Community Empowerment Journal
Volume 4, No. 2, 2026
ISSN: 3024-8558
DOI: https://doi.org/10.61251/cej.v4i2.377

Enhancing reading instruction through multimodal, literacy, and AI integration: A training program for high school English teachers

[1]Sheila Agustina[*], [1]Vidya Mandarani, [2]Akbar Wiguna, [1]Fika Megawati, [1]Yunita Sabillah Damayanti, [1]Achmad Oddy Syam Prayoga, [1]Zaidan Al Zuhdi
[1]Department of English Language Education, Faculty of Psychology and Education, Universitas Muhammadiyah Sidoarjo, Sidoarjo, Indonesia
[2]Department of Information Technology Education, Faculty of Psychology and Education, Universitas Muhammadiyah Sidoarjo, Sidoarjo, Indonesia

*Corresponding Author
Jl. Raya Lebo No.4, Wonoayu, Sidoarjo, East Java 61261, (031) 8962733
E-mail: sheilaagustina@umsida.ac.id

How to cite (APA 7th style): Agustina, S., Mandarani, V., Wiguna, A., Megawati, F., Damayanti, Y. S. Prayoga, A.O.S., & Zuhdi, Z.A. (2026). Enhancing reading instruction through multimodal, literacy, and AI integration: A training program for high school English teachers. *Community Empowerment Journal*, *4*(2), 248-256. https://doi.org/10.61251/cej.v4i2.377

Abstract

Low levels of reading interest and student engagement remain major challenges in high school English instruction. This issue is further exacerbated by the continued use of conventional teaching strategies and the limited integration of multimodal media and digital technologies. This community service program aimed to enhance teachers' pedagogical competence in teaching reading through a multimodal approach, literacy enrichment, and the use of Artificial Intelligence (AI). The program was implemented in three stages: a workshop, the development of teaching modules, and classroom implementation, involving 52 high school English teachers from the MGMP in Sidoarjo Regency. Data were collected through pre-activity and post-activity questionnaires and analyzed descriptively. The results indicate a significant improvement in teachers' understanding of multimodal, literacy-based, and AI-assisted reading instruction, increasing from approximately 60–70% at the initial stage to over 85% after the workshop. All participants successfully developed instructional modules, and more than 75% implemented them in their classrooms. This implementation contributed to increased student engagement, as reflected in higher levels of participation and interaction during reading activities. These findings suggest that a practice-based training approach—integrating workshops, module development, and classroom implementation—is effective in enhancing teachers' competence and promoting more interactive and contextualized reading instruction. It is recommended that similar programs be sustained through ongoing mentoring to ensure long-term impact.

Keywords: *artificial intelligence; community service; literacy; multimodality; reading instruction*

INTRODUCTION

Reading literacy is a fundamental component of language learning, particularly in the context of English as a Foreign Language (EFL). At the senior high school level, reading skills not only enable students to comprehend texts but also support the development of critical thinking, broaden global perspectives, and contribute to overall academic achievement. Therefore, strengthening reading literacy is a crucial aspect of English instruction in schools (Hartatik et al., 2025; Mandarani & Megawati, 2024).

However, a growing body of research indicates that students' motivation and interest in reading in Indonesia remain relatively low. This condition affects not only their ability to comprehend texts but also their engagement in the learning process (Septiana et al., 2025; Rohmah & Imaniar, 2023). These findings are consistent with the results of focus group discussions (FGDs) conducted with high school English teachers in Sidoarjo Regency, which revealed that students tend to show low interest in reading, become easily disengaged, and experience difficulties in comprehending texts deeply.

In classroom practice, teachers generally still rely on conventional reading approaches (Anes Boubris & Haddam, 2021; Dludla et al., 2024; Mas Pupah, 2023), such as assigning students to read textbook passages and answer comprehension questions individually. This approach tends to limit interaction and collaboration, thereby reducing opportunities for active engagement and diminishing students' motivation to read (Kruk, 2021; Zai & Zai, 2025). Furthermore, the characteristics of today's students—who are more familiar with digital media and visual content—require more innovative, adaptive, and contextualized instructional strategies (Agustina et al., 2024).

Initial findings from this community service program, including a pre-activity questionnaire, further confirm these challenges. The results indicate that although some teachers possess a basic understanding of literacy concepts and innovative teaching approaches, the implementation of interactive and multimodal-based reading strategies remains limited. Teachers also identified several classroom challenges, including low student interest in reading, limited vocabulary, and insufficient student engagement in reading activities. These findings suggest a gap between teachers' conceptual understanding and their actual classroom practices.

In this context, a multiliteracy-based approach and interactive reading strategies offer relevant alternatives to address these issues. A multiliteracy approach emphasizes the use of multiple modes of representation—such as text, images, and digital media—to support meaning-making in more engaging and contextual ways (Mandarani et al., 2025). Meanwhile, interactive reading strategies promote active student involvement through dialogue, collaboration, and reflection, thereby enhancing the meaningfulness of the reading process (Kruk, 2021). In addition, the integration of technology, particularly Artificial Intelligence (AI), has the potential to support more adaptive and personalized reading instruction tailored to students' needs (Abbas et al., 2025; Harahap et al., 2026; Li, 2025). Therefore, an intervention that combines multimodal approaches, literacy practices, and AI integration is necessary to address both pedagogical and contextual challenges in reading instruction.

Based on these challenges, this community service program was designed and implemented through an intensive workshop, followed by hands-on training in developing teaching modules and classroom implementation. The program aimed to equip teachers with the knowledge and practical skills to apply multimodal-based reading instruction, strengthen literacy practices, and integrate AI into their teaching. Teachers were further encouraged to develop simple instructional modules that incorporate these components and implement them in their classrooms. This program is distinguished by its integration of multimodal approaches, literacy practices, and AI

Community Empowerment Journal
Volume 4, No. 2, 2026
ISSN: 3024-8558
DOI: https://doi.org/10.61251/cej.v4i2.377

within a practice-based training model that directly links workshop activities with classroom implementation.

Accordingly, this community service program aims to enhance teachers' competence in designing and implementing multimodal, literacy-based, and AI-assisted reading instruction in classroom settings. By positioning teachers not only as participants but also as practitioners who design and implement instructional practices, this program seeks to bridge the gap between theoretical understanding and classroom application. Through a practice-oriented and implementation-based approach, this community service initiative is expected to generate a sustainable impact on improving the quality of reading instruction, as well as enhancing students' motivation and literacy at the senior high school level.

METHOD

This community service program employed a practice-based training approach implemented through three main stages: preparation, implementation, and evaluation. The activity was conducted over approximately one month, involving 52 high school English teachers from the MGMP in Sidoarjo Regency as partners.

Preparation Stage

The preparation stage involved an initial situation analysis to identify the needs and challenges faced by teachers in teaching reading. This analysis was conducted through focus group discussions (FGDs) with MGMP teachers and a pre-activity questionnaire. The findings indicated that although teachers had a basic understanding of literacy concepts, the implementation of interactive, multimodal-based reading strategies and the integration of technology, including Artificial Intelligence (AI), remained limited. Based on these findings, the program was designed to address the identified gaps by focusing on strengthening teachers' competence in multimodal-based reading instruction, literacy practices, and AI integration. Training materials, workshop activities, and evaluation instruments were also prepared during this stage.

Implementation Stage

The implementation stage consisted of three main activities: a workshop, the development of teaching modules, and classroom implementation.

Workshop Stage

The workshop was conducted offline and lasted for one day. This stage aimed to provide both conceptual understanding and practical experience for participants. The materials presented included: (1) reading instruction using a multimodal approach, (2) strengthening literacy in classroom reading activities, and (3) the use of Artificial Intelligence (AI), particularly Gemini, in reading instruction. The materials were delivered interactively and supported by practical examples in classroom contexts. Participants were introduced to the use of visual and digital media in reading activities, the design of discussion- and reflection-based literacy tasks, and the use of AI to generate instructional materials, develop questions, and simplify texts. The workshop also included discussion and question-and-answer sessions to deepen participants' understanding. At the end of the session, participants began designing a simple teaching module as an initial application of the concepts learned. The implementation of the workshop is illustrated in Figure 1.

Figure 1. Reading Instruction Strategy Workshop for High School Teachers

Teaching Module Development Stage

Following the workshop, participants were asked to independently develop a simple teaching module. The module was designed by integrating three main components: a multimodal approach, literacy activities, and the use of AI in reading instruction. This stage aimed to encourage teachers to translate their understanding into contextualized instructional materials suited to their classroom needs.

Classroom Implementation Stage

In this stage, teachers implemented the developed teaching modules in their respective classrooms. The implementation was carried out over several weeks following the workshop, with flexibility to adapt to school conditions and student characteristics. This stage ensured that the strategies introduced were not only conceptually understood but also applied in real classroom practice.

Evaluation Stage

The evaluation stage aimed to assess the effectiveness of the program in improving teachers' understanding and implementation of reading instruction. Data were collected through pre-activity and post-activity questionnaires completed by participants. The instruments consisted of multiple-choice questions, perception scales, yes/no items, and one open-ended question to capture participants' experiences and perspectives in greater depth. Data were analyzed descriptively by comparing pre-activity and post-activity results to identify changes in teachers' understanding and responses to the program. In addition, qualitative data from the open-ended responses were used to enrich the analysis and provide a more comprehensive understanding of the program's impact. The success of the program was indicated by improvements in teachers' understanding, their ability to develop teaching modules, and the implementation of these modules in classroom practice.

RESULTS AND DISCUSSION

Initial Conditions in Reading Instruction

The results of the pre-activity questionnaire (n = 52) indicate that most teachers had a basic conceptual understanding of reading instruction; however, the implementation of innovative strategies remained limited. Approximately 60–70% of teachers reported familiarity with literacy concepts and multimodal approaches, yet fewer than 50% felt confident in applying them consistently in their classrooms. The overall initial condition is illustrated in Figure 2.

Community Empowerment Journal
Volume 4, No. 2, 2026
ISSN: 3024-8558
DOI: https://doi.org/10.61251/cej.v4i2.377

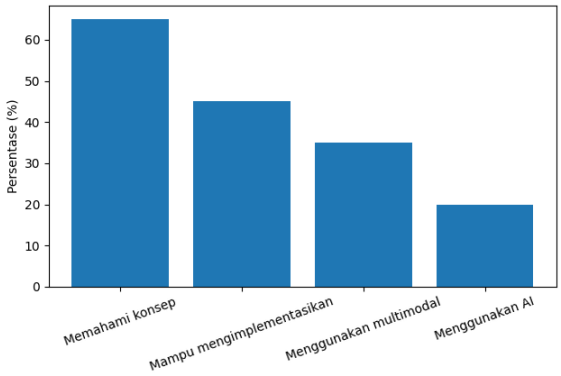

Figure 2. Teachers' Initial Conditions in Reading Instruction

As shown in Figure 2, a clear gap exists between teachers' conceptual understanding and classroom practice. More than 65% of teachers still relied on conventional approaches, such as reading texts and answering comprehension questions individually. Meanwhile, only around 30–40% reported using structured multimodal media, and the integration of Artificial Intelligence (AI) in reading instruction remained very limited (less than 25%).

These quantitative findings are supported by qualitative responses. More than 70% of teachers identified students' low interest in reading as a major challenge, with comments indicating that students tend to be "less interested in reading long texts" and "prefer visual content." In addition, approximately 60% of respondents reported limited vocabulary and difficulties in text comprehension. This suggests that challenges in reading instruction are not only cognitive but also affective, particularly related to motivation and engagement. This finding is consistent with previous studies highlighting low motivation and boredom as key factors influencing student engagement in reading activities (Rohmah & Imaniar, 2023; Kruk, 2021).

Improvement in Teachers' Understanding after the Workshop

Following the workshop, there was a substantial improvement in teachers' understanding of reading instruction. More than 85% of participants reported a good understanding of multimodal-based reading instruction, compared to approximately 60–70% at the initial stage. In addition, around 80–90% of teachers indicated that they understood how to integrate literacy activities—such as discussion, reflection, and collaboration—into reading instruction. A comparison of pre- and post-activity results is presented in Figure 3.

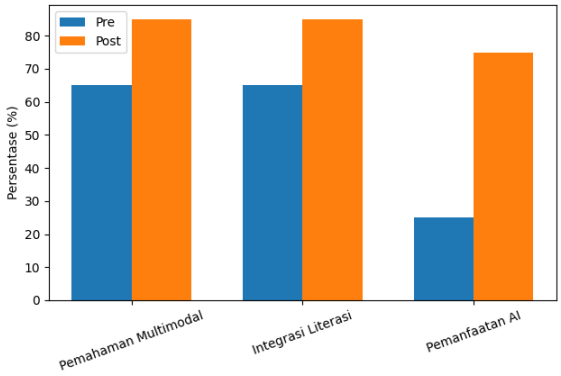

Figure 3. Comparison of Pre- and Post-Activity Results

As illustrated in Figure 3, all aspects showed notable improvement, with the most significant increase observed in the use of AI. Approximately 75% of teachers reported understanding the potential of AI in reading instruction after the workshop, compared to less than

Community Empowerment Journal
Volume 4, No. 2, 2026
ISSN: 3024-8558
DOI: https://doi.org/10.61251/cej.v4i2.377

25% before the activity. This indicates a shift from basic awareness to a more practical and applicable understanding.

Qualitative data further reveal a change in teachers' perspectives. Participants reported having a clearer understanding of how to integrate various media into reading instruction and began to perceive AI as a useful pedagogical tool. Statements such as "I now know how to combine text with images and discussions" and "AI can help create questions or simplify texts" reflect this shift. These findings suggest that practice-based training not only enhances knowledge but also fosters readiness for classroom implementation. This supports previous research emphasizing the effectiveness of hands-on and contextual learning experiences in improving teachers' pedagogical competence (Kruk, 2021).

Participant Responses and Satisfaction

Participants' responses to the workshop were overwhelmingly positive. More than 90% of respondents stated that the materials were relevant to their classroom needs, while approximately 88% found the content easy to understand. In addition, 85% reported that the workshop provided significant benefits to their teaching practice, and overall satisfaction reached approximately 90%.

Qualitative responses indicate that this positive perception was largely influenced by the practical and interactive nature of the training. Participants highlighted that the workshop differed from previous training experiences by offering hands-on activities. Teachers reported that they "gained new ideas in teaching reading," "became more confident in trying new methods," and were "motivated to use digital media and AI."

These findings suggest that training models integrating theory and practice are more effective in engaging participants and promoting meaningful learning experiences. This aligns with professional development approaches that emphasize experiential learning and reflection as key components in improving teaching quality (Agustina et al., 2024).

Development and Implementation of Teaching Modules

As a follow-up to the workshop, all participants (100%) successfully developed simple teaching modules integrating multimodal approaches, literacy activities, and AI. This demonstrates that the program not only enhanced understanding but also produced tangible instructional outcomes. Examples of these modules are presented in Figure 4.

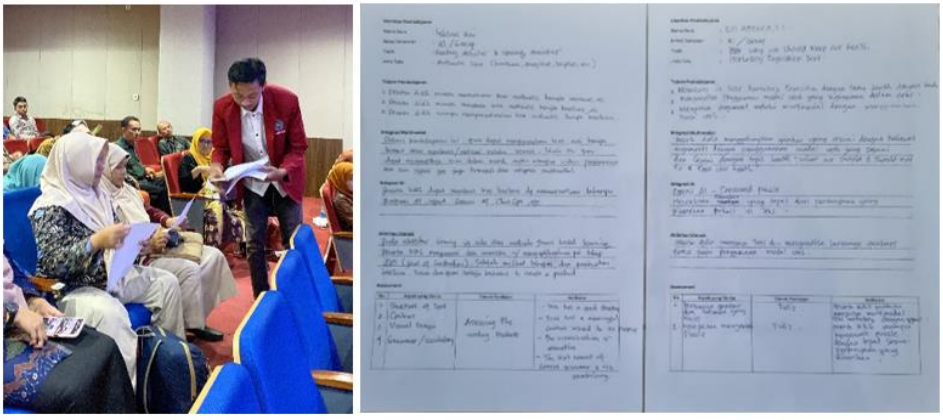

Figure 4. Teaching Modules Developed by Participants

Analysis of the developed modules indicates that most teachers were able to apply multimodal, literacy-based, and AI-supported strategies in contextual reading instruction. This integration was reflected both in the variety of media used and in the design of activities that promoted active student engagement. For example, one module focused on hortatory exposition

Community Empowerment Journal
Volume 4, No. 2, 2026
ISSN: 3024-8558
DOI: https://doi.org/10.61251/cej.v4i2.377

texts, combining video as a stimulus, followed by text analysis and presentation tasks using digital tools such as PowerPoint, Canva, and video production. The use of platforms such as Quizizz and Padlet, along with AI tools like Gemini, illustrates a comprehensive integration of technology. Literacy activities were reinforced through environmental-themed videos, written texts, and infographics, enabling students to construct meaning through multiple representations.

Another module utilized procedural texts related to operating an electric oven, integrating images, videos, and texts to support step-by-step understanding. Activities involved analyzing texts and matching them with corresponding visuals, demonstrating how multimodal elements can strengthen conceptual understanding and contextual relevance. In a narrative-based module, teachers used the folktale Malin Kundang, supported by audio-visual media through platforms such as Nearpod. Students analyzed video clips and texts to identify structure, extract information, and determine moral values, followed by a creative task of composing a new story. This indicates that reading instruction extended beyond comprehension to include critical and creative thinking.

Overall, these examples demonstrate that teachers were able to translate workshop concepts into practical classroom applications. The integration of multimodality, literacy, and AI not only diversified instructional practices but also enhanced student engagement. This supports the multiliteracies framework, which emphasizes the use of multiple modes of representation to improve comprehension and engagement (Mandarani et al., 2025).

During classroom implementation, approximately 75–80% of teachers reported increased student engagement, as evidenced by more active participation in discussions and greater responsiveness to learning activities. Around 70% also reported that digital media and AI contributed to more varied and effective instruction. Teacher reflections, such as “students are more active when there are images and group discussions” and “videos help students understand the text more quickly,” further reinforce these findings. However, some challenges remained. Around 30–35% of teachers reported constraints related to limited instructional time, unequal access to technology, and the need to adapt materials to students’ varying abilities. These findings indicate that while innovative strategies are effective, their implementation requires contextual adjustments to ensure sustainability.

Overall Impact of the Program

Overall, the program had a positive impact on teachers’ pedagogical competence. Improvements were observed in knowledge (more than 85% demonstrated strong understanding), skills (100% successfully developed teaching modules), and implementation readiness (more than 75% applied the modules in classroom settings). Beyond improving knowledge, the program also contributed to a shift in teachers’ perspectives and practices. Teachers began moving from conventional approaches toward more interactive, contextualized, and student-centered reading instruction. This shift is reflected in statements such as “I realized that reading does not have to be boring” and “this approach makes students more active in class.”

These findings suggest that a practice-based approach integrating workshops, module development, and classroom implementation is effective in bridging the gap between theory and practice. Moreover, the program demonstrates potential for sustainable impact by encouraging long-term changes in instructional practices. These findings highlight the importance of integrating pedagogical innovation with practical application to achieve meaningful and sustainable improvements in reading instruction.

CONCLUSION

This community service program demonstrates that a practice-based training model—integrating workshops, teaching module development, and classroom implementation—is effective in

enhancing teachers' pedagogical competence in reading instruction. The findings indicate a substantial improvement in teachers' understanding of multimodal approaches, literacy practices, and the use of Artificial Intelligence (AI), with more than 85% of participants demonstrating a more applicable understanding after the program. In addition, all participants (100%) successfully developed teaching modules integrating these components, and more than 75% implemented them in their classrooms. This implementation contributed to increased student engagement, as reflected in higher levels of participation, interest in learning materials, and interaction during reading activities. These results suggest that the program not only improved teachers' knowledge but also promoted a shift toward more interactive, contextualized, and student-centered instructional practices.

However, several challenges remain, including limited instructional time, unequal access to technology, and the need to adapt materials to students' varying abilities. These findings highlight the importance of providing continuous support to ensure the sustainability and consistency of implementation. Strengthening collaboration among teachers within the MGMP forum is also essential to facilitate the sharing of best practices and the development of more contextualized teaching modules. For future development, the integration of technology—particularly AI—in reading instruction should be further supported through ongoing training to enhance teachers' confidence and skills. In addition, future programs are recommended to incorporate more systematic evaluation of student learning outcomes to better measure the long-term impact of such interventions on the quality of instruction.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the Directorate of Research and Community Service at Universitas Muhammadiyah Sidoarjo for the financial support that made this community service program possible. The authors also extend their appreciation to the high school English teachers of the MGMP in Sidoarjo Regency for their active participation and valuable contributions to the implementation of this program.

REFERENCES

Abbas, Z., Hussain, A., Abbas, S. Z., Ahmad, N., Fatima, N., & Khan, F. (2025). Integrating artificial intelligence into reading comprehension instruction: Opportunities and pedagogical strategies. *Research Journal for Social Affairs, 3*(6), 97–109. https://doi.org/10.71317/RJSA.003.06.0432

Agustina, S., Megawati, F., Taufiq, W., Setyowati, N. A., & Nurani, S. D. G. (2024). Optimizing English learning in high schools with contemporary learning models using whiteboard animation. *Journal of Community Service and Empowerment, 5*(3), 615–623. https://doi.org/10.22219/jcse.v5i3.35776

Anes Boubris, A., & Haddam, F. (2021). Reading assessment: A case study of teachers' beliefs and classroom evaluative practices. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3764266

Dludla, S., Govender, S., & Mhlongo, H. (2024). Teaching strategies used by English first additional language teachers in teaching reading for comprehension. *Edelweiss Applied Science and Technology, 8*(6), 6717–6729. https://doi.org/10.55214/25768484.v8i6.3446

Harahap, A. A., Hasibuan, A., & Adinda, A. (2026). Enhancing elementary students' reading literacy through artificial intelligence-based learning media. *Multidisciplinary Indonesian Center Journal (MICJO), 3*(1), 671–677. https://doi.org/10.62567/micjo.v3i1.1827

Hartatik, S., Ibadurrahman, A. N., Sholihah, F., & Masodi, M. (2025). Peran literasi membaca dalam meningkatkan minat baca siswa. *Jurnal Pengabdian Masyarakat (ABDIRA), 5*(3), 374–381. https://doi.org/10.31004/abdira.v5i3.772

Kruk, M. (2021). Investigating the experience of boredom during reading sessions in the foreign language classroom. *Journal of Language and Education, 7*(3), 89–103. https://doi.org/10.17323/jle.2021.12339

Li, J. (2025). Artificial intelligence-driven high school English reading instruction. *Helios Multidisciplinary, 2*(1). https://doi.org/10.70702/bdb/RBJY9268

Mandarani, V., Fediyanto, N., Talshyn, A., & Utari, M. D. (2025). Exploring students' experiences and perceptions in adapting folk tales into picture books within multiliteracies pedagogy. *Journal of Research on English and Language Learning (J-REaLL), 6*(2), 235–248. https://doi.org/10.33474/j-reall.v6i2.23608

Mandarani, V., & Megawati, F. (2024). Transforming literary texts: A multiliteracies approach to engaging digital narratives. *English Review: Journal of English Education, 12*(2), 419–426. https://doi.org/10.25134/erjee.v12i2.9530

Mas Pupah, E. (2023). Critical literacy practice for EFL reading classroom. *Journal of Literature Language and Academic Studies, 2*(03), 92–97. https://doi.org/10.56855/jllans.v2i03.852

Rohmah, R. M., & Imaniar, F. (2023). Investigating external causes for lack of reading motivation among private high school students. *Journal of Multidisciplinary Science: MIKAILALSYS, 1*(3), 341–348. https://doi.org/10.58578/mikailalsys.v1i3.2266

Septiana, N., Ningsih, S., Bilal, B., Safitri, S., & Syarifuddin, S. (2025). Isu dan permasalahan peserta didik: Tantangan dan solusi dalam pendidikan Indonesia. *Aliansi: Jurnal Hukum, Pendidikan Dan Sosial Humaniora, 2*(5), 46–54. https://doi.org/10.62383/aliansi.v2i5.1182

Zai, M. S. P., & Zai, T. W. (2025). Analisis rendahnya minat baca mahasiswa. *Jurnal Ilmu Ekonomi, Pendidikan Dan Teknik, 2*(1), 26–34. https://doi.org/10.70134/identik.v2i1.164

Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.