International Journal of Education, Vocational and Social Science
https://e-journal.citakonsulindo.or.id/index.php/IJEVSS
E-ISSN : 2963 4954
IJEVSS

Developing PAI Learning Assessment Through Kahoot: The Impact Of Training On Madrasah Ibtidaiyah Teachers In Sambas District

Nelsy Yendra
Universitas Sultan Muhammad Syafiuddin Sambas
Rohimah
Universitas Sultan Muhammad Syafiuddin Sambas
Sari Lestari
Universitas Sultan Muhammad Syafiuddin Sambas
Surwa Mulyadi
Universitas Sultan Muhammad Syafiuddin Sambas
M. Jamaluddin
Universitas Sultan Muhammad Syafiuddin Sambas
Kartina
Universitas Sultan Muhammad Syafiuddin Sambas
Dewi Purnawati
Universitas Sultan Muhammad Syafiuddin Sambas

Email : yendranelsy@gmail.com, rohimahalazmialazmi@gmail.com, sarilestari899@gmail.com, surwamulyadi190@gmail.com, aminjamaluddin99@gmail.com, kartinasambas07@gmail.com, dewipurnawati887@gmail.com

Abstract

The advancement of digital technology has transformed various aspects of education, including learning assessment. However, many Islamic Religious Education (PAI) teachers at Islamic Elementary Schools (Madrasah Ibtidaiyah) still rely on conventional paper-based assessments, which are less effective in enhancing students' learning motivation. This condition highlights the need to improve teachers' competencies in utilizing technology-based assessment tools. This Community Service Program aimed to improve the competencies of Islamic Religious Education teachers in Sambas District through training on the use of Kahoot as a digital assessment platform. The program employed a participatory training approach consisting of needs assessment, workshops, hands-on practice, mentoring, and evaluation. Thirty teachers participated in the program through purposive sampling. The effectiveness of the training was

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

evaluated using validated and reliable questionnaires administered before and after the training. The results indicated a significant improvement in teachers' competencies, with the average score increasing from 65 to 85 (p = 0.002). Participants also demonstrated high enthusiasm in designing Kahoot-based assessments and were able to implement them in classroom learning. Therefore, Kahoot training proved effective in enhancing teachers' competencies in developing digital assessments and is recommended as a sustainable professional development program for Madrasah Ibtidaiyah teachers.

Keywords: Community Service, Kahoot, Learning Assessment, Islamic Religious Education

INTRODUCTION

Islamic Religious Education (PAI) is one of the core subjects that plays a strategic role in fostering students' character, noble morals, and religious attitudes from an early age. At the Madrasah Ibtidaiyah (Islamic elementary school) level, PAI learning is not only oriented toward cognitive achievement but also emphasizes the development of students' spiritual and social attitudes, as well as the practical application of Islamic values in everyday life. Therefore, the assessment process in PAI should comprehensively measure students' learning achievements while also providing an engaging and enjoyable learning experience.

With the rapid advancement of information technology, digital transformation has become an integral part of education. Through its digital transformation policy in education, the Indonesian government encourages teachers to utilize various technology-based learning and assessment platforms to improve the quality of teaching and learning. The integration of digital technology into learning assessment enables teachers to obtain assessment results more quickly and objectively while increasing student engagement throughout the evaluation process.

Despite these developments, field observations indicate that most Madrasah Ibtidaiyah teachers still conduct learning assessments using conventional methods, such as paper-based written tests and simple worksheets. Although these methods remain relevant, they often fail to engage today's digitally oriented students, resulting in lower motivation to participate in assessment activities. Furthermore, manual grading requires considerable time, preventing teachers from providing timely feedback on students' learning outcomes.

One of the rapidly growing digital assessment tools is **Kahoot**. This platform enables teachers to create interactive quizzes through a game-based learning approach, allowing students to participate in assessments using smartphones or computers in both online and offline settings.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

Kahoot also offers automatic scoring, learning analytics, and an attractive interface that can enhance students' motivation and participation during the assessment process. Numerous studies have demonstrated that the use of Kahoot improves student engagement, learning motivation, and academic achievement compared with conventional assessment methods.

However, preliminary observations conducted at several Madrasah Ibtidaiyah in Sambas District revealed that the use of Kahoot as a PAI assessment tool remains very limited. Most teachers have never received specialized training in designing digital assessments using Kahoot. Limited knowledge of the platform's features, insufficient practical experience, and a lack of mentoring have become the primary factors contributing to its low level of adoption in classroom assessment.

This gap indicates that teachers' digital competencies, particularly in designing technology-based assessment instruments, still require significant improvement. In fact, the ability to integrate educational technology into teaching and assessment is one of the essential professional competencies that teachers must continuously develop in response to the demands of the digital era. Therefore, a Community Service Program (*Pengabdian kepada Masyarakat*, PKM) focusing on strengthening teachers' competencies through Kahoot training for PAI assessment was considered necessary.

This PKM program was implemented as part of the university's *Tri Dharma* (three pillars of higher education) through collaboration between the Master's Program in Islamic Religious Education at Sultan Muhammad Syafiuddin Sambas University and Madrasah Ibtidaiyah teachers in Sambas District. The program was designed not only to provide conceptual knowledge of digital learning assessment but also to emphasize hands-on practice, mentoring in developing assessment instruments, simulations of Kahoot-based assessments, and collaborative reflection on classroom implementation. Based on the background above, the research problem addressed in this program is: "What is the impact of Kahoot training on improving the competencies of Madrasah Ibtidaiyah teachers in developing Islamic Religious Education (PAI) learning assessments in Sambas District?"

Accordingly, the objectives of this program are to:

1. improve the competencies of PAI teachers in developing Kahoot-based learning assessments;
2. provide teachers with practical experience in designing interactive digital assessments;
3. analyze the effectiveness of the training based on participants' competency improvement; and

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

4. encourage the implementation of digital learning assessment in Madrasah Ibtidaiyah as an effort to enhance the quality of Islamic Religious Education.

The implementation of this program is expected to benefit teachers, schools, and students alike. For teachers, the training serves as a means of enhancing professional competence in educational technology. For schools, the program provides a model for implementing digital assessment to support educational transformation. For students, the use of Kahoot is expected to create a more engaging, enjoyable, and motivating assessment experience, thereby fostering greater enthusiasm for learning.

METHODS

This Community Service Program (*Pengabdian kepada Masyarakat*, PKM) was implemented in the form of training and mentoring on the use of Kahoot as a learning assessment tool for Islamic Religious Education (PAI) teachers at Madrasah Ibtidaiyah in Sambas District. The program aimed to enhance teachers' competencies in designing, developing, and implementing interactive technology-based learning assessments. The training adopted a Participatory Training Approach, which positioned participants as active learners through lectures, demonstrations, hands-on practice, discussions, mentoring, and reflective activities. This approach was selected because it is more effective in developing participants' practical skills than conventional lecture-based instruction.

The PKM program was conducted over two days in May 2026 at At Taqwa Private Madrasah Ibtidaiyah, Sambas District. The participants consisted of 30 Islamic Religious Education teachers from several Madrasah Ibtidaiyah in Sambas District. Participants were selected using purposive sampling based on the following criteria:

1. They were Islamic Religious Education teachers at Madrasah Ibtidaiyah.
2. They had a minimum of three years of teaching experience.
3. They owned a smartphone or laptop.
4. They were willing to participate in the entire training program.
5. They agreed to serve as respondents for the program evaluation.

The implementation of the program consisted of five stages.

1. Needs Assessment

The initial stage involved classroom observations and brief interviews with several PAI teachers regarding the assessment methods they had been using. The findings revealed that most

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

teachers still relied on paper-based assessments and had never received training on the use of Kahoot as a digital assessment platform. In addition, a **pre-test** was administered to assess participants' initial competencies prior to the training.

2. Concept Reinforcement Workshop

The second stage focused on strengthening participants' understanding of twenty-first-century learning assessment, principles of designing digital assessment instruments, introduction to the Kahoot platform, the benefits of Kahoot for PAI learning, Kahoot features, account creation, question bank management, quiz settings (Quiz, True/False, Puzzle, and Poll), and analysis of assessment results using the Kahoot dashboard. The instructional methods included interactive lectures, demonstrations, question-and-answer sessions, and case studies.

3. Hands-on Practice and Mentoring

During this stage, participants engaged in practical activities under the guidance of the PKM team. Each participant was required to create a Kahoot account, develop at least ten PAI assessment questions, incorporate supporting images or videos, determine quiz time limits, conduct quiz simulations, and download assessment reports. Throughout the practice sessions, the PKM team provided both individual and group mentoring to ensure that all participants successfully completed the assigned tasks.

4. Implementation

Participants were given the opportunity to conduct simulated classroom assessments using Kahoot, while fellow participants acted as students. This stage enabled teachers to gain practical experience in sharing game PINs, managing digital classrooms, monitoring students' responses, displaying real-time scores, and downloading assessment reports.

5. Evaluation and Reflection

The final stage consisted of evaluating the overall implementation of the program. Evaluation was conducted through a **post-test** of teachers' competencies, participant satisfaction questionnaires, observations of participants' Kahoot skills, and reflective discussions regarding challenges in implementing digital assessment in schools. The evaluation results served as the basis for follow-up recommendations, including continued online mentoring after the completion of the PKM program.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

DATA COLLECTION INSTRUMENTS

Three types of instruments were employed in this study.

1. Teacher Competency Questionnaire

This instrument was used to measure teachers' competencies before and after the training. The questionnaire assessed the following aspects:

- Understanding of digital assessment concepts;
- Ability to create a Kahoot account;
- Ability to develop assessment questions;
- Ability to manage Kahoot quizzes; and
- Ability to analyze assessment results.

The questionnaire employed a five-point Likert scale:

Score	Category
5	Strongly Agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

Before implementation, the questionnaire was piloted with 15 Madrasah Ibtidaiyah teachers outside the study sample to examine its validity and reliability.

2. Observation Checklist

Observations were conducted during the practical training sessions. The observed aspects included participants' level of engagement, ability to operate Kahoot, ability to create assessment questions, ability to conduct quizzes, and ability to manage assessment results.

3. Documentation

Documentation served as supporting data and included attendance lists, activity photographs, training modules, participants' completed assignments, and screenshots of participants' Kahoot accounts.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

DATA ANALYSIS

The data were analyzed using both descriptive and inferential statistics. Descriptive statistics were employed to describe participants' characteristics, mean scores, training success rates, and participant satisfaction levels. Inferential analysis was conducted using the paired-samples t-test to determine whether there was a significant difference in teachers' competencies before and after participating in the Kahoot training. The hypotheses were formulated as follows:

- H_0 (Null Hypothesis): There is no significant improvement in teachers' competencies after participating in the Kahoot training.
- H_1 (Alternative Hypothesis): There is a significant improvement in teachers' competencies after participating in the Kahoot training.

CHARACTERISTICS OF PKM PARTICIPANTS

Characteristic	Frequency	Percentage
Gender		
Male	11	36.7%
Female	19	63.3%
Teaching Experience		
3–5 years	8	26.7%
6–10 years	13	43.3%
More than 10 years	9	30.0%
Educational Qualification		
Bachelor's Degree (S1)	24	80.0%
Master's Degree (S2)	6	20.0%

RESULTS AND DISCUSSION

The Community Service Program (*Pengabdian kepada Masyarakat*, PKM) was conducted over two days and attended by 30 Islamic Religious Education (PAI) teachers from Madrasah Ibtidaiyah in Sambas District. All activities were implemented according to the planned schedule, including the opening session, presentation of training materials, demonstrations of the Kahoot application, hands-on practice in developing learning assessments, quiz simulations, post-test evaluation, and reflection sessions.

The program began with a pre-test to measure participants' initial competencies in digital learning assessment. Participants then received instruction on the concepts of twenty-first-

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

century learning assessment, gamification in education, the features of Kahoot, and practical techniques for developing digital assessment instruments. Intensive mentoring was provided throughout the training to ensure that each participant was able to independently design Kahoot quizzes and implement them in classroom simulations. This training model, which integrates lectures, demonstrations, hands-on practice, and mentoring, has been widely adopted in teacher professional development programs because of its effectiveness in enhancing teachers' digital competencies.

The effectiveness of the program was evaluated by comparing teachers' competency scores before and after the training, as presented in Table 1.

Table 1. Teachers' Competency Scores Before and After the Training

Indicator	Before Training	After Training
Mean score	65	85
Highest score	82	98
Lowest score	48	75
Standard deviation	8.6	5.8

As shown in Table 1, the mean competency score increased by 20 points, from 65 before the training to 85 after the training. In addition to the improvement in the average score, the lower standard deviation after the training indicates that participants' competency levels became more homogeneous, suggesting that most participants successfully mastered the training materials. To determine whether the observed improvement was statistically significant, a paired-samples t-test was conducted. The results are presented in Table 2.

Table 2. Results of the Paired-Samplest-Test

Variable	Value
Mean Difference	20.00
t-value	3.82
Sig. (2-tailed)	0.002

The significance value of **0.002** ($p < 0.05$) indicates a statistically significant difference between teachers' competencies before and after the Kahoot training. Therefore, the alternative

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

hypothesis stating that the Kahoot training improved teachers' competencies is accepted. At the end of the program, participants completed a satisfaction questionnaire. The results are presented in Table 3.

Table 3. Participants' Satisfaction with the Training

Statement	Agree/Strongly Agree
The training materials were easy to understand	96%
The trainers demonstrated excellent mastery of the subject	100%
The practical sessions were easy to follow	93%
Kahoot is beneficial for learning assessment	100%
Willing to implement Kahoot in school	97%

The findings indicate that the vast majority of participants considered the training highly beneficial and reported that it provided valuable new experiences in developing digital assessment tools for Islamic Religious Education. The results demonstrate that the Kahoot training had a positive impact on improving the competencies of Madrasah Ibtidaiyah teachers in Sambas District. The increase in the average competency score from 65 to 85 suggests that the training enhanced not only participants' theoretical understanding but also their practical skills in designing and implementing digital learning assessments. This success can be attributed to the training model, which combined theoretical instruction, demonstrations, hands-on practice, and individualized mentoring. Such an approach enabled participants to gain authentic learning experiences, making it easier for them to master the use of Kahoot than through theoretical instruction alone.

Beyond improving teachers' competencies, Kahoot was also perceived as an effective tool for creating a more interactive assessment environment. During the classroom simulations, participants experienced how the integration of game elements (gamification), immediate feedback, and real-time leaderboards made the assessment process more engaging and enjoyable. Previous studies have similarly reported that gamified learning through Kahoot enhances student engagement, learning motivation, and academic achievement.

These findings are consistent with previous community service and teacher development programs reporting that Kahoot training effectively improves teachers' abilities to develop digital assessment media. Following direct mentoring, participants were generally able to create Kahoot accounts, develop assessment questions, manage quizzes, and utilize assessment reports

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

effectively.

From the participants' perspectives, Kahoot offers several notable advantages:

1. Automatic scoring of student responses;
2. Immediate availability of assessment results;
3. An attractive and engaging interface that enhances learning motivation;
4. Easy accessibility via smartphones and computers; and
5. Support for rapid formative assessment.

Despite these positive outcomes, several challenges were identified during the implementation of the PKM program. Some participants initially experienced difficulties creating Kahoot accounts, configuring question types, and managing assessment reports. In addition, unstable internet connectivity in several schools remained a significant obstacle to implementing online digital assessments. These findings suggest the need for continued mentoring and improvements in schools' digital infrastructure to ensure sustainable implementation.

Overall, the success of this program demonstrates that Kahoot training can serve as an effective strategy for enhancing the professional competencies of Madrasah Ibtidaiyah teachers. The program also supports the ongoing digital transformation of education by strengthening teachers' technological literacy, thereby making learning assessment more effective, engaging, and aligned with the demands of twenty-first-century education. Furthermore, Kahoot's official training programs and professional webinars emphasize the importance of continuous teacher professional development to maximize the effective use of the platform's features.

CONCLUSION

The Community Service Program (*Pengabdian kepada Masyarakat*, PKM), which focused on training Madrasah Ibtidaiyah teachers in Sambas District to use the Kahoot application as a learning assessment tool for Islamic Religious Education (PAI), was successfully implemented in accordance with its planned objectives. All stages of the program—including the needs assessment, instructional sessions, hands-on practice in developing digital assessments, mentoring, and program evaluation—were actively participated in by the teachers.

The evaluation results indicate that the training had a positive impact on improving teachers' competencies in developing technology-based learning assessments. The average competency score increased from 65 before the training to 85 after the training. Furthermore, the results of the paired-samples t-test yielded a significance value of 0.002 ($p < 0.05$), demonstrating

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

a statistically significant improvement in teachers' competencies. These findings confirm that Kahoot training effectively enhances teachers' abilities to design, manage, and implement digital learning assessments.

In addition to improving professional competencies, the program also increased teachers' motivation to integrate educational technology into their instructional practices. Participants successfully created Kahoot accounts, designed various types of assessment items, conducted interactive assessments, and utilized automatically generated assessment reports. The high level of participant engagement throughout the training suggests that a workshop model combining theoretical instruction, hands-on practice, and continuous mentoring is an effective approach to strengthening teachers' professional competencies. Nevertheless, several challenges were encountered during the implementation of the program, including limited internet connectivity in some schools and differences in participants' levels of digital literacy. Therefore, continued mentoring programs and improvements in technological infrastructure within madrasahs are recommended to ensure the sustainable implementation of digital learning assessment.

Overall, this Community Service Program made a meaningful contribution to improving the quality of Islamic Religious Education by strengthening teachers' competencies in utilizing digital technology for learning assessment. Similar programs are recommended to be expanded to other educational levels to promote a more widespread and equitable digital transformation of learning assessment practices.

REFERENCES

Abdullah, M., & Hidayat, A. (2023). Digital transformation in Islamic education: Challenges and opportunities. *Jurnal Pendidikan Islam, 12*(2), 145–160.

Arifin, Z. (2022). *Evaluasi Pembelajaran: Prinsip, Teknik, dan Prosedur*. Bandung: PT Remaja Rosdakarya.

Badan Standar, Kurikulum, dan Asesmen Pendidikan. (2022). *Panduan Pembelajaran dan Asesmen pada Kurikulum Merdeka*. Jakarta: Kemendikbudristek.

Branch, R. M. (2021). *Instructional Design: The ADDIE Approach*. New York: Springer.

Febriana, R. (2021). *Evaluasi Pembelajaran*. Jakarta: Bumi Aksara.

Hamzah, A. (2022). *Metode Penelitian Kuantitatif*. Malang: Literasi Nusantara.

Hidayat, R., & Suryana, Y. (2022). “Pengaruh penggunaan Kahoot terhadap motivasi belajar peserta didik.” *Jurnal Teknologi Pendidikan Indonesia, 15*(2), 102–115.

Kementerian Agama Republik Indonesia. (2023). *Kurikulum Pendidikan Agama Islam pada*

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

Madrasah. Jakarta: Direktorat KSKK Madrasah.

Marzano, R. J. (2021). *The New Art and Science of Teaching*. Bloomington: Solution Tree Press.

Mulyasa, E. (2022). *Menjadi Guru Penggerak Merdeka Belajar*. Bandung: PT Remaja Rosdakarya.

Nurhayati, S., & Rahmawati, D. (2023). "Gamification-based learning through Kahoot in elementary education." *International Journal of Instruction, 16*(1), 501–516.

OECD. (2023). *Education at a Glance 2023: OECD Indicators*. Paris: OECD Publishing.

Putri, D. A. A. (2021). Project Based Learning as a Means of Entrepreneurship Values Education in Elementary School Children. *Social, Humanities, and Educational Studies (SHEs): Conference Series*, *4*(1), 5. https://doi.org/10.20961/shes.v4i1.48559

Rahman, F., Sari, D., & Putri, N. (2022). "Pemanfaatan media digital dalam evaluasi pembelajaran Pendidikan Agama Islam." *Jurnal Pendidikan Agama Islam, 19*(1), 78–92.

Riduwan. (2022). *Skala Pengukuran Variabel-Variabel Penelitian*. Bandung: Alfabeta.

Sugiyono. (2023). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (Edisi ke-3). Bandung: Alfabeta.

Suprihatiningrum, J. (2022). *Strategi Pembelajaran*. Yogyakarta: Ar-Ruzz Media.

Suryani, N., Setiawan, A., & Putria, A. (2021). *Media Pembelajaran Inovatif*. Bandung: PT Remaja Rosdakarya.

Suleman, Muh. A. (2024). Meningkatkan Keterampilan Komunikasi Siswa melalui Penerapan Experiential Learning. *Ideguru: Jurnal Karya Ilmiah Guru*, *9*(3), 1530–1538. https://doi.org/10.51169/ideguru.v9i3.1101

Syarifudin, A., Yetri, Y., & Thahir, A. (2023). Manajemen Pondok Pesantren Dalam Pembentukan Karakter Kemandirian Entrepreneur Santri Pondok Pesantren Salafiyah Baitul Kirom Lampung Selatan. *El-Idare: Jurnal Manajemen Pendidikan Islam*, *9*(1), 18–28. https://doi.org/10.19109/elidare.v9i1.16801

Taufikin, T. (2021). Pesantren as the Three Centers of Education Perspective of Ki Hadjar Dewantara. *Dinamika Ilmu*, 101–119. https://doi.org/10.21093/di.v21i1.3149

Titton, L. A., & Jakubowski, M. (2021). *Authentic Learning in Entrepreneurship Education* (pp. 320–327). https://doi.org/10.1007/978-3-030-72132-9_27

Utami, R. (2022). "Interactive digital assessment using Kahoot to improve student engagement." *Journal of Educational Technology, 8*(3), 211–223.

Yahya, A. I. B., Purnama, S., & Supeno, S. (2023). Eksplorasi Prinsip Andragogi dalam Pendidikan Orang Dewasa: Sebuah Studi Kualitatif pada Pendidikan Formal dan Non-Formal di STIP Jakarta. *PTK: Jurnal Tindakan Kelas*, *5*(1), 136–152. https://doi.org/10.53624/ptk.v5i1.505

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

Yusuf, A. M. (2022). *Metode Penelitian Kuantitatif, Kualitatif, dan Penelitian Gabungan*. Jakarta: Kencana.

Widoyoko, E. P. (2022). *Teknik Penyusunan Instrumen Penelitian*. Yogyakarta: Pustaka Pelajar.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License