
| 12 | 0.462 |
| 14 | 0.377 |
| 15 | 0.226 |
| 16 | 0.210 |
| 17 | 0.270 |
| 18 | 0.424 |
| 20 | 0.231 |

Table 2 presents the final validity assessment for the 17 retained items. All items demonstrated corrected item-total correlation values exceeding 0.2, indicating acceptable construct validity. Instrument reliability was further confirmed using Cronbach's alpha coefficient analysis. The overall Cronbach's alpha value for the complete instrument was 0.773 (>0.6), exceeding the minimum acceptable threshold and demonstrating adequate internal consistency. This indicates that the instrument reliably measured the intended constructs across all items.

### 3.1.2. Assessment Test Results

**Table 3. Assessment Test Results**

| Group | n | Mean Score | Students Meeting KKTP | Completion Rate (%) |
|---|---|---|---|---|
| Control (TKJ) | 21 | 56.9 | 8 | 38.1% |
| Experimental (AK) | 27 | 66.9 | 19 | 70.4% |
| Total | 48 | 62.4 | 27 | 56.3% |

Table 3 summarizes the post-test assessment results obtained from 48 students. The control group (TKJ class, n=21) achieved a mean score of 56.9, with eight students (38.0%) meeting the KKTP criterion. The experimental group (AK class, n=27) achieved a mean score of 66.9, with 19 (70.4%) meeting the KKTP criterion. The experimental group demonstrated substantially higher achievement outcomes than the control group, with a difference of 10 points in the mean score and 32.4 percentage points in the completion rate.

### 3.1.3. Normality Test

The Shapiro-Wilk test was employed to assess the normality of the data distribution, as the sample sizes for both groups were below 50. A significance level of $\alpha = 0.05$ was used, with the null hypothesis ($H_0$) indicating normally distributed data.

**Table 4. Results of Normality Test (Shapiro-Wilk)**

| Group | n | Test Statistic | Significance (p) | Result |
|---|---|---|---|---|
| Control (TKJ) | 21 | 0.959 | 0.503 | Normal |
| Experimental (AK) | 27 | 0.945 | 0.158 | Normal |

Table 4 presents the Shapiro-Wilk test results. The control group obtained a test statistic of 0.959 with df=21 and significance p=0.503 (>0.05), indicating a normal distribution of data. The experimental group obtained a test statistic of 0.945 with df=27 and significance p=0.158 (>0.05), indicating normally distributed data. Both groups met the normality assumption, thereby satisfying the parametric test prerequisite for subsequent independent-sample t-test analysis.

### 3.1.4. Homogeneity Test

Levene's test was employed to assess the equality of population variances across groups. This test is a prerequisite for conducting independent sample t-tests with the assumption of equal variances.

**Table 5. Results of Homogeneity Test (Levene's Test)**

| Levene Statistic | Degrees of Freedom | Significance (p) | Conclusion |
|---|---|---|---|
| 3.155 | 46 | 0.082 | Homogeneous |

Table 5 presents Levene's test results, yielding a test statistic of 3.155 with df=46 and significance of p=0.082 (>0.05). This result supports the null hypothesis that the population variances are homogeneous across groups. The homogeneity assumption was satisfied, validating the use of the independent sample t-test with the pooled variance assumption.

### 3.1.5. Independent Sample T-Test

An independent sample t-test was employed to evaluate whether the difference in mean learning outcomes between groups was statistically significant. The null hypothesis ($H_0$) posited no significant difference in learning outcomes between the groups, whereas the alternative hypothesis ($H_1$) proposed a significant difference. A significance level of $\alpha = 0.05$ was employed, with rejection of $H_0$ contingent on $p \leq 0.05$.

**Table 6. Results of Independent Sample T-Test**

| t-Value | Degrees of Freedom | Significance (p) | Mean Difference | Decision |
|---|---|---|---|---|
| 2.556 | 46 | 0.014 | 10.0 | Accept $H_1$ Reject $H_0$ |

Table 6 presents the independent samples t-test results. The analysis yielded a t-value of 2.556 with df=46 and significance p=0.014 (<0.05). The p-value of 0.014 fell below the established significance threshold, resulting in the rejection of $H_0$ and acceptance of $H_1$. This indicates a statistically significant difference in the learning outcomes between the control and experimental groups. The mean difference of 10.0 points demonstrates that the experimental group (audio-visual media instruction) achieved substantially higher learning outcomes than the control group (conventional instruction).

### 3.1.6. Effect Size Test

Effect size analysis quantifies the magnitude of the differences between groups, providing information beyond statistical significance. Hedges' g was selected for this analysis because it is specifically designed for independent groups with unequal sample sizes. The interpretation criteria for Hedge's g are as follows (see Table 7):

**Table 7. Effect Size Interpretation Criteria**

| Effect Size Range | Interpretation |
|---|---|
| $g < 0.1$ | Very Small Effect |
| $0.1 \leq g < 0.3$ | Small Effect |
| $0.3 \leq g < 0.5$ | Moderate Effect |
| $0.5 \leq g < 0.8$ | Large Effect |
| $g \geq 0.8$ | Very Large Effect |

**Source:** Cohen et al. (2007, p. 521)

**Table 8. Effect Size Test Results (Hedges' g)**

| Hedges' g Value | Effect Size Range | Interpretation |
|---|---|---|
| 0.732 | $0.5 \leq g < 0.8$ | Large Effect |

Table 8 presents the effect size analysis. The calculated Hedges' g value was 0.732, which fell within the medium-to-large effect range ($0.5 \leq g < 0.8$). This indicates that the intervention produced a practically meaningful difference in learning outcomes beyond mere statistical significance. The substantial effect magnitude demonstrates that audio-visual media instruction produces educationally significant improvements in student learning compared to conventional instructional approaches.

### 3.2. Discussion

The findings of this quasi-experimental study provide compelling empirical evidence regarding the efficacy of audio-visual media in enhancing learning outcomes in PAK and BP instruction. Multiple dimensions warrant careful examination to elucidate the mechanisms through which this intervention operates.

First, concerning the role of instructional media itself. The 32.4 percentage point difference in achievement completion rates between experimental (70.4%) and control (38.0%) groups substantively demonstrates the efficacy of audio-visual media in facilitating learning. This differential aligns with learning theory propositions that multisensory presentations enhance information processing and retention. Video-based instruction simultaneously engages auditory and visual processing channels, enabling students to construct richer mental representations of abstract concepts. The concretization of abstract theological and ethical principles through visual exemplars may explain why the students in the experimental group demonstrated superior performance. Thus, audio-visual media functioned not merely as an alternative delivery mechanism but as a pedagogical tool that fundamentally restructured how students engaged with curricular content.

Second, regarding learner factors, observable differences in students' behavioral engagement characterized the experimental setting. Students in the experimental group demonstrated heightened attention and sustained focus during instruction, a phenomenon attributable to the inherent engagement properties of video media. Furthermore, the experimental group students initiated more frequent questions and engaged in substantive discussions about curricular concepts and their real-world applications. Conversely, the control group instruction centered on note-taking and passive listening, with limited student-initiated inquiry. These engagement differential patterns suggest that audio-visual media stimulate intrinsic motivation and activate higher-level cognitive processes. The affordances of video instruction—visual storytelling, authentic contexts, and dynamic presentation—likely mobilized cognitive resources in ways that conventional textbook approaches could not replicate.

Third, considering instructor factors: Although both classes received instruction from the same teacher, qualitative observations revealed pedagogical differences in their practice. The teacher's implementation of video-based lessons incorporated enhanced explanatory practices, including strategic pausing for discussion, contextualization of concepts, and facilitation of connection-making between video content and student experience. The structured affordances of well-designed video content appeared to scaffold and enhance the teacher's explanatory clarity. In contrast, textbook-based instruction relies primarily on conventional teacher exposition and assigned reading tasks. The interactive possibilities afforded by video instruction—selective replay, focused discussion of key moments, and application-oriented questioning—enabled the teacher to employ more varied and responsive instructional strategies. This suggests that media effectiveness reflects not only the medium itself, but also its interaction with teacher implementation strategies.

Fourth, examining synergistic effects: The substantial learning gains observed likely resulted from the convergence of multiple factors rather than media efficacy alone. The 0.732 Hedges' g effect size, while substantial, fell short of the maximum possible effects, suggesting that media alone accounted for perhaps 50-60% of the observed performance differential. The remaining variance presumably reflects contextual

variables, including students' prior knowledge, motivation, classroom climate, and quality of peer interaction. Religious education presents particular pedagogical challenges, as it aims to foster affective and dispositional development alongside cognitive learning. Audio-visual media, by engaging multiple senses and enabling contextualized presentation, create conditions favorable for affective engagement with content. Students' enhanced questioning and discussion behavior suggests that media intervention fostered not merely content acquisition but also deepened personal reflection upon religious and ethical principles.

Fifth, the curricular context: The Merdeka Belajar Curriculum framework requires the integration of competency development and student character formation through projects such as P5. Audio-visual media instruction has demonstrated particular promise for this integrated approach. Video narratives enabled the authentic representation of ethical dilemmas and religious principles in real-world contexts, facilitating student connections between abstract learning and lived experiences. The enhanced critical thinking and discussion observed in the experimental classes aligned with curriculum objectives emphasizing student agency and contextual learning. Thus, audio-visual media appeared consonant with contemporary educational philosophy, emphasizing student-centered, contextually grounded approaches.

Finally, regarding limitations and future directions, this quasi-experimental design, while providing stronger causal evidence than purely correlational approaches, does not permit definitive attribution to media factors alone due to potential confounding variables. Future research employing randomized experimental designs, multiple school sites, and extended follow-up periods will strengthen causal claims. Additionally, qualitative analyses of student learning experiences and teacher reflections illuminate the mechanisms through which media interventions operate. Investigating student achievement by prior ability levels may reveal differential responsiveness to audio-visual instruction. Examining sustainable implementation factors would address practical adoption questions for broader curriculum implementation.

The results reinforce the theoretical position that learning becomes more effective when information is delivered through more than one sensory channel. In the experimental class, students were not required to rely solely on verbal explanations or written materials; instead, they were exposed to visual representations, narration, and contextual examples. This multimodal presentation likely helped students encode information more effectively and recall it during the post-test. Such findings are consistent with the view that audio-visual media can strengthen comprehension because it integrates auditory and visual stimuli in a single learning process (Ramli, 2012; Yuanta, 2019).

The higher completion rate in the experimental class also suggests that audio-visual media helped more students reach the minimum learning target. The difference between 70.4% completion in the experimental group and 38.1% in the control group is educationally meaningful because it indicates that media-supported instruction benefited not only high-achieving students but also a wider segment of the class. This supports earlier findings that audio-visual media can improve learning outcomes when the media are directly connected to instructional objectives and assessment indicators (Budiarti, 2017; Halawa et al., 2023).

The effect size result further strengthens the interpretation of the findings. A statistically significant p-value indicates that the group difference was unlikely to occur by chance, but Hedges' g provides additional information about the magnitude of that difference. The value of 0.732 indicates a large practical effect, meaning that the intervention had a meaningful impact in classroom terms rather than only a statistical effect. This is important because educational interventions should be judged not merely by significance testing, but also by whether they produce improvements large enough to matter for teaching practice (Cohen et al., 2007).

In the context of PAK and BP, the effectiveness of audio-visual media can also be explained by the nature of the subject matter. Religious and ethical concepts often require students to interpret values, understand consequences, and reflect on human behavior. Video-based media can present these ideas through stories, situations, and moral dilemmas, making the content more concrete and emotionally engaging. This supports the role of religious education as a process that develops both understanding and character formation, rather than a process limited to memorizing doctrinal content (Dwilinda, 2020; Pope Paul VI, 1992).

However, the findings should not be interpreted to mean that audio-visual media automatically improve learning in every situation. Media effectiveness depends on how teachers select, prepare, and integrate the material into the lesson. In this study, the teacher's use of explanation, discussion, and contextual questioning appears to have strengthened the instructional value of the media. Audio-visual materials therefore function best when they are embedded in an intentional learning sequence, supported by teacher facilitation, and followed by opportunities for reflection and student response (Ramli, 2012; Yuanta, 2019).

The findings are also relevant to the KMB framework, which emphasizes student agency, contextual learning, and the development of competencies that go beyond content recall. Audio-visual media can support these goals because it encourages students to observe, interpret, discuss, and relate lesson content to real-life contexts. In PAK and BP learning, this approach is compatible with the broader goal of shaping students' cognitive, affective, and behavioral development, particularly when learning activities invite students to connect religious values with social responsibility (Alafnan, 2025; Dwilinda, 2020).

From a methodological perspective, the quasi-experimental design was suitable for this study because it allowed the intervention to be tested in a real classroom environment where random assignment was not feasible. Nevertheless, the use of intact classes means that some differences between the control and experimental groups may have existed before the intervention. Therefore, although the findings provide strong evidence that audio-visual media contributed to better learning outcomes, future studies should consider additional controls, larger samples, pre-test measurements, and multiple school sites to strengthen causal interpretation (Cohen et al., 2007; Mulyatiningsih, 2019).

The practical implication of this study is that PAK and BP teachers should be encouraged to use audio-visual media strategically, especially for materials that contain abstract values, ethical choices, and faith-based reflection. Schools should also support teachers through access to relevant media resources, training in media-based lesson design, and opportunities to evaluate student responses to different instructional formats. Future research may extend these findings by examining long-term retention, affective outcomes, student motivation, and teacher readiness in implementing audio-visual media for religious education (Alafnan, 2025; Halawa et al., 2023).

## 4. CONCLUSION

This quasi-experimental study provides evidence that audio-visual media significantly enhance learning outcomes in PAK and BP instruction in vocational school contexts. The experimental group utilizing video-based instruction achieved substantially higher achievement completion rates (70.4% versus 38.0%) and mean scores (66.9 versus 56.9) compared to the control group employing conventional instruction. Independent sample t-test results ($t=2.556$, $p=0.014$) confirmed statistically significant differences in performance. Effect size analysis using Hedges' g (0.732) indicated a large practical significance. The findings suggest that the effectiveness of audio-visual media reflects the convergence of mechanisms, including enhanced sensory engagement, improved student focus and motivation, more varied teacher instructional strategies, and better contextualization of abstract concepts. These findings support the integration of audio-visual media into religious education curricula, while acknowledging that media represents one component within multifaceted instructional systems. Educators and curriculum planners should consider incorporating strategic audio-visual media as a potentially high-impact intervention to enhance both cognitive learning and affective development in religious education contexts.

### Ethical Approval

This study was conducted in accordance with ethical principles for research involving minors. Approval to conduct the study was obtained from the relevant school authorities before data collection. Since the participants were school-aged children, written informed consent was obtained from their parents or legal guardians, while student assent was also obtained prior to participation. All participants were informed that their involvement was voluntary and that they could withdraw from the study at any time without any

consequences. The anonymity, confidentiality, and privacy of the participants were strictly protected, and the data were used only for research purposes.

**Informed Consent Statement**

Not Applicable

**Authors' Contributions**

LFY conceptualized the study, designed the research methodology, conducted the data collection, performed the statistical analysis, and prepared the original draft of the manuscript. RZ contributed to the development of the theoretical framework, interpretation of the findings, and review and editing of the manuscript. GH supervised the research process, provided academic guidance, and critically reviewed the manuscript. All authors contributed to the discussion of the results and approved the final version of the manuscript.

**Disclosure Statement**

No potential conflict of interest was reported by the author(s).

**Data Availability Statement**

The data presented in this study are available on request from the corresponding author due to privacy reasons.

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**REFERENCES**

Alafnan, M. A. (2025). Enhancing educational outcomes using AlAfnan taxonomy: Integrating cognitive, affective, and psychomotor domains. *International Journal of Evaluation and Research in Education, 14*(3), 2419-2437. https://doi.org/10.11591/ijere.v14i3.33147

Budiarti, W. (2017). *Pengaruh penggunaan media audio visual terhadap hasil belajar mata pelajaran Fiqih kelas VIII MTs Ma'arif NU 7 Purbolinggo (The effect of using audiovisual media on learning outcomes in Fiqh subject for grade VIII students at MTs Ma'arif NU 7 Purbolinggo)* [Undergraduate thesis, Institut Agama Islam Negeri Metro]. IAIN Metro Repository. https://repository.metrouniv.ac.id/id/eprint/1819/

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). Routledge. https://doi.org/10.4324/9780203029053

Dwilinda, M. M. (2020). Improving activities and studying outcomes of Catholic religious education and character building through discovery learning model. *Ideguru: Jurnal Karya Ilmiah Guru, 5*(1), 34–43. https://doi.org/10.51169/ideguru.v5i1.110

Halawa, A. A., Zulkarnain, R., & Kurniati, Y. (2023). Pemanfaatan media audio visual bagi guru PAK dan katekis sebagai wujud transformasi menuju era Society 5.0 (The use of audiovisual media for Catholic religious education teachers and catechists as a form of transformation toward the Society 5.0 era). *Vox Edukasi: Jurnal Ilmiah Ilmu Pendidikan, 14*(2), 350–361. https://doi.org/10.31932/ve.v14i2.2938

Iriani, N., Dewi, G. A. K. R. S., Sudjud, S., Talli, A. S. D., Surianti, S., Setyowati, R. D. N., Lisarani, V., Arjang, A., Nurmillah, N., & Nuraya, T. (2022). *Metodologi penelitian (Research methodology)*. Rizmedia Pustaka Indonesia. https://www.rizmediapustakaindonesia.com/metodologi-penelitian/

Mulyatiningsih, E. (2019). *Metode penelitian terapan bidang pendidikan (Applied research methods in education)*. Alfabeta.

Pope Paul VI. (1992). *Evangelii nuntiandi: Mewartakan Injil (Evangelii nuntiandi: Evangelization in the modern world)*. Departemen Dokumentasi dan Penerangan KWI. Original work published 1975.

Ramli, M. (2012). *Media dan teknologi pembelajaran (Instructional media and technology)* (1st ed.). IAIN Antasari Press. https://idr.uin-antasari.ac.id/10306/

Sufren, S., & Natanael, Y. (2014). *Belajar otodidak SPSS pasti bisa (Self-learning SPSS: You definitely can)*. Elex Media Komputindo. https://books.google.co.id/books?id=meBMDwAAQBAJ

Yuanta, F. (2019). Pengembangan media video pembelajaran ilmu pengetahuan sosial pada siswa sekolah dasar (Development of social studies instructional video media for elementary school students). *Trapsila: Jurnal Pendidikan Dasar, 1*(2), 91–100. https://doi.org/10.30742/tpd.v1i02.816