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INTEGRATION OF DIGITAL LITERACY AND PROBLEM BASED LEARNING (PBL) MODEL TO IMPROVE ARABIC LEARNING OUTCOMES

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Abstract

Arabic language learning in the digital era requires the utilization of technology to be more effective and aligned with students' needs. The integration of digital literacy and the Problem-Based Learning (PBL) model is a necessary strategy to enhance Arabic learning outcomes. This study aims to examine the effectiveness of digital literacy implementation in PBL to optimize Arabic language learning. The research method used is a literature review that identifies various digital platforms that can be utilized in Arabic language learning based on PBL. The results indicate that the use of technology in PBL can enhance student engagement, foster critical thinking skills, and strengthen communication abilities in real-life contexts. Recommended platforms include Quizizz, Kahoot!, Canva, QuizWhizzer, Al Jazeera Learning Arabic, Duolingo Arabic, and YouTube, with educational channels such as Osratouna TV and Madrasa TV. The integration of technology in PBL not only makes learning more innovative and interactive but also enhances students' critical thinking, creativity, and learning outcomes.

Keywords: Digital Literacy, Problem-Based Learning, Learning Outcomes, Arabic Language

Abstrak

Pembelajaran bahasa Arab di era digital menuntut pemanfaatan teknologi agar lebih efektif dan sesuai dengan kebutuhan siswa. Integrasi literasi digital dan model Problem-Based Learning (PBL) merupakan strategi yang diperlukan untuk meningkatkan capaian pembelajaran bahasa Arab. Penelitian ini bertujuan untuk mengkaji efektivitas penerapan literasi digital dalam PBL untuk mengoptimalkan pembelajaran bahasa Arab. Metode penelitian yang digunakan adalah kajian pustaka yang mengidentifikasi berbagai platform digital yang dapat dimanfaatkan dalam pembelajaran bahasa Arab berbasis PBL. Hasil penelitian menunjukkan bahwa penggunaan teknologi dalam PBL dapat meningkatkan keterlibatan siswa, menumbuhkan keterampilan berpikir kritis, dan memperkuat kemampuan komunikasi dalam konteks kehidupan nyata. Platform yang direkomendasikan meliputi Quizizz, Kahoot!, Canva, QuizWhizzer, Al Jazeera Learning Arabic, Duolingo Arabic, dan YouTube, dengan saluran pendidikan seperti Osratouna TV dan Madrasa TV. Integrasi teknologi dalam PBL tidak hanya membuat pembelajaran lebih inovatif dan interaktif tetapi juga meningkatkan pemikiran kritis, kreativitas, dan capaian pembelajaran siswa.

Kata Kunci: Literasi Digital, Pembelajaran Berbasis Masalah, Capaian Pembelajaran, Bahasa Arab

INTRODUCTION

The advancement of science and technology in today's life has transformed our relationship with information and knowledge, including in the field of education. Technology has become an inseparable part of daily human life, driving the shift towards digital transformation (Taufik et al., 2023). Digital literacy has become an essential competency that students must possess to adapt to advancements in science and technology and to be prepared for the challenges of the Industrial Revolution 4.0 era. (Dinata, 2021). Digital literacy is the ability to acquire, understand, and utilize information from various sources in digital form (Naufal, 2021). Digital literacy not only includes the ability to use technological devices but also encompasses the skills to access, analyze, and utilize information effectively (Restianty, 2018).

The term digital literacy was first introduced by Gilster & Watson (1997) as the ability to understand and use information from various digital sources. They stated that digital literacy is the ability to use technology and information from digital devices effectively and efficiently in various contexts, such as academics, careers, and everyday life (Syah et al., 2019).

In the field of education, digital literacy plays a role in developing learning materials that foster students' curiosity and creativity. With adequate digital literacy, students will be able to select information wisely, think critically, and be creative (Hendaryan et al., 2022). Digital literacy in the context of learning enables those who master it to acquire knowledge, attitudes, and skills through a learning process that is more effective, faster, easier, and enjoyable (Harjono, 2018).

Steve Wheeler (2012), in his writing titled *Digital Literacies for Engagement in Emerging Online Cultures*, identifies nine key elements of digital literacy. One of these elements is filtering and selecting content, which refers to the ability to search, filter, and choose information accurately based on specific needs, such as through various search engines on the internet (Maulana, 2015). The ability to search, filter, and select information accurately is not merely a technical skill but serves as the foundation for producing meaningful, relevant, and solution-oriented learning. Digital literacy is not just about accessing information; it is also about how individuals understand, evaluate, and use that information wisely. Therefore, digital literacy must be systematically trained and guided, one of which is through the Problem-Based Learning (PBL) model. Without proper training and guidance, digital literacy may lead to various negative impacts, such as hoaxes or false information (Marwuni, 2021), negative behavior in the digital space and a lack of ethics in the use of technology.

The Problem-Based Learning (PBL) model encourages students to identify real-world problems, develop hypotheses, and seek solutions through information exploration. Each step in PBL trains students to filter relevant information, assess source reliability, and process data into meaningful knowledge. Problem-Based Learning (PBL) is an instructional approach that uses real-world problems as a context for students to develop critical thinking, problem-solving skills, and acquire essential knowledge and concepts from the learning material (Sumartini, 2016).

Problem-Based Learning (PBL) is an instructional approach that presents students with a variety of meaningful and authentic problem situations, serving as a foundation for inquiry and investigation. PBL is a learning model based on real-world problems that require authentic inquiry, meaning investigations that demand genuine solutions to real-world challenges (Masril et al., 2020).

Several studies are relevant to this research, including those conducted by Ismail Hanif Batubara and Putri Maisarah Ammy (Batubara & Ammy, 2018) This study aims to determine

whether the Problem-Based Learning (PBL) model is effective in improving students' mathematics learning outcomes. Furthermore, the study conducted by Akbar (Akbar, 2019) This study aims to examine the implementation of the Problem-Based Learning (PBL) model to improve student learning outcomes in Civics at SMA Negeri 1 Batukliang Utara. Furthermore, Ria Mayasari and Rabiatal Adawiyah (Mayasari & Adawiyah, 2015) conducted a study on the effect of the Problem-Based Learning (PBL) model in biology learning on learning outcomes and higher-order thinking skills (HOTS) in high school (SMA). Moh. Ainin (Ainin, 2017) (Mayasari & Adawiyah, 2015) examined the effectiveness of using the Problem-Based Learning (PBL) approach in teaching the Research Methodology in Arabic Language course.

Referring to previous studies, this research aims to strengthen existing studies on the Problem-Based Learning (PBL) model. However, this study has distinct characteristics compared to previous research, as it specifically explores the integration of digital literacy and the PBL model to improve Arabic learning outcomes. Another key difference lies in the research methodology, where this study seeks to analyze the integration of digital literacy and PBL in enhancing Arabic learning outcomes using a qualitative descriptive approach through library research.

RESEARCH METHOD

This article is a literature review, which is one of the approaches in qualitative research, aiming to generate descriptive data (Lutfiyatun, 2021). The study design used is textual or library research, examining digital literacy and the Problem-Based Learning (PBL) model to improve Arabic learning outcomes. Data is collected from various sources, including research reports, scientific writings, such as theses, dissertations, journals, articles, and conference proceedings, focusing on the theme of digital literacy and the PBL model in enhancing Arabic learning outcomes.

This study employs the documentation technique, collecting data from various written sources such as books on theories and perspectives, articles, journals, and research reports. The data analysis period spans from December 2024 to January 2025. The data analysis method used is content analysis, which involves applying systematic procedures to draw valid conclusions from various documents and identify message characteristics objectively and systematically. The next step is to compare different studies within the same field to identify patterns, similarities, and differences.

RESULTS AND DISCUSSION

The use of technology enables more interactive learning, making it easier for students to understand and study the Arabic language. With technology, students can access various learning materials anytime and anywhere, including audio, video, audiovisual content, and supporting texts. However, optimizing the role of technology in Arabic language learning requires an effective instructional model that not only enhances engagement but also fosters critical and creative thinking skills. One such approach is the Problem-Based Learning (PBL) model, which encourages students to actively explore, analyze, and solve real-world problems using digital resources.

The results of the literature review indicate that the integration of digital literacy with the Problem-Based Learning (PBL) model plays a crucial role in improving student learning outcomes. One relevant study is by Emi Yulifa et al., which integrated digital literacy using

Canva with the PBL model in Indonesian language lessons at SDN Petompon 02 Semarang. The findings showed that this integration effectively enhanced students' cognitive learning outcomes, demonstrating the potential of combining technology and problem-solving approaches in education (Yulifa et al., 2023). Another study by Ardista Octaviana et al. (Octaviana et al., 2023) examined the implementation of the Problem-Based Learning (PBL) model assisted by Wordwall media. The findings revealed that this approach was successful in improving student learning outcomes, highlighting the effectiveness of integrating interactive digital tools with PBL to enhance engagement and understanding. In agreement with these studies, research conducted by Marianus Marianus and Sixtus Iwan Umboh (Marianus & Umboh, 2020) demonstrated that the integration of Problem-Based Learning (PBL) with digital literacy, specifically through the use of PhET media, effectively enhanced learning outcomes. This was evidenced by the difference between pretest and posttest scores, where there was a significant improvement in posttest results, indicating the positive impact of technology-assisted PBL on student learning. Furthermore, the integration of digital literacy with the Problem-Based Learning (PBL) model has been shown to enhance student motivation (Subagja, 2023), critical thinking skills (Inayah et al., 2021), and creative thinking abilities (Utari et al., 2023). These findings reinforce the idea that combining technology with problem-solving approaches not only improves learning outcomes but also fosters essential 21st-century skills necessary for academic and professional success.

The implementation of digital literacy in learning, particularly in Arabic language education, enables students to access a variety of learning resources, such as videos, articles, language-learning applications, and online learning platforms. These resources support both comprehension and practical use of the Arabic language, ultimately leading to improved learning outcomes. One effective instructional model for this purpose is the Problem-Based Learning (PBL) model, in which problem-solving serves as the core of the learning process. This model aims to develop critical thinking, creativity, teamwork, and problem-solving skills. In Arabic language learning, PBL can be applied by presenting problems that are relevant to students' real-world contexts. For example, students may be asked to construct texts in Arabic based on authentic daily-life situations they encounter. This approach ensures that students not only understand Arabic theoretically but also apply it functionally in real-life communication.

The implementation of digital literacy in Arabic language learning, integrated with the Problem-Based Learning (PBL) model to enhance student learning outcomes, can be applied through the following steps:

1. Determine the theme and learning objectives based on problem-solving, such as Arabic communication in various situations and contexts relevant to students.
2. Establish learning indicators, such as understanding the meaning of dialogues, identifying new vocabulary, and determining appropriate responses within the given material context.
3. Select the type of digital media to support solution exploration, such as interactive Arabic conversation videos or online articles.
4. Find and provide digital learning resources, including videos, podcasts, learning applications, or articles from reliable Arabic language education websites relevant to the discussed problems.
5. Ensure students have access to digital media used in learning, whether through personal devices or school-provided facilities.
6. Guide students in observing, analyzing, and discussing digital materials they explore to find solutions to the given problems.

7. Assign project-based tasks, requiring students to create digital content, such as Arabic conversation simulation videos, infographics, posters, or interactive presentations.
8. Monitor and supervise the digital learning process, including providing guidelines on digital ethics and ensuring students' active participation in completing assignments.
9. Use digital evaluation platforms, such as interactive quizzes, to measure students' understanding of the learned material.
10. Conduct learning reflection in class, encouraging students to share their experiences and challenges in completing problem-based assignments using digital technology.

By implementing these steps, digital literacy not only serves as a learning aid in Arabic language education but also becomes an integral part of an active and problem-based learning process. This approach enables students to become more independent in developing their Arabic language skills and applying them in various real-life situations.

Student engagement is a crucial factor in determining the success of learning. The implementation of digital literacy has a positive correlation with student engagement in the classroom, which can enhance their learning outcomes. This aligns with the research conducted by Loso Judijanto (Judijanto, 2024), which revealed a positive relationship between the level of digital literacy and student learning outcomes. Students with advanced digital literacy demonstrate higher competence in terms of autonomy, creativity, and critical thinking, which contributes to active engagement in the learning process and academic success.

Various studies on the Problem-Based Learning (PBL) model in Arabic language learning have been conducted, such as the research by Firman Maulana Noor (Noor, 2020), which examined the effectiveness of Problem-Based Learning in improving Arabic reading skills. This was also carried out by Ahmad Purwanto (Purwanto, 2022) who implemented the Problem-Based Learning model to improve students' learning outcomes in Arabic language subjects. Other research, such as that conducted by Novi Luthfiana et al. (Luthfiana & Elmubarak, 2019) developed a Problem-Based Learning model for Arabic writing skills. Based on the study, researchers found that the use of technology and Problem-Based Learning in Arabic language instruction remains very limited, despite the necessity of integrating both to enhance effectiveness and student engagement. Digital literacy can support the Problem-Based Learning process by providing more varied, interactive, and contextual learning resources tailored to students' needs. The integration of technology in learning has become essential to align with the advancements of the times and the needs of students, who are increasingly familiar with digital environments. With the appropriate use of technology, Arabic language learning can become more engaging, efficient, and relevant, thereby enhancing students' comprehension and language skills more optimally.

The integration of digital literacy into Arabic language learning through Problem-Based Learning (PBL) requires various digital platforms that can assist students in analyzing, exploring, and solving problems presented in the learning process. Below are some digital resources that educators and students can utilize for implementing digital literacy integrated with PBL in Arabic language learning:

1. Youtube

Here are some Arabic language YouTube channels that can be utilized in problem-based learning integrated with digital literacy.

a. Osratouna TV



Osratouna TV is a YouTube channel that provides various Arabic learning videos through an interactive and real-life-based approach. Its content includes educational animations, practical conversations, and vocabulary and expressions commonly used in different situations. In the Problem-Based Learning model, educators can utilize videos from Osratouna TV to help students understand Arabic in real-world contexts. For instance, students can be assigned tasks to identify expressions used in family interactions or daily activities, such as shopping at a market or introducing themselves. By analyzing dialogues in the videos, students can develop their communication skills and apply Arabic in situations relevant to their lives.

b. Madrasa TV

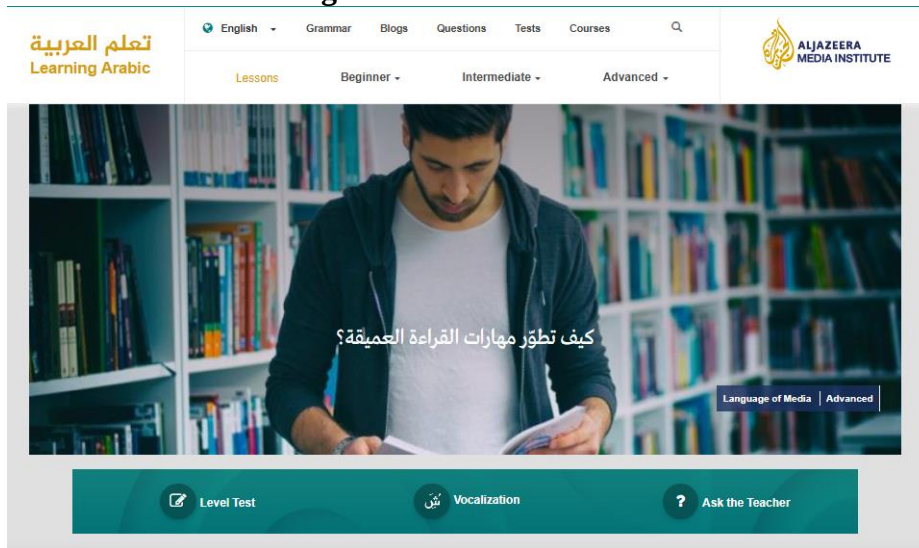


Madrasa TV is a YouTube channel that provides Arabic learning through interactive animations. Its content includes vocabulary, daily conversations, and grammar topics such as pronouns, plural forms, and verbs. In the Problem-Based Learning (PBL) model, educators can use videos from Madrasa TV to help students understand grammatical patterns in real-life contexts. For example, students can identify the use of 'fi'il madhi and mudhari' in conversations and then create similar dialogues to apply in daily communication.

2. Online Arabic Learning and Assessment Platforms

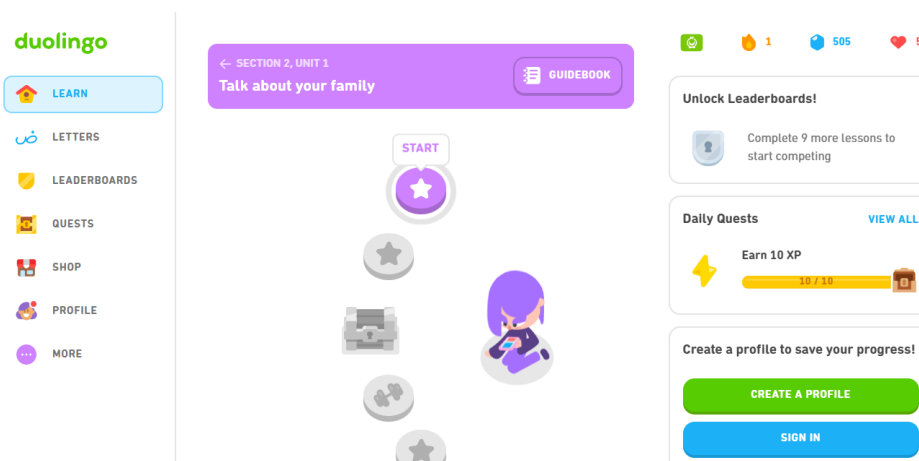
Here are some online Arabic learning platforms that can be utilized in problem-based learning integrated with digital literacy:

a. Al Jazeera Learning Arabic



Al Jazeera Learning Arabic is an Arabic learning channel from the Al Jazeera network designed for various proficiency levels. With a media-based approach, this channel teaches Arabic through news, interviews, and simplified documentaries. The content covers vocabulary, grammar, and reading and listening skills, complemented by interactive exercises. In implementing Problem-Based Learning (PBL), this channel can be used to assign problem-based tasks, such as analyzing Arabic news materials. Additionally, students can practice creating reports or presentations in Arabic based on the content they have studied, enhancing their critical thinking and communication skills.

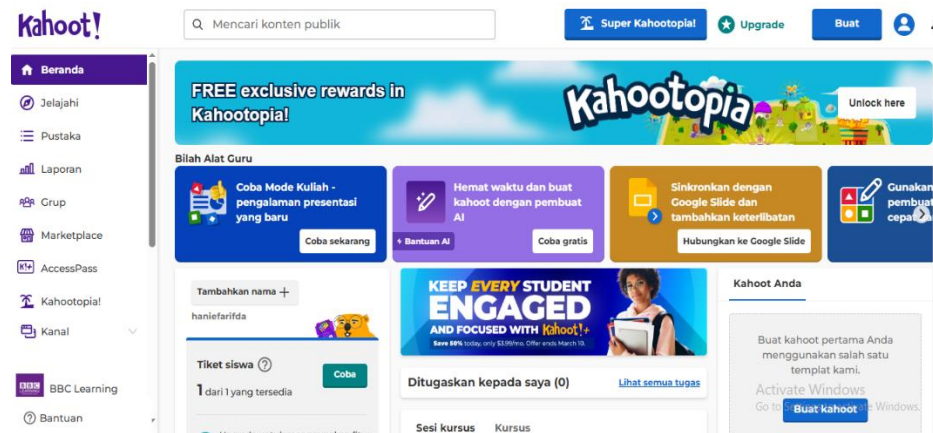
b. Duolingo Arabic



Duolingo is a language learning platform that offers an interactive, game-based method, including for Arabic. The app uses short exercises to train vocabulary, grammar, reading, writing, and listening skills through a step-by-step approach. Each lesson is designed like a game with a point and level system, making learning more enjoyable and motivating for users. With an intuitive interface and free access, Duolingo is a popular choice for beginners who want to learn Arabic flexibly and enjoyably. In the implementation of Problem-Based Learning (PBL), Duolingo can be used as a

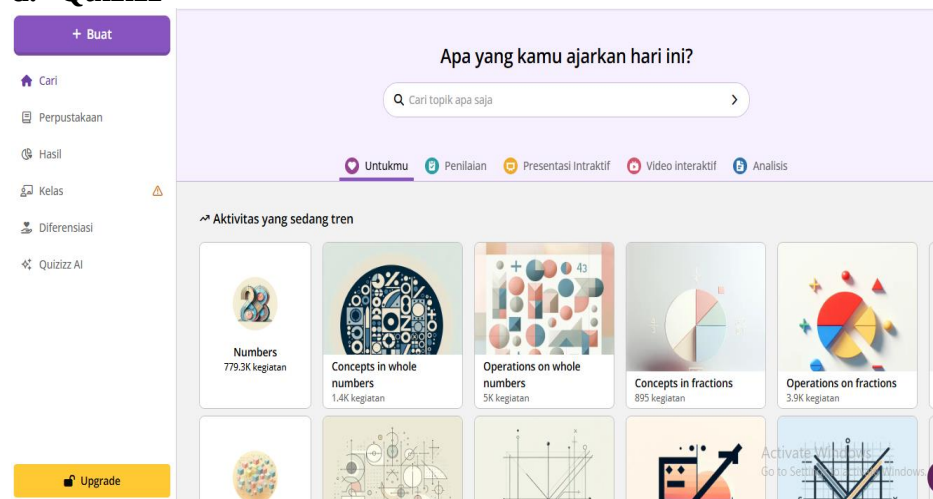
supporting tool to tackle language challenges relevant to real-life situations. Students can create dialogues or simulate conversations based on the vocabulary and phrases they have learned, making the learning process more contextual and applicable.

c. Kahoot!



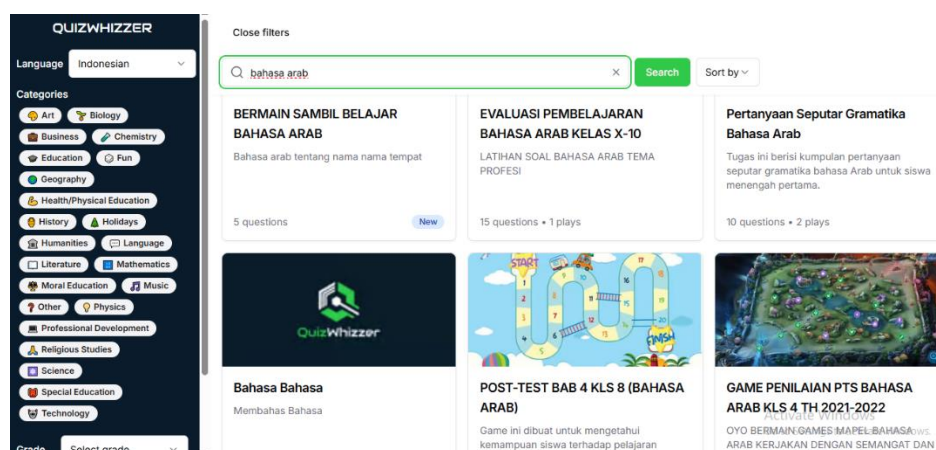
The use of Kahoot! in Arabic language learning allows students to access, understand, and evaluate Arabic material in a more engaging and competitive way. In the implementation of Problem-Based Learning (PBL), Kahoot! can be used as an assessment tool to measure students' understanding of contextual problems in Arabic, such as sentence structure, vocabulary, and grammatical rules. Through challenge-based quizzes, students are encouraged to think critically, solve problems independently, and actively participate in the learning process.

d. Quizizz



The use of Quizizz in Arabic language learning supports the implementation of Problem-Based Learning (PBL) by providing interactive quizzes that allow students to access, understand, and evaluate material independently or collaboratively. Through gamification features such as point accumulation and leaderboards, Quizizz can enhance learning motivation and encourage students to think critically in solving contextual problems, such as understanding sentence structure, vocabulary meanings, and Arabic grammar rules.

e. QuizWhizzer



The use of QuizWhizzer in Arabic language learning supports the implementation of Problem-Based Learning (PBL) by offering interactive quizzes based on maps or board games, allowing students to learn in a more engaging and competitive manner. In the context of PBL, QuizWhizzer can be utilized to enhance critical thinking and problem-solving skills in understanding sentence structures, vocabulary, and Arabic grammar rules.

The integration of digital literacy with the Problem-Based Learning (PBL) model plays a crucial role in enhancing Arabic language learning outcomes. The utilization of various digital platforms such as Canva, Kahoot!, YouTube, and other interactive applications has been proven to support more contextual, interactive, and meaningful learning. By combining digital technology with a problem-based approach, students not only gain a deeper understanding of the Arabic language but also develop critical thinking, problem-solving, and collaboration skills. Therefore, educators are encouraged to optimize digital literacy in the learning process to create a more dynamic learning experience aligned with the demands of the digital era. Further research is needed to explore the effectiveness of various combinations of technology and learning models in Arabic language instruction.

CONCLUSION

Arabic language learning in the digital era requires the integration of technology to enhance effectiveness and meet students' needs. Digital literacy integration in learning not only provides easier access to diverse learning resources but also increases student engagement and comprehension of the Arabic language. The integration of technology with the Problem-Based Learning (PBL) model is essential, as it encourages students to think critically, solve real-world problems, and develop communication skills in more applicable contexts. Technology-supported PBL enables Arabic language learning to be more contextual, interactive, and relevant to students' daily lives. Various digital platforms can be utilized in this learning approach, including Quizizz, Kahoot!, Canva, QuizWhizzer, Al Jazeera Learning Arabic, Duolingo Arabic, and educational YouTube channels such as Osratouna TV and Madrasa TV. These platforms help students improve their language skills in listening, speaking, reading, and writing. By integrating technology into the PBL model, Arabic language learning becomes more innovative, engaging, and aligned with modern advancements. Additionally, this approach equips students with digital skills while enhancing their motivation and learning outcomes optimally.

RECOMMENDATIONS

The utilization of technology in Arabic language learning has been proven to enhance student engagement and learning outcomes. Integrating digital literacy with the Problem-Based Learning (PBL) model is essential to encourage students to think critically, be creative, and solve real-world problems. Various platforms such as Quizizz, Kahoot!, Canva, QuizWhizzer, YouTube, Al Jazeera Learning Arabic, and Duolingo can be leveraged to create a more interactive and innovative learning experience.

Educators should receive proper training to maximize the use of technology in learning. Additionally, continuous evaluation is necessary to ensure its effectiveness. With the right strategies, Arabic language learning can become more engaging, relevant, and lead to optimal learning outcomes.

REFERENCES

- Ainin, M. (2017). Efektifitas Penggunaan Pendekatan Pembelajaran Berbasis Masalah (Problem Based Learning) dalam Pembelajaran Matakuliah Metodologi Penelitian Bahasa Arab. *Bahasa Dan Seni: Jurnal Bahasa, Sastra, Seni, Dan Pengajarannya*, 45(2), 8.
- Akbar, A. (2019). Implementasi Model Pembelajaran Berbasis Masalah untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran PKn di SMA Negeri 1 Batukliang Utara. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, 5(1), 1–7.
- Batubara, I. H., & Ammy, P. M. (2018). Pengaruh model pembelajaran berbasis masalah terhadap hasil belajar mahasiswa. *Biblio Couns: Jurnal Kajian Konseling Dan Pendidikan*, 1(2), 43–53.
- Dinata, K. B. (2021). Analisis kemampuan literasi digital mahasiswa. *Edukasi: Jurnal Pendidikan*, 19(1), 105–119.
- Harjono, H. S. (2018). Literasi digital: Prospek dan implikasinya dalam pembelajaran bahasa. *Pena: Jurnal Pendidikan Bahasa Dan Sastra*, 8(1), 1–7.
- Hendaryan, R., Hidayat, T., & Herliani, S. (2022). Pelaksanaan literasi digital dalam meningkatkan kemampuan literasi siswa. *Literasi: Jurnal Bahasa Dan Sastra Indonesia Serta Pembelajarannya*, 6(1), 142–151.
- Inayah, S., Septian, A., & Komala, E. (2021). Efektivitas Model Flipped Classroom Berbasis Problem Based Learning dalam Meningkatkan Kemampuan Berpikir Kritis Mahasiswa. *Wacana Akademika: Majalah Ilmiah Kependidikan*, 5(2), 138–144.
- Judijanto, L. (2024). Analisis Pengaruh Tingkat Literasi Digital Guru dan Siswa terhadap Kualitas Pembelajaran di Era Digital di Indonesia. *Sanskara Pendidikan Dan Pengajaran*, 2(02), 50–60.
- Lutfiyatun, E. (2021). Gamifikasi Bahasa Arab Dengan Model Blended Learning. *Tarbiyatuna: Jurnal Pendidikan Ilmiah*, 6(2), 117–128.
- Luthfiana, N., & Elmubarok, Z. (2019). Pengembangan model pembelajaran problem based learning untuk keterampilan menulis bahasa Arab peserta didik kelas VIII MTs di kabupaten rembang. *Lisanul Arab: Journal of Arabic Learning and Teaching*, 8(1), 9–16.

- Marianus, M., & Umboh, S. I. (2020). Efektivitas Model PBL Berbantuan Media PhET terhadap Proses dan Hasil Belajar Siswa. *Charm Sains: Jurnal Pendidikan Fisika*, 1(2), 39–43.
- Marwuni, W. T. (2021). Peran Literasi Digital Sebagai Upaya Preventif Untuk Penangkal Hoaks Di Era Modernisasi 4.0. *Jurnal Implementasi*, 1(2), 154–161.
- Masril, M., Jalinus, N., Jama, J., & Dakhi, O. (2020). Implementasi Pembelajaran Berbasis Masalah Pada Kurikulum 2013 Di SMK Negeri 2 Padang. *Konstruktivisme: Jurnal Pendidikan Dan Pembelajaran*, 12(1), 12–25.
- Maulana, M. (2015). Definisi, Manfaat, dan Elemen Penting Literasi Digital. *Seorang Pustakawan Blogger*, 1(2), 1–12.
- Mayasari, R., & Adawiyah, R. (2015). Pengaruh model pembelajaran berdasarkan masalah pada pembelajaran biologi terhadap hasil belajar dan keterampilan berpikir tingkat tinggi di SMA. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 1(3).
- Naufal, H. A. (2021). Literasi digital. *Perspektif*, 1(2), 195–202.
- Noor, F. M. (2020). Efektivitas PBL dalam Meningkatkan Keterampilan Membaca Bahasa Arab. *Al-Ishlah At-Tarbiyah*, 3(1).
- Octaviana, A., Marlina, D., & Kusumawati, N. (2023). Penerapan Model Pembelajaran Problem Based Learning (PBL) Berbantuan Media Wordwall Untuk Meningkatkan Hasil Belajar IPA Siswa Kelas V SDN Grudo 3 Ngawi. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 8(1), 6752–6760.
- Purwanto, A. (2022). Implementasi Model Pembelajaran Problem Based Learning dalam Meningkatkan Hasil Belajar Siswa Mata Pelajaran Bahasa Arab. *Jurnal Ilmiah Wahana Pendidikan*, 8(15), 679–692.
- Restianty, A. (2018). Literasi Digital, Sebuah Tantangan Baru Dalam Literasi Media. *Gunahumas*, 1(1), 72–87.
- Subagja, L. B. (2023). Pengaruh model pembelajaran problem based learning (PBL) berbantuan aplikasi berbasis website Wordwall. Net dan e-LKPD Wizer. Me terhadap motivasi belajar siswa. *Postulat: Jurnal Inovasi Pendidikan Matematika*, 3(2), 141–150.
- Sumartini, T. S. (2016). Peningkatan kemampuan pemecahan masalah matematis siswa melalui pembelajaran berbasis masalah. *Mosharafa: Jurnal Pendidikan Matematika*, 5(2), 148–158.
- Syah, R., Darmawan, D., & Purnawan, A. (2019). Analisis faktor yang mempengaruhi kemampuan literasi digital. *Jurnal Akrab*, 10(2), 60–69.
- Taufik, T., Putra, A., Imansyah, M. N., Nurdianah, N., & Iwansyah, I. (2023). Literasi Digital untuk Guru Sekolah Dasar di Wilayah Pesisir Kabupaten Dompu. *Jurnal PkM (Pengabdian Kepada Masyarakat)*, 6(5), 543–553.
- Utari, W. M., Gunada, I. W., Makhrus, M., & Kosim, K. (2023). Pengembangan E-Modul Pembelajaran Fisika Model Problem Based Learning Berbasis Flipbook Untuk

Meningkatkan Keterampilan Berpikir Kreatif Peserta Didik. *Jurnal Ilmiah Profesi Pendidikan*, 8(4), 2724–2734.

Yulifa, E., Pramasdyahsari, A. S., Suneki, S., & Sijamtini, N. (2023). EFEKTIVITAS MODEL PBL BERBANTUAN CANVA TERHADAP HASIL BELAJAR KOGNITIF SISWA KELAS III. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, 9(2), 3220–3229.