



Implementation of Interactive Workshops with Mentimeter, Crossword Puzzle, and Wordwall in the Professional Development of Teachers at SMAN 1 Sajingan

**Sulistyarini^{1*}, Imran², Ika Rahmatika Chalimi³, Stella Prancisca⁴,
Yusawinur Barella⁵, Venny Karolina⁶, Edwin Mirzachaerulsyah⁷, Hendra⁸,
Vionaria⁹, Fajar Adilah Pratama¹⁰**

^{1, 2, 3, 4, 5, 6, 7, 8, 9, 10} Faculty of Teacher Training and Education, Tanjungpura University

*Corresponding author: sulistyarini@fkip.untan.ac.id

Received 28-10-2024

Revised 19-11-2024

Published 18-12-2024

ABSTRAK

Fakultas Keguruan dan Ilmu Pendidikan, Universitas Tanjungpura, melaksanakan pengabdian masyarakat berjudul "Workshop Interaktif dengan Mentimeter, Teka-Teki Silang, dan Wordwall bagi Guru di SMAN 1 Sajingan Border Malindo". Lokasi sekolah di perbatasan Indonesia-Malaysia menuntut pendidikan yang berdaya saing global. Namun, tantangan seperti keterbatasan infrastruktur dan minimnya pelatihan guru menjadi hambatan. Oleh karena itu, tujuan utama dari workshop ini adalah meningkatkan profesionalisme guru-guru di SMAN 1 Sajingan melalui pengembangan penilaian pembelajaran yang lebih interaktif dan inovatif dengan memanfaatkan platform digital seperti Mentimeter, Teka-Teki Silang, dan Wordwall. Kegiatan ini mencakup pelatihan, diskusi interaktif, dan bimbingan teknis dalam merancang penilaian partisipatif. Evaluasi kegiatan menunjukkan peningkatan signifikan pada kompetensi guru dalam menyusun instrumen penilaian inovatif, dengan lebih dari 60% peserta setuju dan 30% sangat setuju bahwa workshop ini meningkatkan kompetensi guru dan peserta mendapatkan manfaat secara langsung dari rangkaian workshop tersebut. Peserta berharap adanya kegiatan sejenis dengan waktu pelatihan yang lebih lama dan berkelanjutan.

Kata kunci: Teknologi Digital; Penilaian Pembelajaran; Evaluasi Pembelajaran; Profesionalisme Guru

ABSTRACT

Faculty of Teacher Training and Education, Tanjungpura University, carried out community service entitled "Interactive Workshop with Mentimeter, Crosswords and Wordwalls for Teachers at SMAN 1 Sajingan Border Malindo". The school's location on the Indonesia-Malaysia border demands education that is globally competitive. However, challenges such as limited infrastructure and lack of teacher training are obstacles. Therefore, the aim of this workshop is to increase the teachers professionalism at SMAN 1 Sajingan through assessing the more interactive and innovative learning by utilizing digital platforms such as Mentimeter, Crosswords, and Wordwall. This activity includes training, interactive discussions, and guidance in designing participatory assessments. Evaluation of the activity shows a significant increase in teacher competence in developing innovative assessment, with more than 60% of participants agreeing and 30% strongly agreed that this workshop increased teacher competency and benefited directly from the series of workshops. Participants hope for longer and more sustainable training sessions.

Keywords: Digital Techonology; Learning Assessment; Learning Evaluation; Teacher Professionalism.



BACKGROUND

West Kalimantan Province, sharing a direct border with Malaysia, places Sambas Regency as a key frontier region with frequent cross-border interactions. Given this strategic location, it is crucial that the quality of education in this area is elevated to ensure students are well-prepared to compete in the global economy. Special attention should be given to enhancing teacher training in technology and 21st-century skills to equip students with the competencies needed for success both locally and across the border (Dange & Siddaraju, 2020).

Providing quality education that fosters these skills is essential for students in Sambas to thrive in an increasingly interconnected world (Mushoddik et al., 2021). However, despite its geographic importance, the education system in Sambas faces several challenges that need urgent attention. Limited infrastructure, under-resourced schools, and a shortage of trained educators have hampered efforts to improve educational outcomes (Safitri & Kurniawan, 2022). Studies indicate that the region lags behind in implementing modern pedagogical techniques and integrating technological tools into the learning environment, which is vital for 21st-century education (Nurhayati, 2023). As such, it becomes increasingly critical for teachers in Sambas to receive professional development training, particularly in the use of educational technology. These trainings are necessary to not only enhance the teaching process but also to prepare students with the technological skills demanded by the global workforce (Azizah et al., 2023).

Teacher training programmes that emphasise digital literacy, the use of interactive tools and the development of critical thinking skills will enable teachers to deliver more dynamic lessons and help students build the skills needed in today's workforce (Wulandari, 2022). Such initiatives ensure that Sambas students are not only well-prepared academically but also equipped with the technological proficiency to compete on a global scale (Nugroho, 2024).

In the current digital era, an interactive approach has become the key to effective teaching and learning (Utterova, 2024). Traditional teaching methods, where instructors primarily lecture and students listen, are being supplemented or replaced by interactive techniques that encourage participation, collaboration, and critical thinking (Rivadeneira & Inga, 2023). Educational technologies are increasingly integrated into both formal and informal educational settings, reshaping the way instructors and learners engage with the material (Stavytska, 2023). Digital tools and platforms enable this shift by providing opportunities for real-time interaction, instant feedback, and personalized learning experiences (Kem, 2022). For instance, tools like quizzes, polls, and discussion forums allow learners to engage actively with the material, ask questions, share opinions, and test their knowledge as they learn (Shaik et al., 2023). An interactive approach leverages the benefits of digital technology to create a more dynamic, engaging, and effective learning experience (Elmi et al., 2024).

It encourages active participation, caters to diverse learning styles, and helps students develop a deeper understanding of the content (Dogani, 2023).

In the context of education and training, interactive workshops are one of the effective ways to facilitate in-depth and sustainable learning (Fadiyah et al., 2023). Workshops are designed to actively involve participants, encouraging them to think critically, collaborate with peers, and apply theoretical knowledge to practical problems (Poldma et al., 2021). In an effort to enhance the effectiveness of workshops, the application of digital tools such as Mentimeter, Crossword Puzzle, and Wordwall has become highly relevant.

Mentimeter is an interactive tool that enables facilitators to create engaging and participatory learning experiences. With Mentimeter, participants can engage in discussion sessions, submit questions, provide instant responses, and give anonymous feedback (Retno Wulan & Sulisworo, 2023). This platform allows facilitators to create quizzes, polls, and Q&A sessions that enable participants to actively engage in the learning process. Crossword Puzzle is a form of puzzle game that can be used as a tool to test participants' understanding and knowledge of the material being taught (Oktavia et al., 2023). By creating crossword puzzles that are relevant to the workshop topic, participants can interact with the content actively while enhancing their understanding through the use of keywords and relevant concepts (Az Zahrah & Anwar, 2023).

Wordwall is a platform that enables the creation of various types of interactive learning activities, including word games, tests, and quizzes. With Wordwall, facilitators can create word cards, game boards, and other activities that can enrich the learning experience of participants and facilitate better understanding (Çil, 2021).

The use of these digital tools in interactive assessment workshops offers a number of significant benefits. First, these tools enable facilitators to create more engaging and participatory learning experiences, which can enhance participant motivation and accelerate the learning process. Second, the use of these tools allows for instant data collection and provides quick feedback to participants, enabling them to track their progress and identify areas that need improvement. Third, these tools enable adaptive learning, where content and activities can be tailored to the individual needs and preferences of participants (Zhyhadlo, 2022).

Therefore, the use of Mentimeter, Crossword Puzzle, and Wordwall in interactive assessment workshops can enhance the effectiveness of learning, enrich the participant experience, and facilitate deeper understanding of the material being taught. By wisely leveraging this technology, educators and trainers can create a learning environment that is dynamic, engaging, and meaningful for participants (Kachak, 2023). Consequently, this community service activity is titled "Implementation of Interactive Workshops with Mentimeter, Crossword Puzzle, and Wordwall in the Professional Development of Teachers at SMAN 1 Sajingan" with the aim of helping to improve teacher self-development through interactive assessment

workshops using Mentimeter, Crossword Puzzle, and Wordwall. This can support the development of learning innovations, teacher professionalism in learning evaluation, and make a greater contribution to educational development.

METHODS

This community service activity employs a community education method. The community education method is designed to empower a community through relevant and applicable learning, aiming to enhance knowledge and skills in specific areas (Sabiq et al., 2020). This activity utilizes the community education method through training and technical guidance provided to the participating teachers on the use of various digital technology platforms for learning assessment.

The program was conducted over seven months from January to August, including a preliminary survey, proposal drafting, and implementation phases. The audience for the activity of creating assessments using Mentimeter, Crossword Puzzle, and Wordwall are the teachers at SMAN 1 Sajingan. The determination of the target community recruited is based on the teacher working group in Sajingan District, Sambas Regency. This community service activity serves as a pedagogical training program for educators who teach in border areas. Its objective is to enhance the competence and creativity of these teachers, enabling them to develop adaptive and high-quality learning experiences.

The first stage carried out in this community service is in the form of training with the lecture method followed by question and answer, discussion, and practice of making assessments using Mentimeter, Crossword Puzzle, and Wordwall. The methods used in this activity consist of:

- a. Orientation of the community service activity, which is the introduction of the community service activity to be carried out to the Principal and teachers of SMAN 1 Sajingan.
- b. Training, which is an interactive activity with the target community to identify problems, discuss problem-solving, and provide explanations of materials related to making assessments using Mentimeter, Crossword Puzzle, and Wordwall.
- c. Consultation or guidance on making assessments using Mentimeter, Crossword Puzzle, and Wordwall in the form of technical guidance.

The workshops involved lectures, Q&A sessions, and hands-on practice using the specified tools to create interactive assessments. Teachers received continuous support throughout the program to refine their assessment techniques.

RESULTS AND DISCUSSION

The Community Service (PKM) activities carried out at SMAN 1 Sajingan have successfully shown significant results in efforts to improve teacher skills through lecture-based training methods, interactive discussions, and hands-on practice. This implementation method was designed to provide a comprehensive experience for

teachers in mastering interactive assessment tools such as Mentimeter, Crossword Puzzle, and Wordwall.

Orientation Stage

In the orientation stage, the PKM team began the activity by introducing the program to the principal and teachers at SMAN 1 Sajingan. This step is very important to build a strong foundation and ensure that all stakeholders have the same understanding of the objectives and benefits of the program to be implemented. The presentation of the material by the PKM Team focused on the urgency of adopting digital technology in the world of education, particularly in the aspects of learning development, assessment, and evaluation. The orientation stage can be shown in Figure 1.



Figure 1. Orientation Stage

In this session, the team explained how digital technology can be a powerful tool in overcoming the challenges of conventional learning, such as limitations in monitoring student progress in real-time and difficulties in making learning more engaging and interactive. The PKM team highlighted global trends that show a shift towards digitalization in education and how this opens up opportunities for teachers to improve the quality of their teaching. Technologies such as Mentimeter, Crossword Puzzle, and Wordwall were introduced as concrete examples of digital tools that can be used to create more dynamic and engaging assessments. The team also emphasized the importance of innovation in teaching methods as a way not only to meet the increasingly diverse needs of students, but also to build a learning environment that is responsive and adaptive to technological developments.

Interactive Training

The interactive training stage aims to empower the teachers who are participating in the PKM to identify and overcome the problems they face in their daily learning process. At the beginning of the session, the teachers were invited to identify

various challenges that often arise in learning, especially in terms of assessment and evaluation. Some of the problems that emerged include the difficulty in creating assessments that can attract student interest, the limited time in designing innovative evaluation materials, and the lack of skills in using digital technology effectively. After these problems were identified, the training session continued with an active and in-depth group discussion. This discussion focused on solving these problems by utilizing the digital tools introduced, such as Mentimeter, Crossword Puzzle, and Wordwall. For example, one of the issues raised was the lack of student involvement in the traditional assessment process. Teachers expressed that students often feel bored and less interested when faced with conventional tests or quizzes. To address this problem, the PKM team explained how to use Mentimeter as an interactive tool, where students can participate in real-time through their devices. The use of Mentimeter allows teachers to create more engaging quizzes or polls, which not only test students' understanding but also increase their active participation. The training session can be seen in Figure 2.



Figure 2. Training Session.

Additionally, the teachers also identified challenges in creating variations in the assessment format. They often get stuck in a monotonous format, such as multiple-choice or essay questions. To address this, the training provided solutions by introducing Crossword Puzzle and Wordwall as creative alternatives for assessment. Through these tools, teachers can create crossword puzzles or word games that are challenging, but also fun for students. This not only increases student engagement but also helps reinforce their understanding through a more interactive approach.

Consultation and Guidance

The consultation and guidance stage is an important part of this PKM program, where teachers are provided with intensive assistance and technical guidance to master the use of digital tools such as Mentimeter, Crossword Puzzle, and Wordwall in the learning process. This activity is designed to ensure that teachers not only understand the basic concepts of these tools, but are also able to apply them effectively

in the context of real-world learning. At the beginning of the guidance session, each teacher receives a detailed step-by-step tutorial. This tutorial covers everything from basic platform introduction to how to set up and customize assessments according to the taught material. Teachers are taught how to create interactive quizzes with Mentimeter, where they can input various types of questions such as multiple choice, rating scales, and direct polling that can be accessed by students through their respective devices. This tool is also equipped with data visualization features that allow teachers to analyze student responses in real-time, providing direct insights into students' understanding of the taught material. The consultation session can be seen in Figure 3.



Figure 3. Consultation Session

In addition, teachers are also trained to use Crossword Puzzle as an evaluation tool that not only challenges students' cognitive abilities, but also adds an element of gameplay to the learning process. With the guidance of the PKM team, teachers have successfully created crossword puzzles relevant to the topic being discussed, and integrated this game into their lesson plans. This process involves discussions on how to select the right keywords, adjust the level of difficulty of the puzzles, and ensure that this tool is accessible to all students, including those with special needs or learning difficulties. Wordwall, as another tool introduced, also receives special attention during this stage. Teachers are trained to create various types of word games and other interactive activities that can be used as formative or summative assessments. One of the results of this guidance is that teachers are able to design games specifically tailored to the ability levels of students in their classes. They also learn how to modify games to accommodate different learning styles, ensuring that every student, whether visual, auditory, or kinesthetic, can participate and learn to the fullest.

The results of this consultation and guidance stage are very positive. Teachers have shown significant improvements in their technical skills and confidence in using digital technology as part of their teaching. They have not only mastered the technical ways to create more engaging and interactive assessments, but have also developed a deeper understanding of how these technologies can be used to facilitate more

inclusive and student-centered learning. In addition, this activity has also facilitated the creation of a more collaborative learning environment among teachers, where they share ideas and experiences in applying these tools in their respective classrooms.

Before the activity ended, the participants gave feedback for criticism and suggestions. Feedback was given online through filling out a Google Form. The questions and feedback given by the participants can be seen in Table 1.

Table 1. Question and Feedback

No	Question	Feedback
1	The material presented is in accordance with the needs of the participants	- Disagree (0 response) - Neutral (0 response) - Agree (17 responses) 60.7 % - Strongly Agree (11 responses) 39.3%
2	The material presented is clear and easy to understand	- Disagree (0 response) - Neutral (0 response) - Agree (20 responses) 76.9% - Strongly Agree (6 responses) 23.1%
3	The method of delivering the material is quite interesting	- Disagree (0 response) - Neutral (0 response) - Agree (23 responses) 88.5 % - Strongly Agree (3 responses) 11.5 %
4	The time provided is appropriate for the delivery of PKM materials and activities	- Disagree (8 response) 29.6% - Neutral (4 response) 14.8 % - Agree (6 responses) 22.2 % - Strongly Agree (9 responses) 33.3 %
5	PKM members involved in community service activities provide services according to needs	- Disagree (0 response) - Neutral (0 response) - Agree (18 responses) 69.2% - Strongly Agree (8 responses) 30.8 %
6	Any complaints/questions raised by the participants were followed up well by the resource persons/members.	- Disagree (0 response) - Neutral (0 response) - Agree (17 responses) 65.4% - Strongly Agree (9 responses) 34.6 %
7	PKM activities succeeded in improving participants' self-development	- Disagree (0 response) - Neutral (0 response) - Agree (11 responses) 42.3% - Strongly Agree (15 responses) 57.7%
8	Participants get direct benefits from the PKM activities carried out	- Disagree (0 response) - Neutral (0 response) - Agree (20 responses) 76.9% - Strongly Agree (6 responses) 23.1 %
9	In general, participants were satisfied with the PKM activities	- Disagree (0 response) - Neutral (0 response) - Agree (15 responses) 57.7% - Strongly Agree (11 responses) 42.3%

No	Question	Feedback
10	Feedback and suggestions	Most of the participants were satisfied with the PKM activities that had been carried out, but the participants expected a longer training time and felt the need for more sustainable technical guidance.

Based on the collected feedback, most of participants expressed a high level of satisfaction with the PKM activities. The responses indicate that most participants either agreed or strongly agreed that the content was relevant to their needs, clear, and comprehensible. Additionally, the delivery method was found to be engaging, and facilitators were commended for their responsiveness to participant inquiries and concerns. Moreover, the PKM activities were perceived as significantly enhancing participants' self-development and providing tangible benefits.

However, several participants noted areas for improvement, specifically regarding the duration of the activities. There was a recurring suggestion that the allocated time was inadequate, with participants expressing a preference for longer sessions and more sustained technical guidance. In summary, while the PKM activities were positively received, future iterations could benefit from extended timeframes and continuous support to further optimize the learning experience.

CONCLUSION

The implementation of the interactive workshops using Mentimeter, Crossword Puzzle, and Wordwall at SMAN 1 Sajingan has significantly enhanced the professionalism and digital competencies of the teachers involved. The workshops successfully addressed key challenges faced by the educators, particularly in the creation and execution of engaging and interactive learning assessments. The hands-on approach and continuous support provided throughout the program were pivotal in ensuring that teachers could confidently apply these tools in their classrooms, ultimately leading to more dynamic and effective teaching practices.

The PKM activities were well-received, with participants agreeing that the material met their needs (60.7% agree, 39.3% strongly agree), was clear (76.9% agree, 23.1% strongly agree), and engaging (88.5% agree, 11.5% strongly agree). The team effectively addressed questions (65.4% agree, 34.6% strongly agree) and provided needed services (69.2% agree, 30.8% strongly agree). Participants noted benefits in self-development (42.3% agree, 57.7% strongly agree) and overall satisfaction (57.7% agree, 42.3% strongly agree). However, the success of these initiatives also highlighted areas for further improvement. The feedback indicated a need for adjusting workshop material with the existing condition which shows a bit of limited quality internet connection. Additionally, continuous training and support are recommended to further solidify the teachers' proficiency and to introduce them to new and emerging educational technologies.

In future community service activities, it is advisable to address the technical infrastructure limitations by collaborating with local authorities or educational

institutions to improve internet access. Moreover, expanding the scope of the training to include more advanced digital tools and techniques will ensure that teachers remain at the forefront of educational innovation, ultimately benefiting the learning outcomes of their students.

ACKNOWLEDGEMENT

The Faculty of Teacher Training and Education, Tanjungpura University, deserves a heartfelt thank you for providing the funding and support that enabled the implementation of this Research and Community Service. The success of this impactful PKM activity was made possible by the hard work and dedication of the PKM Team and all the parties who played a role in the implementation of this PKM.

REFERENCES

- Az Zahrah, R. amalia, & Anwar, K. (2023). The Effect Using Wordwall Game Applications To Improve Student's Vocabulary In Chumchon Ban Phanokkhao School. *DIDAKTIKA: Jurnal Pemikiran Pendidikan*, 29(1), 18. <https://doi.org/10.30587/didaktika.v29i1.5246>
- Çil, E. (2021). The effect of using wordwall.net in increasing vocabulary knowledge of 5th grade EFL students. *Language Education & Technology (LET Journal)*, 1(1), 21–28. <http://langedutech.com>
- Dange, J. K., & Siddaraju. (2020). Role of Teacher Training Program in Enhancing Quality Education. *The Journal of Education, Culture, and Society*, 5, 137. <https://api.semanticscholar.org/CorpusID:233253689>
- Dogani, B. (2023). Active learning and effective teaching strategies. *International Journal of Advanced Natural Sciences and Engineering Researches*, 7(4), 136–142. <https://doi.org/10.59287/ijanser.578>
- Elmi, H., Ambiyar, A., Huda, Y., & Novaliendry, D. (2024). The Role of Information and Communication Technology in Interactive Learning. *Jurnal SAINTIKOM (Jurnal Sains Manajemen Informatika Dan Komputer)*, 23(1), 193. <https://doi.org/10.53513/jis.v23i1.9549>
- Fadiyah, F., Fuadi, A., Nurjannah, N., Irmayanti, I., & Lita, W. (2023). Quizizz Application-Based Interactive Learning Media Development Workshop for Junior High School Teacher. *Pengabdian: Jurnal Abdimas*, 1(2), 59–65. <https://doi.org/10.55849/abdimas.v1i2.157>
- Kachak, T. (2023). Information and Communication Competence of Future Teachers in the Context of Studying the Humanities. *Journal for Educators, Teachers and Trainers*, 14(4), 95–111. <https://doi.org/10.47750/jett.2023.14.04.009>
- Kem, D. D. (2022). Personalised and Adaptive Learning: Emerging Learning Platforms in the Era of Digital and Smart Learning. *International Journal of Social Science and Human Research*, 05(02), 385–391. <https://doi.org/10.47191/ijsshr/v5-i2-02>
- Mushoddik, M., Amirullah, G., & Susilo, S. (2021). *Fostering aspects of religion, education, and skills for adolescents in Tebas Sungai Sambas Regency*. <https://api.semanticscholar.org/CorpusID:235578336>
- Oktavia, M., Hiltrimartin, C., & Wati, D. (2023). Improving Student Learning Outcomes Using Crossword Based Worksheet In Primary Schools. *Journal of Basic Education*

- Research*, 4(3), 98–103. <https://doi.org/10.37251/jber.v4i3.725>
- Poldma, T., Fabio, L. Di, & Hammouni, Z. (2021). Students Engaged in Reflection and Practical Problem Solving: Exploring Colour Theory. *LEARNIng Landscapes*, 14(1), 317–327. <https://doi.org/10.36510/LEARNLAND.V14I1.1038>
- Retno Wulan, W., & Sulisworo, D. (2023). The Use of Mentimeter to Improve Learning Interaction: A Classroom Action Research Study. *Journal of Mathematics, Science, and Computer Education*, 3, 55–61.
- Rivadeneira, J., & Inga, E. (2023). Interactive Peer Instruction Method Applied to Classroom Environments Considering a Learning Engineering Approach to Innovate the Teaching–Learning Process. *Education Sciences*, 13(3). <https://doi.org/10.3390/educsci13030301>
- Sabiq, A., Sulaiman, A. I., & Sugito, T. (2020). *Designing Family Empowerment Program: Community Education in Times of Covid-19 Pandemic*. <https://api.semanticscholar.org/CorpusID:249398748>
- Shaik, A. H., Prabhu, M., Hussain, S. M., & Poloju, K. K. (2023). An Interactive Design Tool for Assessing Student understanding in Digital Environments. *SHS Web of Conferences*, 156, 09004. <https://doi.org/10.1051/shsconf/202315609004>
- Stavytska, I. (2023). *Kapitel 1* /. 6–31. <https://doi.org/10.30890/2709-2313.2023-18-02-022>
- Utterovna, B. S. (2024). EXPLORING INNOVATIVE APPROACHES TO TEACHING. *International Scientific Journal*, 3(1), 923–927. <https://doi.org/10.5281/zenodo.10573111>
- Zhyhadlo, O. Y. (2022). Application of Digital Game-Based Tools for Formative Assessment At Foreign Language Lessons. *Information Technologies and Learning Tools*, 87(1), 139–150. <https://doi.org/10.33407/itlt.v87i1.4703>