

Religious Appreciation through Digital and Collaborative Learning: A Preliminary Study on Islamic Education University Students

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ABSTRACT

The integration of digital and collaborative learning is transforming Islamic learning from a passive to an active approach. However, despite the availability of digital technologies, implementing these tools to enhance the educational experience remains a challenging issue for many Islamic education programs in Malaysia, which aim to provide students with a deeper spiritual understanding. Generally, this study aims to investigate the use of digital and collaborative learning in religious education and its implications for students' appreciation of religious content. In this study, a quantitative survey approach was adopted to investigate the role of digital and collaborative learning resources in the appreciation of religious content. This study was carried out among Diploma in Islamic Education students in UiTM, Shah Alam. A sample of 43 students voluntarily and actively participated, surpassing the stipulated minimum and constituting a reasonable database for the up-front evaluation and revision of the research instrument and constructs. The findings are organised into three main areas: (a) the extent of digital learning utilisation; (b) the application of collaborative learning methods; and (c) the implications of these approaches for students' appreciation of Islamic content. In conclusion, the integration of digital and collaborative learning has created a significant factor that predicts students' appreciation of religious content, supported by empirical evidence regarding the potential impact of both digital and collaborative learning. This study also advises conducting longitudinal studies on how prolonged exposure to digital-collaborative religious education affects

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KEYWORDS:

Islamic education
Digital learning
Collaborative learning
Religious content
Religious appreciation

CITATION:

Syuhaida Idha Abd Rahim, Mohd Amzari Tumiran, Siti Khurshiah Mohd Mansor, & Nur Hidayah Zainal. (2025). Religious Appreciation through Digital and Collaborative Learning: A Preliminary Study on Islamic Education University Students. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 10(8), e003516. <https://doi.org/10.47405/mjssh.v10i8.3516>

moral development.

Contribution/Originality: This study contributes to the existing literature on the integration of digital and collaborative learning in Islamic education by empirically validating their effects on religious appreciation. This study offers valuable insights into how technology-enhanced and socially interactive pedagogies can foster deeper engagement, spiritual understanding, and internalisation of Islamic teachings.

1. Introduction

The integration of digital and collaborative learning is transforming Islamic learning from a passive to an active approach. It has been well established in the literature that web-based systems and content delivery systems can significantly enhance the teaching of Islamic studies by providing easy access to and interaction with materials (Yahya et al., 2021). Moreover, initial experimentation with net-collaborative learning models also suggests that online peer collaboration, through active participation and interaction in knowledge construction, can enhance religious learning outcomes (Khasawneh & Alkhalaf, 2023). These developments are particularly pertinent to the tastes of students who are digital natives in the higher education environment. Therefore, exploring the influence of digital and collaborative tools on Islamic education students at UiTM Shah Alam is not only timely but also useful. The increasing role of educational technology in Malaysian classrooms also accentuates the necessity of a systematic examination of the use of such technology in religious instruction.

However, despite the availability of digital technologies, implementing these tools to enhance the educational experience remains a challenging issue for many Islamic education programs in Malaysia, which aim to provide students with a deeper spiritual understanding. For example, a study on e-learning during COVID-19 times suggested that student-centered learning approaches were frequently incorrectly applied, leading to little active participation and little appreciation of religious values (Jafar et al., 2022). Likewise, net-collaborative learning constructs, such as those visualised, although having positive implications, are not fully expanded upon within the space of Islamic curricula, and few studies have shown their lasting pedagogical effects (Mustapha et al., 2021). Inadequate teacher training and the lack of digital resources supporting meaningful learning experiences exacerbate these problems. Hence, this study attempts to address this by examining the effectiveness of digital and collaborative modes in fostering understanding and internalising religious student-centred learning.

Specifically, this study seeks: (1) to assess the level of utilisation of digital learning in delivering religious content; (2) to evaluate the level of utilisation of collaborative learning in the discussion of religious content; and (3) to examine the implications of utilising digital and collaborative learning on the appreciation of religious content. This research sheds light on how digital and collaborative learning in Islamic education could be utilised to improve students' engagement and understanding (Alhammad et al., 2025). It promotes creative teaching approaches through e-learning media and multimedia to instil Islamic values (Zulkefli & Jamil, 2024; Mohd Zaidi & Mesbahul Hoque, 2019). Results also provide actionable implications for Malaysian educators and policymakers on how to design inclusive technology-enhanced Islamic teaching models for modern students (Tengku Kasim et al., 2022).

1.1. Research Objectives

Generally, this study aims to investigate the use of digital and collaborative learning in religious education and its implications for students' appreciation of religious content.

2. Literature Review

The use of digital and collaborative learning has been far-reaching in the delivery, understanding, and memorisation of religious content, especially in Islamic education. Digital resources have made learning environments attractive and intriguing, particularly for technology-savvy students, facilitating the recognition and inculcation of religious values and principles (Muslim, 2024). This move towards digital IRE has catered to new needs that have arisen, and in particular during times where physical distancing has become the norm due to the COVID-19 pandemic (Darmi, 2020).

Recent studies on the impact of digital technology on religious education, particularly in Islamic settings, have confirmed this trend. Studies confirm that the online collaborative sphere and the digital learning model enhance students' engagement, performance, and attitudes in religious studies (Sudadi et al., 2024). Combination of the implementation of the e-learning, augmented reality, and virtual reality technologies offers interactive and personalised learning methods and can foster religious tolerance and cross-cultural understanding (Yanuardianto et al., 2024; Alam & Iqbal, 2024). The developments on digital platforms have also changed religious preaching, broadening its spread and reach (Choirin et al., 2024). However, problems such as the digital divide, insufficient teacher training, and the challenge of maintaining spiritual values persist (Arif et al., 2024). They highlight the need to balance both traditional and digital approaches, to encourage digital literacy, and to unfold religious education as a whole in the digital age (Syahputra & Rini, 2021; Musyafak & Subhi, 2023).

In religious education, the shift to enter the digital age not only opens up access to more varied learning materials but also creates more opportunities for students; they can be more active in getting involved in learning and have their own enhanced spiritual intelligence in understanding and adhering to the values of faith (Ilahi, 2024). Each of the aforementioned means of digital learning offers interactive learning and teaching tools, and each adds new dimensions to motivating and exciting students to learn in the religious studies classroom. Furthermore, pedagogical practices that promote collaborative learning develop a 'community view approach' in religion learning, whereby peer involvement creates a learning environment that reinforces the internalisation of the teachings through engagement in social life (Jima'ain, 2023). These innovations not only render learning dynamic and practical, but they also enhance the ability of students to make connections with religious teachings and real-world situations. Accordingly, digital and collaborative learning styles are central in developing a whole-person religious education for contemporary students.

Crucially, the success of digital learning will depend on how educators can communicate the meaning and relevance of religious content to young people today. But adolescents tend to prefer personal interpretation that connects their experiences rather than relying on only traditional dogmas (Kořárková & Roubalová, 2023). Institutions in which teachers use technology creatively can provide personalised learning experiences consistent with students' convictions and values, which may in turn result in a more

powerful appreciation of religious prescriptions (Soebahar et al., 2022). The shared practices of learning in digital environments also promote the emergence of strong relationships between students and instructors, which contributes to a supportive environment for religious understanding (Terhi et al., 2024).

Additionally, the transmission of moral and ethical constructs in schools facilitates the penetration of religious content through digital means. Studies have shown that religious commitment influences an individual's moral identity and prosocial behaviour (Yildiz Cakir et al., 2024). This interaction with a digital platform enables students to not only learn about their faith but also to actively 'live' it out within a community context. The research underlines that Islamic education and the prospects embedded in the digital technology as part of it are aspects for character building, forging solidarity and instilling value systems and responsibilities, showcasing the transformative impact of the digital medium in ethical and spiritual heightening among students (Ibrahim et al., 2024).

In summary, the development of digital and collaborative learning in religious education offers an improved environment where the comprehension and assimilation of religious content become a possibility and are enriched. The movement to digital tools brings pedagogy in education into harmony with the preferred modality of current students, thus assisting modern students in the development of spiritual engagement and personal growth (Lubis et al., 2020). Moreover, multimedia and interactive tools enable more customised, reflective, and personalised learning experiences, leading to deeper cognitive and emotional relationships with religious teachings. As educational organisations increasingly employ such strategies, they make strides toward more inclusive and responsive religious learning that speaks to students from various backgrounds and learning styles.

3. Research Methods

In this study, a quantitative survey approach was adopted to investigate the role of digital and collaborative learning resources in the appreciation of religious content. The main instrument for data gathering was a structured questionnaire containing closed-ended Likert scale items in Islamic education and instructional technology, which was developed based on a literature review. The questionnaire covered three dimensions: (1) the use of digital learning in religious learning, (2) the application of collaborative learning strategies, and (3) the perceived influence of these strategies on students' appreciation of Islamic teachings.

This study was carried out among Diploma in Islamic Education students in UiTM, Shah Alam. Being a preliminary study, the sampling strategy was informed by Johanson and Brooks (2010), as they advise a minimum sample size of 30 for pilot and preliminary studies whose purpose is scale development and refinement. A sample of 43 students voluntarily and actively participated, surpassing the stipulated minimum and constituting a reasonable database for the up-front evaluation and revision of the research instrument and constructs. The distribution of participants based on gender and semester level, out of a total of 43 students, 24 were from Semester 3 and 19 were from Semester 4. Among the Semester 3 students, 5 were male and 19 were female, indicating a higher number of female participants in that group. In Semester 4, there were 9 male and 10 female students, showing a more balanced gender distribution. Overall, female students constituted the majority, with 29 out of 43 participants, while

male students accounted for 14. The distribution of participants based on gender and semester level was simplified into the [Table 1](#).

Table 1: The Distribution of Participants Based on Gender and Semester Level

		Gender		Total
		Male	Female	
Semester Level	3	5	19	24
	4	9	10	19
Total		14	29	43

Self-administered questionnaire interview data were obtained online and analysed with IBM SPSS Statistics version 27. Responses were coded and organised, and descriptive statistics were performed using the software. The inquiry, meanwhile, paid particular attention to patterns that emerged when students were engaging in digital and collaborative learning. Ethical issues covering confidentiality, informed consent and voluntariness were considered seriously at all stages of the study.

3.1 Content Development of the Instruments

The systematic process of generating questionnaire items used in this study was developed based on a thorough literature review and contextual review in Islamic Education. All were constructed for the same set of research purposes on the basis of empirical legwork, which demonstrates the efficacy of digital tools, interactive processes, and methods of collaboration in increasing the amount that students appreciate religious content. Questionnaire questions were modified to portray the actual learning contexts and experiences of Diploma in Islamic Education students at UiTM Shah Alam. This step of content validation would guarantee that the instrument would validly measure student engagement with technology-integrated religious education and yield dependable data in order to evaluate pedagogical influence. The content development of the questionnaire based on literature and contextual relevance were presented in the [Table 2](#).

Table 2: Content Development of the Questionnaire Based on Literature and Contextual Relevance

Obj.	Reference	Context	Item
1	Amrullah et al. (2024)	The use of digital platforms such as videos, animations, and applications has increased students' interest and understanding in Islamic Education.	I frequently use digital tools (such as laptops, tablets, or smartphones) in learning activities related to Islamic Education.
	Saepudin (2022)	Studies show that e-learning enriches the experience of religious learning through interactive and multimedia features.	Multimedia such as animated videos, interactive graphics, and audio are used to help me understand religious topics.
	Kharismatunisa (2023)	The integration of applications and digital media, such as Quizizz and Google Classroom, helps students better understand religious values.	Digital learning platforms (such as Google Classroom, YouTube, or Islamic apps) make it easier for me to access Islamic learning content.
2	Cici & Irfan	Interactive methods such as	I understand lessons better

	(2022)	Q&A and discussions encourage students to be more active and to understand religious teachings more deeply.	when teachers use active question-and-answer methods in class.
	Pradita et al. (2024)	The use of digital media also stimulates discussion and collaboration in Islamic Education classes.	I am often involved in group discussions during Islamic Education lessons.
	Saputra (2023)	Interactive learning through e-learning makes students more engaged and responsive to Islamic teaching.	I feel that collaborative learning methods help me better understand religious values and messages.
3	Masripah et al. (2024)	Digital technology has been proven to help students better understand and internalise Islamic teachings.	I understand Islamic concepts better when learning involves interactive digital media.
	Indriani et al. (2024)	The use of digital media enhances understanding and spiritual values among students.	Learning through technology helps me internalise Islamic teachings in daily life.
	Wajdi et al. (2021)	Multimedia content in Islamic education contributes to a deeper appreciation of religious teachings.	I feel that the use of technology in class brings me closer to religious values.

4. Findings

This section presents the results of the study, which aimed to explore the impacts of digital and collaborative learning on the appreciation of religious content among Diploma in Islamic Education students at UiTM Shah Alam. The findings are organised into three main areas: (a) the extent of digital learning utilisation; (b) the application of collaborative learning methods; and (c) the implications of these approaches for students' appreciation of Islamic content. Descriptive statistics and multiple regression analysis are used to provide both general trends and deeper insights into the relationship between digital-collaborative strategies and students' appreciation of religious content.

4.1. Descriptive Statistics

There was a high level of agreement among the respondents regarding their use of digital tools, multimedia, and platforms in Islamic religious education. For digital learning practices, the majority of participants agree and strongly agree (without neutral and disagree combined) with the application of digital devices such as laptops, tablets, and mobile phones being used more often during delivering religious content of Islamic Education; A1- 48.8% agreed and 44.2% strongly agreed. They also admitted that multimedia such as videos, pictures, and audio significantly help in understanding religious subjects (A2: 53.5% agreed, 39.5% strongly agreed). Likewise, the majority of participants think that the digital learning tools, such as Google Classroom, YouTube or Islamic applications on mobile, are some of the factors that make more easily reachable the Islamic content (A3: 46.5% agreed, 41.9% strongly agreed). Such findings reveal a general supportive attitude for the possibilities which digital resources open for increasing the accessibility and attractiveness of religious content.

Furthermore, with regard to the items on collaborative and interactive approaches (B1–B3) and their consequences (C1–C3), the statements also supported this positive development. Many responded that they understood better when active Q&A was practised by lecturers (B1: 48.8% agreed, 34.9% strongly agreed) and that they took part in contributing to a group discussion during the lesson if the subject was Islamic education (B2: 51.2% agreed, 27.9% strongly agreed). In addition, the benefits of collaborative learning for developing a deeper understanding of religious values and messages were also noted (B3: 44.2% agreed, 37.2% strongly agreed). In terms of enrichment, respondents felt that interactive digital media enhanced their understanding of Islamic knowledge (C1: 46.5% agreed, 30.2% strongly agreed), the assimilation of Islamic knowledge into everyday life (C2: 39.5% agreed, 34.9% strongly agreed), and the reinforcement of religious values (C3: 44.2% agreed, 23.3% strongly agreed). Noteworthy is that there is no response on the lower Likert scales (1 and 2) and very little disagreement overall, suggesting a rather positive view of digital and collaborative means of improving both the presentation and memorisation of religious content. The specific analysis and data were presented in [Table 3](#) and [Figure 1](#).

Table 3: Frequencies and Percentages of Respondents’ Levels of Agreement

		Likert Scale											
		1		2		3		4		5		6	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
(a)	A1	-	-	-	-	-	-	3	7	21	48.8	19	44.2
	A2	-	-	-	-	1	2.3	2	4.7	23	53.5	17	39.5
	A3	-	-	-	-	-	-	5	11.6	20	46.5	18	41.9
(b)	B1	-	-	-	-	1	2.3	6	14	21	48.8	15	34.9
	B2	-	-	-	-	-	-	9	20.9	22	51.2	12	27.9
	B3	-	-	-	-	-	-	8	18.6	19	44.2	16	37.2
(c)	C1	-	-	-	-	-	-	10	23.3	20	46.5	13	30.2
	C2	-	-	-	-	1	2.3	10	23.3	17	39.5	15	34.9
	C3	-	-	-	-	4	9.3	10	23.3	19	44.2	10	23.3

*1: Strongly Disagree, 2: Disagree, 3: Quite Disagree, 4: Quite Agree, 5: Agree, 6: Strongly Agree.

A1: Frequent use of digital devices (e.g. laptops, tablets, or smartphones) in Islamic Education lessons.

A2: Multimedia (e.g. videos, graphics, and audio) helps in understanding religious topics.

A3: Online platforms (e.g. Google Classroom or YouTube) make access to Islamic learning materials easier.

B1: Better understanding of lessons when teachers use question-and-answer activities.

B2: Frequent participation in group discussions during Islamic Education classes.

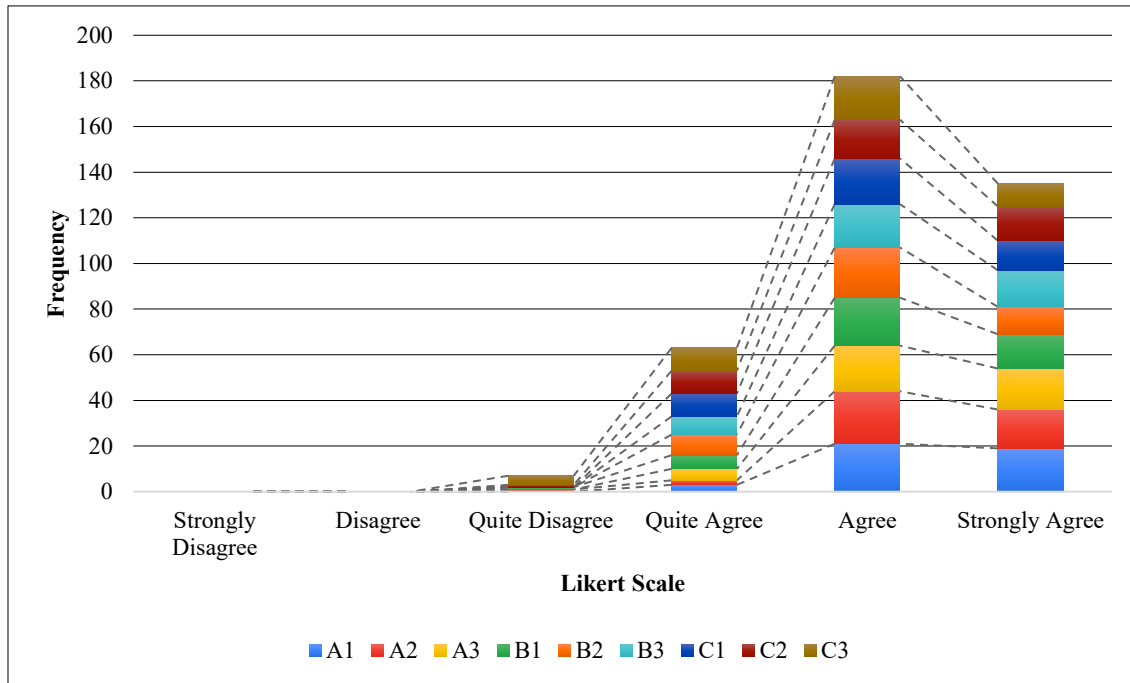
B3: Collaborative learning methods help in better understanding religious values and messages.

C1: Islamic ideas are better understood when using interactive digital media.

C2: Technology-based learning facilitates the assimilation of Islamic teachings into everyday life.

C3: Use of technology in class strengthens the connection with religious values.

Figure 1: The Frequencies and Percentages of the Level of: (a) the Utilisation of Digital Learning in Delivering Religious Content; (b) the Utilisation of Collaborative Learning in Discussing Religious Content; and (c) the Implications of These Methods for the Appreciation of Religious Content



4.2. Multiple Regression

In Table 4, the results for the multiple linear regression of the model with “digital learning” and “collaborative learning” as predictors indicate that this model explains a considerable part of the variance of students’ “appreciation of religious content.”

Table 4: Regression: (a) Model Summary; (b) ANOVA^b; and (c) Coefficients^d

(a)	<i>R</i>	<i>R</i> Square	Adjusted <i>R</i> Square	Std. Error of the Estimate		
	.679 ^a	.462	.435	.50995		
(b)		Sum of Squares	df	Mean Square	F	Sig.
Regression		8.921	2	4.460	17.152	.000 ^c
Residual		10.402	40	.260		
Total		19.323	42			
(c)		Unstandardized Coefficients	Std. Error	Standardized Coefficients	<i>t</i>	Sig.
Model		<i>B</i>		Beta		
(Constant)		-.276	.904		-.306	.761
Digital Learning		.654	.179	.478	3.665	.001
Collaborative Learning		.346	.145	.311	2.379	.022

a. Predictors: (Constant), Collaborative Learning, Digital Learning

b. Dependent Variable: Appreciation of Religious Content

- c. Predictors: (Constant), Collaborative Learning, Digital Learning
- d. Dependent Variable: Appreciation of Religious Content

The R Square of 0.462 indicates that about 46.2% of the variation in religious content appreciation is due to digital and collaborative learning tools. The adjusted R Square of 0.435 is still high relative to the number of predictors, meaning quite a good fit. The estimate is not precise, as indicated by the standard error of the estimate of 0.50995, which is considered moderate variability around predicted values. The ANOVA table presents the model as being significant overall, with an F value of 17.152 and a p-value of 0.000, which is much smaller than the commonly used alpha level of 0.05. This validates the contribution of digital and collaborative learning approaches when it comes to predicting appreciation for religious content. So the model is statistically strong in the sense that the independent variables together do exert a significant influence over the dependent variable.

Closer inspection of the coefficients table additionally reveals that both predictors are statistically significant contributors. The independent variable of “digital learning” has a higher standardised beta value ($\beta=0.478$, $p=0.001$) for having a strong positive effect on appreciation of religious content, more than “collaborative learning” ($\beta=0.311$, $p=0.022$). The unstandardised coefficient for “digital learning” ($B=0.654$), for example, means that the use of digital learning is associated with a 0.654 unit increase in appreciation, all factors being held constant. The team facilities add an increase of 0.346 to these units, which all the collaborative tools contribute to. In essence, these results emphasise the potential usefulness of blending digital and collaborative learning to strengthen students' appreciation of religious content.

5. Discussion

Digital and collaborative approaches to religious education significantly improve students' appreciation of religious content. This duality restoration approach takes advantage of the benefits of digital aids, which engage students' attention, promote understanding, and provide culturally responsive instruction. The results of the multiple linear regression analysis confirm this didactic integration, revealing that there is a statistically significant predictive effect of digital learning tools and collaborative learning styles on students' valuing and internalising religious content. Combined, those factors account for 46.2% of the variance in students' appreciation and thus present a substantial effect of the educational innovations.

Digital tools have revolutionised religious education, enabling greater accessibility and interaction. According to [Mashudi and Hilman \(2024\)](#), the utilisation of digital-based Islamic Religious Education (IRE) significantly affects students' engagement and spiritual insights, revealing that a multimedia and interactive approach encourages higher engagement as opposed to the traditional one. [Ningsih et al. \(2024\)](#) demonstrate how digital education fosters a culture of change that deepens the appreciation of moral and cognitive beliefs in Islamic higher education, indicating that collaboration and integration of digital tools can enhance the level of morality among students. These qualitative findings are consistent with the outcome of the regression analyses, which indicated that digital learning tools had a more positive impact on the appreciation of religious content ($\beta=0.478$, $p=0.001$) as compared to the modest positive impact of collaborative tools, reinforcing the fostering of technology integration in religious education.

The combination of digital literacy and collaborative processes contributes to the richness of the learning environment. The incorporation of digital platforms facilitates the spread of religious doctrines, as well as joint projects among several stakeholders. [Knoblauch's \(2024\)](#) examination of interactions across religiously diverse settings offers evidence that project-based cooperative learning creates more inclusive classrooms. This is also supported by [Sulvinajayanti et al. \(2024\)](#), whose study highlights that attempts to cultivate digital literacy, alongside community involvement, could result in a successful encouragement of interfaith dialogue and cooperation. These collaborative practices were also statistically significant ($\beta=0.311$, $p=0.022$) in the regression model, thus confirming their relevance for enriching students' engagement and appreciation strategies, even if with less power than digital tools.

As schools and teachers move into the digital age, they have to accept changes that transform religious education practices. Pedagogical orientation shifts, as in [Shofiyyah et al. \(2024\)](#), which describe how technologies such as artificial intelligence (AI) could provide personalised learning for students to interact with religious knowledge based on their learning preferences. Such personal engagement is important for internalising complex religious concepts and providing an opportunity to investigate and discuss beliefs interactively. The regressions further support this, with digital tools (frequently used to deliver personalised adaptive learning experiences) being found to have a particularly strong correlation with a love for religious content.

In the digital context, the relevance of religious education is emphasised by [Battista \(2024\)](#), who contends that digital places are becoming sacred and enabling new modes of participation and religious experience that are meaningful to the digital era's believers. As religious education develops, it is the hope that by employing collaborative approaches with technological methods, the students will not only comprehend the religious ideas but also embody them as their own in a digital, multi-influenced society. Promoting engagement, reflection, and conversation is key to the successful implementation of religious teachings in the lives of young people. It presents students with the tools to navigate the ethical issues of digital landscapes grounded in their faith-filled values.

In conclusion, the integration of digital and collaborative methods in religious education is instrumental in enhancing students' appreciation of religious content. The multiple regression findings provide empirical support for this pedagogical approach, confirming that both digital tools and collaborative methods significantly contribute to students' appreciation. By leveraging technology and fostering collaborative interactions, educators can create engaging, relevant, and interactive learning experiences that resonate with students in today's digital age. Such an approach not only promotes deeper understanding but also fosters the moral and intellectual development necessary for navigating complex contemporary challenges.

5. Conclusion

In conclusion, the integration of digital and collaborative learning has created a significant factor that predicts students' appreciation of religious content, supported by empirical evidence regarding the potential impact of both digital and collaborative learning. Since the effect size for digital learning tools was a bit larger, further studies should investigate which features of digital platforms (eg, gamification, adaptive feedback, or immersive media) are most effective in their promotion of involvement and

spiritual understanding. This study also advises conducting longitudinal studies on how prolonged exposure to digital-collaborative religious education affects moral development. Future studies could also explore other educational settings and age groups, such as interfaith or multicultural contexts, to further explore how digital and collaborative strategies can be appropriated to different religious education situations. Moreover, including enhanced teacher training programs that focus on digital pedagogy and collaborative facilitation might improve the impact of these strategies in the context of diverse religious curricula. System-level policymakers and designers of curriculum might also consider including flexible, tech-supported modules tailored to different learning styles and cultural contexts in the development of inclusive and meaningful religious education.

Ethics Approval and Consent to Participate

The researchers adhere to the research ethics guidelines established by the Research Ethics Committee of Universiti Teknologi MARA (RECUiTM). All procedures performed in this study did not involve human participants.

Acknowledgement

The authors thank the Academy of Contemporary Islamic Studies, Universiti Teknologi MARA, for technical support.

Funding

No funding.

Conflict of Interest

The authors reported no conflicts of interest for this work and declare that there is no potential conflict of interest concerning the research, authorship, or publication of this article.

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