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Interactive Video Media and Students' Learning Outcomes in Catholic Religious Education: A Study at St. Yoseph Freinademetz Junior High School, Kapan

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Abstract

This study investigates the impact of interactive video media on student learning outcomes in Catholic Religious Education at St. Yoseph Freinademetz Junior High School, Kapan. Employing a quantitative explanatory design, data were collected from 89 seventh-grade students through questionnaires, achievement tests, observations, and documentation. Descriptive statistics revealed high levels of media implementation (94.18%) and student achievement (87.76%). Regression analysis confirmed a significant positive effect of interactive video on learning outcomes ($t = 35.319$, $p < .05$), with an R^2 value of .817. The findings indicate that interactive video enhances student engagement, motivation, and comprehension by integrating multisensory elements and enabling personalized learning. These results support the adoption of student-centered digital media as an effective instructional tool in value-based education. The study also highlights the relevance of interactive video in fostering moral reasoning and reflective thinking. Recommendations include further research on its long-term effects using mixed-methods approaches to capture emotional and spiritual development.

Keywords: Catholic Religious Education, Interactive Video Media, Learning Outcomes, Students.

Introduction

Education is a systematically designed process aimed at fostering the holistic development of learners. Rather than occurring by chance, it constitutes a deliberate and structured effort to cultivate intellectual capacity, emotional maturity, moral character, and spiritual awareness. Through this process, students construct their understanding of the world, shape their personal identity, and develop a sense of social responsibility. Furthermore, education serves as a long-term investment in human development, in which each stage of learning provides a foundation for subsequent growth, ultimately preparing individuals to participate actively and responsibly in society. Consequently, an effective educational system must offer not only structured instruction but also holistic learning experiences that address the multiple dimensions of student development.

At the junior secondary level, education plays a critical role in shaping both the academic and personal aspects of students' growth. This developmental stage is characterized by identity exploration, deepening social relationships, and the enhancement of critical and reflective thinking skills. As such, learning environments must be responsive to the increasingly complex psychological and emotional needs of adolescents. Students at this age are also particularly sensitive to external influences and begin to form long-term perspectives regarding learning, authority, and moral values. Therefore, instructional strategies implemented during this period have enduring implications for students' self-concept, intrinsic motivation, and worldview.

To meet these developmental demands, instructional methods must be engaging, relevant, and capable of sustaining student interest while fostering active participation. Traditional teacher centered approaches, which rely heavily on one-way transmission of content, often fail to address these needs effectively. As a result, educational practices must evolve toward more dynamic, interactive, and student-centered learning experiences.

In contemporary education, one of the foremost challenges is cultivating environments that promote students' intrinsic motivation. This requires a redefinition of the teacher's role from that of a mere information provider to that of a learning facilitator who encourages curiosity, exploration, and active engagement. Such a shift necessitates adjustments in pedagogical paradigms to align with the learning preferences of the current generation. It also calls for enhanced teacher competencies, particularly in creating participatory and empowering classroom environments. Teachers must be proficient in using digital tools and innovative strategies to sustain student attention and strengthen motivation (Navarrete et al., 2025).

Among the technological solutions that have demonstrated a positive impact on learning is the use of digital media, particularly interactive video. Interactive video not only delivers content through visual and auditory means but also actively engages learners with the material, transforming passive learning into an immersive experience (Zhang et al., 2006). This method aligns with twenty-first-century educational principles, including digital literacy, active engagement, and learner autonomy. In addition to serving as an alternative to conventional methods, interactive video offers practical responses to the limitations often encountered in traditional classrooms (Hung et al., 2018).

By integrating visual, auditory, and kinesthetic elements, interactive videos provide a multisensory learning experience. Features such as embedded questions, clickable choices, and

instant feedback enhance student interaction with content, reinforcing understanding and memory retention (Kim et al., 2015). A key advantage of this medium is its flexibility, which allows learners to self-regulate their pace by pausing, repeating, or revisiting content as needed. This adaptability facilitates personalized and differentiated learning pathways, which are particularly beneficial for students with diverse learning styles and levels of ability. In this way, interactive video contributes to educational equity by accommodating varied instructional needs (Yuan et al., 2021).

In the context of Catholic Religious Education, where the formation of spiritual and moral values is paramount, interactive video presents unique pedagogical advantages. This medium is capable of portraying ethical dilemmas, life stories, and spiritual reflections in a more tangible and accessible format than traditional print or lecture-based resources. Dramatic presentations and case studies embedded in videos foster empathy, moral reasoning, and personal reflection, all of which contribute to character development and spiritual growth. As such, interactive video supports not only cognitive comprehension but also emotional and spiritual enrichment (Tarihoran & Firmanto, 2024).

Despite advancements in educational technology, many schools continue to rely on conventional teaching methods. This pattern is evident at St. Yoseph Freinademetz Catholic Junior High School, Kapan, where lectures remain the dominant instructional practice. Such approaches often result in low student engagement, passive learning experiences, and limited content retention. These issues are particularly concerning in Catholic Religious Education, which requires not only conceptual understanding but also emotional resonance and internalization of values.

Classroom observations suggest that the continued use of traditional methods contributes to suboptimal student learning outcomes. Without innovative instructional media, students may struggle to internalize the religious values being taught. Elements such as vocal intonation, music, visuals, and narrative structure generate emotional resonance, which strengthens long-term retention and supports the real-life application of values (Moreno, 2006; Rizvić et al., 2019).

Moreover, interactive video accommodates diverse learning styles. Visual learners benefit from animations and images, auditory learners respond to sound and narration, and

kinesthetic learners engage through interactive features and game-based components. This broadens accessibility and promotes inclusivity in the classroom (Wajdi et al., 2021).

In light of these considerations, this study aims to examine the extent to which interactive video media can enhance student learning outcomes at St. Yoseph Freinademetz Catholic Junior High School. The findings are expected to offer valuable insights for educators, particularly in the field of Catholic Religious Education, by highlighting the pedagogical potential of interactive media and encouraging its broader implementation to foster more meaningful, contextual, and student-relevant learning experiences.

Methodology

This study adopted a quantitative approach with an explanatory research design to examine the effect of interactive video-based learning media on students' learning outcomes in Catholic Religious Education. The research was conducted during the first semester of the 2024/2025 academic year at St. Yoseph Freinademetz Catholic Junior High School in Kapan, North Mollo Subdistrict, South Central Timor Regency, East Nusa Tenggara Province.

The population comprised all seventh-grade students (N = 89), and total sampling was applied given the relatively small population size. Data were collected through questionnaires (to capture students' perceptions), learning outcome tests (to assess academic achievement), classroom observations (to document engagement), and supporting documentation.

Instrument validity was tested using Pearson's product moment correlation, while reliability was measured with Cronbach's alpha. Descriptive statistics were used to explore general trends, and simple linear regression analysis was conducted to examine the relationship between interactive video use and learning outcomes. To validate the regression model, classical assumption tests were performed, including tests of normality, linearity, homoscedasticity and multicollinearity. All research activities adhered to ethical standards, including obtaining institutional permission and ensuring the confidentiality of student data throughout the study.

Research Findings

This section presents the results of the study in sequential order, beginning with descriptive statistics, followed by the validity and reliability testing of research instruments, classical assumption tests, and finally, the findings from the simple linear regression analysis.

Descriptive Statistics

Table 1 shows the descriptive statistical analysis of the two main variables: the use of interactive video media and students' learning outcomes in Catholic Religious Education.

Table 1. Descriptive Statistics of Interactive Video Media and Learning Outcomes

Variable	Percentage (%)
Interactive Video Media	94.18
Student Learning Outcomes	87.76

The data indicate that the implementation of interactive video media achieved a high effectiveness score of 94.18%, suggesting that the media were well-designed and appropriately applied in the learning process. Similarly, the average score of student learning outcomes reached 87.76%, reflecting a strong level of academic achievement. These results suggest that the media provided meaningful support for students' conceptual understanding and performance.

Instrument Validity Testing

Instrument validity was tested using Pearson's product moment correlation. The instrument measuring interactive video media consisted of 15 items, while the instrument for student learning outcomes included 20 items.

Table 2. Summary of Instrument Validity Test Results

Instrument	Number of Items	r Critical	Range of r Values	Valid Items	Validity Status
Interactive Video Media	15	0.361	0.681 – 0.768	15	All Items Valid
Student Learning Outcomes	20	0.361	0.722 – 0.796	20	All Items Valid

The data show the results of the instrument validity tests for both interactive video media and student learning outcomes. All 15 items of the interactive video media instrument demonstrated Pearson correlation coefficients exceeding the critical value of 0.361, with values ranging from 0.681 to 0.768. Likewise, the 20 items of the student learning outcomes instrument also surpassed the critical threshold, with coefficients between 0.722 and 0.796. These findings indicate that all items in both instruments are valid and capable of accurately measuring the constructs under investigation.

Instrument Reliability Testing

Reliability was evaluated using Cronbach's Alpha. The internal consistency coefficients for both instruments are shown in table 3.

Table 3. Instrument Reliability Test Results

Instrument Type	Cronbach's Alpha	Reliability Status
Interactive Video Media	0.867	Reliable
Student Learning Outcomes	0.912	Highly Reliable

Both instruments exceeded the reliability threshold of 0.7, indicating strong internal consistency suitable for educational research purposes.

Classical Assumption Tests

To ensure the validity of the regression model, classical assumption tests were conducted, including normality, linearity, and multicollinearity.

Table 4. Classical Assumption Test Results

Assumption Type	Test Applied	Sig. Value (p)	Decision
Normality	Kolmogorov-Smirnov	0.179	Data is Normal
Linearity	Deviation from Linearity	0.128	Linear
Homoscedasticity	Glejser Test	0.251	No Heteroscedasticity
Multicollinearity	Tolerance and VIF	VIF < 10	No Multicollinearity

The classical assumption tests confirmed that the regression model met all statistical requirements. The data were normally distributed, the relationship between variables was linear, there was no indication of heteroscedasticity, and multicollinearity was not present. These results support the validity of the regression analysis used in the study.

Simple Linear Regression Analysis

Simple linear regression was used to test the effect of interactive video media on student learning outcomes. The findings are presented in Table 5.

Table 5. Simple Linear Regression Analysis

Indicator	Value	Interpretation
t-value	35.319	Significant effect
Significance (p)	< 0.05	Statistically significant
R-squared (R^2)	0.817	Strong predictor

The t-value of 35.319 and a p-value less than 0.05 indicate a strong and statistically significant effect of interactive video media on student learning outcomes. These findings suggest that students who engaged with interactive video media demonstrated higher academic performance, increased engagement, and improved motivation. Therefore, the use of interactive video represents an effective pedagogical strategy, particularly in the context of Catholic Religious Education.

The coefficient of determination, represented by R-squared (R^2), was found to be 0.817, indicating that 81.7 percent of the variance in students' learning outcomes can be explained by the use of interactive video media. This high explanatory power demonstrates that the independent variable substantially contributes to predicting the dependent variable. In practical terms, the implementation of interactive video media accounted for a significant portion of the observed differences in student academic performance. The remaining 18.3 percent may be attributed to other factors not included in the model, such as prior knowledge, teaching quality, or learner motivation. Overall, the R^2 value confirms that the regression model provides a robust fit to the data and supports the conclusion that interactive video media is a highly influential factor in enhancing learning outcomes.

Discussion

The findings of this study convincingly demonstrate that the integration of interactive video media significantly enhanced student learning outcomes in Catholic Religious Education. The high level of implementation effectiveness, reaching 94.18%, along with an average achievement score of 87.76%, indicates that this medium was not only successful in delivering instruction but also effective in improving academic performance. These results suggest that interactive video serves as a valuable educational resource in supporting cognitive understanding and content retention within the context of religious education.

This finding is supported by statistical analysis using simple linear regression, which reveals a strong and significant relationship between the use of interactive video media and the improvement of student learning outcomes. A t-value of 35.319 and a significance level below 0.05 indicate that students who engaged with interactive video media demonstrated higher levels of academic involvement and cognitive performance. These results are consistent with previous studies showing that digital learning tools can enhance student motivation and understanding (Anggraeni & Maryanti, 2021; Syafi'i, 2023).

Based on these quantitative results, the pedagogical implications highlight the importance of implementing student-centered learning strategies that incorporate multimedia elements. The combination of visual, auditory, and kinesthetic modalities in interactive video promotes multisensory learning, which accommodates diverse learning preferences among students. This alignment between teaching strategies and individual learning styles enables learners to engage

with the material more meaningfully, transforming their role from passive recipients to active participants (Kovalenko et al., 2021; Erna, Sari, & Saragih, 2024).

In the realm of religious education, where the internalization of moral and spiritual values is a core objective, the advantages of interactive video become increasingly apparent. By presenting narratives, visual metaphors, and dramatized scenarios, this medium facilitates connections between abstract theological concepts and concrete real-life experiences. Consequently, students are better positioned to internalize, reflect upon, and apply complex religious teachings in ways that are personally relevant (Fadilla et al., 2023; Warini et al., 2023).

One of the primary strengths of interactive video lies in its capacity to support differentiated instruction. Students are able to pause, replay, and navigate content according to their individual learning needs and preferences. This flexibility proves especially beneficial in religious education, where time is often required for contemplation and emotional processing (Sari et al., 2022; Saputra, 2023).

Beyond cognitive outcomes, the use of interactive video also contributes to affective dimensions of learning. Observational data revealed that students displayed increased enthusiasm, curiosity, and emotional engagement throughout the learning process. These affective responses were reinforced by audiovisual features such as music, narration, and symbolic imagery, which deepened emotional resonance and supported the internalization of religious values (Moreno, 2006; Rizvić et al., 2019).

The interactive components embedded within the videos, such as quizzes, clickable content, and immediate feedback, contribute to fostering students' active participation. These features facilitate critical thinking and encourage learners to relate the instructional content to their own moral frameworks. Such engagement supports character formation, which constitutes a central objective in Catholic Religious Education (Wajdi et al., 2021; Rofi'i et al., 2022). Furthermore, the presence of interactive elements in the videos promotes student autonomy in managing their own learning processes, including revisiting challenging material. This approach aligns with the principles of the *Kurikulum Merdeka*, which emphasizes the importance of student-centered learning (Uningsih & Haeruddin, 2024; Kusuma et al., 2022).

The regression analysis showed that interactive video media accounted for 81.7% of the variance in student learning outcomes. This indicates the medium's strong predictive capacity in influencing academic achievement. However, the unexplained variance suggests that additional

factors, such as prior knowledge, teacher effectiveness, or student motivation, may also contribute and warrant further investigation in future studies.

These results are in line with international studies that highlight the advantages of technology-enhanced learning environments. The shift toward digital storytelling and interactive content reflects a global educational trend in which multimedia tools are utilized to support both academic success and personal development (Moreno, 2006; Krasilnikov & Smirnova, 2017).

Instructional practices that incorporate interactive video also show promise for promoting classroom inclusivity. The multisensory and interactive nature of this media responds to diverse learning needs and enhances educational access, particularly for students who struggle with text-based instruction (Hung et al., 2018; Yuan et al., 2021).

Nevertheless, the findings point to the need for ongoing teacher training and curriculum development. Teachers must be equipped with the necessary skills and resources to design and implement effective interactive learning experiences. This includes not only technical competencies but also a clear understanding of how to align digital tools with pedagogical goals and religious educational values (Navarrete et al., 2025).

Considering the challenges faced by schools in remote or under-resourced areas, this study underscores the importance of integrating digital tools such as interactive video into religious instruction. This medium can function as a bridge between traditional Catholic values and contemporary teaching approaches, thereby enhancing the relevance of religious education in students' everyday lives (Tarihoran & Firmanto, 2024).

In conclusion, this study affirms the substantial pedagogical value of interactive video in enhancing both cognitive and affective learning outcomes. By fostering deeper engagement, supporting personalized learning, and encouraging reflective practice, this medium represents a promising tool for delivering value-based education in the digital era. Future research should build upon these insights using longitudinal and mixed-methods approaches to further investigate the transformative potential of interactive media in religious education.

Limitations and Implications for Future Research

Despite yielding valuable insights, this study has several limitations. First, the research was limited to a single school with a relatively small sample of 89 students, which restricts the generalizability of the findings to broader or more diverse educational contexts. Future studies

should involve larger, more heterogeneous samples across multiple institutions to enhance external validity.

Second, the study employed a cross-sectional design, capturing data at a single point in time. While this allowed for correlational analysis, it did not assess long-term impacts. Longitudinal studies are needed to examine the sustained effects of interactive video on student learning, motivation, and character development.

Lastly, the study focused mainly on quantitative measures such as test scores and observable engagement, without capturing students' internal experiences. Future research should adopt a mixed-methods approach, incorporating qualitative tools such as interviews, focus groups, or reflective journals, to explore students' emotional, cognitive, and spiritual responses to interactive video, particularly in the context of Catholic Religious Education.

Conclusion

This study concludes that interactive video media significantly enhance student learning outcomes in Catholic Religious Education. The integration of visual, auditory, and kinesthetic elements allowed for a multisensory learning experience that fostered both cognitive understanding and emotional engagement. With an implementation effectiveness of 94.18% and a student achievement score of 87.76%, the findings underscore the pedagogical effectiveness of this medium in promoting academic success and deeper value internalization.

The simple linear regression analysis revealed a strong and statistically significant relationship between the use of interactive video and improved learning outcomes, with an R^2 value of 0.817. This suggests that interactive video was not only instrumental in knowledge acquisition but also encouraged student autonomy, critical thinking, and reflective learning. These qualities are particularly relevant in religious education, where moral and spiritual development require thoughtful engagement with complex themes.

Moreover, the interactive features embedded in the video content facilitated differentiated learning by allowing students to regulate their own pace and revisit challenging material. This flexibility supported diverse learning preferences and promoted equitable access to religious education content. Students demonstrated greater motivation, participation, and critical questioning, indicating a shift toward more student-centered and meaningful learning experiences.

Given these results, educators are encouraged to integrate interactive digital media as a core component of their instructional strategies, particularly in subjects that aim to nurture moral reasoning and character formation. The use of interactive video represents a transformative shift from traditional, lecture based approaches toward dynamic, inclusive, and reflective pedagogies.

Future research should explore the long-term impacts of interactive video on character development, religious commitment, and emotional learning. Employing qualitative or mixed methods designs may also provide richer insights into students' internal experiences, including their moral reasoning and spiritual reflections. By doing so, educators and researchers can better understand how digital media can serve not only as instructional tools but also as catalysts for holistic human formation in value based education.

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