OPEN ACCESS
Education Journal
Vol. 1 No. 1. June 2025, pp. 33-41 DOI. XX.XXXXX/edunalar.vxix.xxx

Research Article

THE UTILIZATION OF ARTIFICIAL INTELLIGENCE (AI) IN LESSON PLANNING BY MILLENNIAL TEACHERS

Mirjana Kocaleva Vitanova[1], Mulia Sri Huljanah[2], and Musthika Wulandary[3]
[1] Goce Delchev University, North Macedonia
[2] Universitas Islam Negeri Mahmud Yunus, Indonesia
[3] Universitas Islam Negeri Mahmud Yunus, Indonesia

Corresponding Author:

Mirjana Kocaleva Vitanova,
Department of Electrical Engineering Vocational Education, Faculty of Teacher Training and Education, Goce Delchev University.
Email: mirjanakocalevavitanova@gmail.com

Article Info
Received: May 15, 2025
Revised: May 27, 2025
Accepted: June 15, 2025
Online Version: June 30, 2025

Abstract
The advancement of digital technology has fundamentally transformed the global educational landscape. One of the key innovations driving this transformation is the integration of Artificial Intelligence (AI) into various aspects of education, particularly in lesson planning. This study aims to analyze how millennial teachers utilize AI to design lesson plans that are effective, efficient, and adaptive to the needs of 21st-century learners. Using a descriptive qualitative approach through case studies conducted in several secondary schools, this research identifies the strategies employed by millennial teachers in adopting AI as a pedagogical tool. The findings reveal that millennial teachers actively use a variety of AI applications and platforms to analyze students' learning needs, develop personalized lesson plans, and conduct data-driven learning evaluations. In conclusion, AI functions not only as a support tool but also as a strategic partner in enhancing the quality of education and strengthening the teacher's role as an innovative learning facilitator.

Keywords: Artificial Intelligence, Educational Technology, Lesson Planning, Millennial Teachers

Journal Homepage https://journal.zmsadra.or.id/index.php/edunalar
How to cite: Vitanova, M. K., Huljanah, M. S., & Wulandary, M. (2025). The Utilization of Artificial Intelligence (AI) in Lesson Planning by Millennial Teachers. *Education Journal*, *1*(1), 33-41. https://doi.org/XX.XXXXX/edunalar.v1i4.1420
Published by: Yayasan Zia Mulla Sadra

INTRODUCTION

The development of information and communication technology (ICT) over the past few decades has transformed various aspects of human life, including the education sector. The digital era has driven a transformation in learning approaches, information management, and the delivery of instructional materials (Akour dkk., 2022; Chan, 2023). One of the most prominent technological advancements in education is the emergence of artificial intelligence (AI). AI is no longer merely an administrative tool but has evolved into a decision-support system capable of providing data-driven recommendations to design more effective learning processes (Clark & Byrnes, 2015). Globally, the use of AI in education continues to expand, ranging from online learning systems, automated assessment applications, to virtual tutors that adapt to individual learner needs.

Teachers, as the frontline of the educational process, play a central role in guiding and managing learning to meet contemporary demands (Cohen, 1987; Damayanti, 2020; Derri dkk., 2014). Facing the challenges of the Fourth and Fifth Industrial Revolutions, teachers are required not only to master subject matter but also to have the capability to utilize digital technology to support teaching and learning processes. Millennial teachers, born and raised in a digital environment, possess a competitive advantage in technological understanding and adaptability to change. They are more open to exploring innovations and using digital tools, including AI, to support pedagogical tasks, especially in lesson planning.

Artificial intelligence generally refers to computer systems or machines that can mimic human intellectual abilities such as learning from experience, recognizing patterns, and making decisions (Ely, 1990). In education, AI enables teachers to design more personalized learning experiences, tailor content to students' learning styles, and optimize teaching strategies through comprehensive data analysis (Fetzer, 1990). AI's application is not limited to direct instruction but also extends to strategic aspects such as syllabus development, formulation of learning objectives, selection of methods and media, and evaluation of learning outcomes.

Millennial teachers have significant potential to become pioneers in integrating AI into education. Their close connection with technological developments makes them more receptive to learning new technologies (Fujii, 2019). This readiness positions them well to utilize AI in supporting lesson planning. AI's ability to present analytic data on student performance, suggest learning improvements, and predict learning difficulties adds considerable value to teachers in crafting adaptive and responsive teaching strategies. The presence of AI in education shifts the paradigm from generalized, uniform teaching systems toward more individualized and contextual learning. AI allows learning to become more flexible and accurate by analyzing student data in real-time, recognizing unique learning styles, and providing immediate feedback (Gagné, 1974; Gligorea dkk., 2023; Granić, 2022). Millennial teachers who understand how AI works can use it to develop lesson plans that are not only aligned with curricula but also relevant to the actual needs of their students. This approach supports the achievement of meaningful, student-centered learning.

Digital transformation in education requires teachers not only to use technology but also to develop sufficient data literacy and digital literacy. Teachers need to understand how data generated by AI systems can be utilized to enhance the quality of learning (Hallman, 2017). They must have skills to evaluate, interpret, and integrate such data into lesson planning. This literacy is a key competency for millennial teachers to maximize and responsibly use AI. In lesson planning, AI can be applied in various aspects, from analyzing students' learning needs based on previous assessments, determining suitable approaches, selecting appropriate media and strategies, to developing learning achievement indicators. This illustrates AI's role as a strategic partner for teachers in making more accurate, data-driven decisions (Hamet & Tremblay, 2017; Hatmanto & Purwanti, 2020). Teachers no longer have to rely solely on intuition or personal experience but can use AI recommendations to create more focused and effective plans.

One challenge in lesson planning is the limited time and resources available to teachers. Heavy administrative tasks often hinder teachers from designing optimal lessons. With AI assistance, many routine tasks such as student needs analysis, material preparation, or learning outcome evaluation can be automated (Holmes dkk., 2015). This frees teachers to focus more on creative and pedagogical aspects like building interpersonal relationships, guiding discussions, or creating engaging learning activities. The implementation of AI in education is not without challenges, including infrastructure readiness, teachers' digital competencies, and school policies supporting innovation. Therefore, a holistic and collaborative approach is required to integrate AI into lesson planning. Teachers need ongoing training, access to technology, and a school culture open to experimentation and technology-based learning. Millennial teachers can be agents of change driving this digital transformation if supported by a conducive environment.

This article aims to provide an in-depth depiction of how millennial teachers utilize AI in the lesson planning process. Using a qualitative approach and case studies, it identifies patterns of AI use, challenges encountered, and strategies employed to optimize technology in instructional design (Huynh-The dkk., 2023). The main focus is on the planning phase, which often receives less attention in educational technology research. The study also highlights good practices by millennial teachers who actively and creatively use AI in designing learning. These practices demonstrate that technology is not a threat but an opportunity to enhance learning quality when used wisely and appropriately. With creativity and innovation, millennial teachers can make AI an effective tool to achieve higher learning objectives.

The novelty of this study lies in its explicit focus on the role of millennial teachers in AI-based lesson planning. Previous research often concentrates on AI usage during learning implementation, such as online teaching or automated assessment. This study expands the scope by examining AI application in the initial phase of learning—the planning stage—which is foundational to the effectiveness of teaching and learning. By understanding AI utilization in planning, this article hopes to contribute to education policy development, teacher training programs, and professional curriculum design. The insights gained can guide strategies for implementing educational technology that is contextual, relevant, and sustainable. In the future, teachers will be required not only to teach proficiently but also to design innovative and adaptive learning supported by AI.

Through case studies of millennial teachers, this article also emphasizes the importance of supporting the new generation of teachers as agents of change in the digital era. Millennial teachers are not only successors but innovators capable of addressing future educational challenges. AI as a supportive tool not only simplifies teachers' tasks but also changes perspectives on learning itself as a dynamic, contextual, and student-centered process.

RESEARCH METHOD

This study employs a qualitative descriptive approach using a case study method. The case study was chosen because it allows the researcher to explore in depth the context of AI utilization by millennial teachers in lesson planning. This approach also enables a comprehensive understanding of the dynamics, strategies, and challenges faced by teachers in integrating AI into their pedagogical practices (Issroff & Scanlon, 2002). The primary focus is on how teachers use various AI tools and platforms to support the process of developing lesson plans.

The subjects of this study are millennial teachers teaching at several secondary schools in Indonesia who have applied or experimented with AI-based technology in the lesson planning process. The selection of subjects was purposive, targeting teachers who actively use AI technology in designing learning, either individually or within school teams. The researcher collected information from multiple sources to ensure data validity and enrich contextual

understanding. Data collection techniques included in-depth interviews, participatory observation, and document studies. Semi-structured interviews were conducted to allow open exploration of teachers' experiences and perspectives regarding the use of AI in lesson planning (Jiang dkk., 2022). Observations focused on teachers' activities while designing lesson plans, selecting instructional media, and analyzing student learning outcomes with AI assistance. Documentation included lesson plans, evaluation reports, and screenshots of AI platform usage.

Data collection took place over three months, involving periodic visits to partner schools and online interview sessions with teachers located outside the study area. The data obtained were recorded, transcribed, and analyzed using a thematic approach. Thematic analysis was performed to identify patterns, main themes, and the relationship between AI use and the quality of lesson planning. Findings were categorized according to key elements in lesson planning (John, 2006). In data analysis, the researcher applied source and method triangulation techniques to enhance the reliability and validity of the findings. Triangulation was carried out by comparing interview results with observation data and collected documents. Furthermore, member checking was conducted by asking informants to verify transcripts and the researcher's interpretations of the data provided. This step aimed to ensure that the interpretations accurately reflected the teachers' real experiences.

The criteria for data validity referred to principles of credibility, transferability, dependability, and confirmability. Credibility was achieved through deep involvement in the field and the use of various data collection techniques. Transferability was strengthened by detailed contextual descriptions of the school settings and conditions. Dependability was maintained through systematic documentation of the research process. Confirmability was realized by transparently documenting the analysis process and the researcher's reflections. This study does not aim to generalize findings to the entire teacher population but rather to gain an in-depth understanding of the dynamics of AI use in a specific context. Therefore, the results are exploratory and provide contextual insights into the potential, challenges, and strategies for integrating AI in lesson planning by millennial teachers. This approach allows for the emergence of new perspectives that can serve as a basis for further research or educational policy development.

Ethical considerations were maintained by ensuring all participants understood the research objectives, gave informed consent, and had the right to withdraw at any time. Participant data and identities were kept confidential through coding and secure data storage. The researcher also maintained neutrality and refrained from making judgments about teachers' practices during observations and interviews. During the study, some limitations were encountered, such as time constraints that necessitated selective data collection and technical challenges in documenting AI usage, which is digital in nature (Kopp dkk., 2025). Nevertheless, the researcher strived to minimize these limitations by employing triangulative data tracking and intensive consultation with key informants. With the described approach and methods, this study is expected to provide a comprehensive and in-depth picture of AI utilization practices in lesson planning by millennial teachers. The findings may serve as a foundation for developing training models, curriculum development, and education technology policies that are more contextual and relevant to the needs of today's teachers.

RESULTS AND DISCUSSION

Results

The results of the study indicate that millennial teachers actively utilize various AI-based platforms at every stage of lesson planning. They use AI tools to analyze students' learning needs data obtained through digital diagnostic assessments. By leveraging AI, teachers can map students' learning styles, identify gaps in understanding, and recognize learning

preferences, making the lesson plans more personalized and tailored to individual needs. Teachers also use AI to design more measurable and realistic learning objectives. AI systems are capable of suggesting success indicators based on students' previous achievements. This helps teachers set challenging yet attainable goals. AI further assists in arranging the sequence of learning materials logically and according to progressively increasing difficulty levels.

In the selection of teaching methods, AI provides recommendations for the most effective strategies based on student characteristics and the topics being taught. For example, for visual learners, AI suggests using interactive videos, while for kinesthetic learners, AI recommends simulations or virtual experiments. These recommendations help teachers design lessons that are more engaging and relevant. The application of AI in selecting learning media also has a positive impact (Mäkinen dkk., 2018). Teachers use AI-based content search systems to find accurate, up-to-date, and curriculum-aligned teaching materials. Additionally, AI enables teachers to modify or create their own learning media with technologies such as text-to-speech, concept visualization, and adaptive quiz creation.

At the evaluation stage, AI contributes significantly to developing assessment instruments. AI systems can generate questions at various cognitive levels in accordance with Bloom's taxonomy. Teachers also use AI-based automatic grading tools to assess student work objectively and quickly, allowing more time for reflection and further planning. AI supports teachers in the reflection process as well. Through analytic dashboards, teachers can observe learning success trends, areas needing improvement, and receive suggestions for enhancement. This reflection process becomes more structured and data-driven, improving the accuracy of decisions for subsequent teaching.

The study also found that teachers who intensively use AI demonstrate increased pedagogical creativity. They create interactive learning modules, concept explanation videos, and personalized educational podcasts. AI acts as a collaborator in this creative process by providing input in scriptwriting, voice editing, or visual animation. Teachers also feel more confident in implementing differentiated instruction with AI assistance (Marrero Galván dkk., 2023). Adaptive systems allow grouping students based on ability and needs, providing tailored materials for each group. This accelerates the process of planning differentiated learning, which was previously very time-consuming and labor-intensive.

The research shows that AI integration in lesson planning improves teachers' work efficiency. Time previously spent on preparing lesson plans, searching for materials, and creating assessments can now be allocated to professional development or individual student mentoring. Teachers become more focused on strengthening pedagogical relationships and developing students' soft skills. Another interesting finding is the increased collaboration among teachers through AI platforms ("Effect of Lesson Planning on Academic Performance," 2024). They share lesson plans, materials, and strategies adapted with AI assistance. This culture of collaboration enriches the quality of planning and accelerates the adoption of new technologies within the teaching community.

Results also reveal that AI usage encourages teachers to be more responsive to learning dynamics. With real-time monitoring, teachers can promptly adjust strategies during lessons—for instance, changing approaches when students show signs of struggle. AI provides early signals of declining student engagement, which often goes unnoticed manually. The study identified the main challenges in AI implementation as a lack of in-depth technical training and limited access to premium platforms. Some teachers are still restricted to free versions with limited features. However, the spirit of exploration and adaptation among millennial teachers remains high, with many learning autonomously and sharing knowledge via social media or online learning communities. Teachers also show increased awareness of the ethics of AI use, such as exercising caution in handling student data and maintaining originality in their work. They recognize the importance of positioning AI as a supportive tool rather than a replacement

for the teacher's role. This awareness is key to preserving professionalism and integrity in teaching.

Overall, the findings confirm that utilizing AI in lesson planning has a tangible positive impact on the effectiveness and quality of the learning process. Tech-savvy and innovation-open millennial teachers demonstrate a strong capacity to strategically harness AI in supporting their role as 21st-century lesson designers. Teachers actively using AI also exhibit improved abilities in data-driven decision making. They utilize analytics from various AI platforms to review the effectiveness of lesson plans in terms of teaching strategies, classroom management, and student learning outcomes. This indicates a shift from an intuitive approach toward a more systematic and measurable approach in lesson planning.

Discussion

The discussion of this study reveals that the use of AI in lesson planning by millennial teachers is not merely a passing trend but a strategic step rooted in the needs of 21st-century education. Millennial teachers view AI as a tool that can address various teaching challenges, ranging from differentiation, time efficiency, to personalization of learning materials. AI does not replace the role of the teacher but rather strengthens it by providing relevant data and recommendations (Minsky, 1961; Ng dkk., 2023). The tendency of teachers to integrate AI is also influenced by millennial characteristics that are adaptive to technology, collaborative, and open to change. They are willing to try new platforms and evaluate their effectiveness within the learning context. This opens opportunities for the development of a more dynamic and contextualized lesson planning model.

In terms of differentiation, AI helps teachers better understand the diversity of students individually. With data obtained from AI systems, teachers can design learning activities tailored to students' needs and learning styles, thereby increasing motivation and participation. AI's ability to analyze data quickly and accurately greatly supports this process. AI also encourages teachers to be more reflective about their teaching practices. Analytical features from AI platforms provide data-based feedback on learning effectiveness, such as student engagement levels, task completion, and assessment results. With this information, teachers can continuously improve their lesson plans and strategies.

The use of AI further reinforces the importance of data-driven decision making in education. Teachers no longer rely solely on intuition when designing lessons but begin to utilize empirical data provided by AI systems to make more accurate and impactful decisions for the student learning process (Raynesa Noor Emiliasari, 2019). The findings also show that millennial teachers demonstrate openness to collaboration, both with fellow teachers and with AI. They develop digital learning communities to share best practices, lesson modules, and effective strategies. This collaboration acts as a crucial catalyst in accelerating digital transformation within schools.

However, this discussion also notes challenges in AI implementation. These include limited access to premium platforms, lack of technical training, and cultural barriers in some institutions that remain conservative toward technology. Therefore, supportive policies favoring educational innovation and teacher capacity building are needed. Most teachers who successfully integrate AI exhibit lifelong learner characteristics. They actively participate in online training, webinars, and courses related to educational technology. This enthusiasm is a key asset in embracing technology-based educational transformation.

The discussion also highlights the importance of strengthening digital literacy and ethical AI use among teachers. A sound understanding of data protection, copyright, and boundaries of AI usage must be instilled to ensure that technology use remains professional and ethical. The novelty of this research lies in the finding that AI is not only used to support technical aspects of learning but also serves as a means of pedagogical reflection and content creation grounded in values (Society for Information Technology and Teacher Education, 2009). Millennial

teachers use AI to create contextual and locally nuanced teaching materials, while also encouraging student involvement in producing educational digital content.

AI opens up opportunities for project-based learning approaches that are easier to implement. Teachers can design interdisciplinary projects with AI assistance and monitor student progress in real time ("Millennial vs Non-Millennial Teachers," 2019; Wu dkk., 2023). These projects help students develop 21st-century skills such as critical thinking, collaboration, and digital literacy. This discussion shows that digital transformation in the education sector is inevitable, and millennial teachers are strategically positioned as change agents. With AI technology support, they can create lesson plans that are more adaptive, responsive, and meaningful for students.

It is important to remember that AI is only a tool, and the primary role remains with the teacher as a facilitator and educator. Wise and proportional use of AI will produce a strong synergy between technology and human values in the educational process. From this discussion, it can be concluded that AI holds great potential to improve the quality of lesson planning. However, to maximize this potential, systemic support is required, ranging from supportive policies, teacher training, to adequate infrastructure.

CONCLUSION

The utilization of artificial intelligence (AI) in lesson planning by millennial teachers demonstrates a significant positive impact on enhancing the effectiveness, efficiency, and quality of learning. AI enables teachers to make data-driven decisions, personalize instruction, and evaluate the learning process more accurately and rapidly. Millennials, who are adaptive to technology, show a high level of readiness to adopt AI as an integral part of their professional practice.

Although challenges such as limited access and digital literacy still exist, the spirit of innovation and collaboration among millennial teachers serves as a strong asset in navigating the era of digital transformation in education. Therefore, the integration of AI needs to be continuously promoted through inclusive education policies, ongoing training, and equitable provision of supporting infrastructure so that the benefits of AI can be optimally realized within Indonesia's education system.

REFERENCES

Akour, I. A., Al-Maroof, R. S., Alfaisal, R., & Salloum, S. A. (2022). A conceptual framework for determining metaverse adoption in higher institutions of gulf area: An empirical study using hybrid SEM-ANN approach. *Computers and Education: Artificial Intelligence*, *3*, 100052. https://doi.org/10.1016/j.caeai.2022.100052

Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, *20*(1), 38. https://doi.org/10.1186/s41239-023-00408-3

Clark, S. K., & Byrnes, D. (2015). What Millennial Preservice Teachers Want to Learn in Their Training. *Journal of Early Childhood Teacher Education*, *36*(4), 379–395. https://doi.org/10.1080/10901027.2015.1100148

Cohen, D. K. (1987). Educational Technology, Policy, and Practice. *Educational Evaluation and Policy Analysis*, *9*(2), 153–170. https://doi.org/10.3102/01623737009002153

Damayanti, S. (2020). RELEVANCY THE COMPONENTS OF THE ENGLISH LESSON PLAN. *ENGLISH JOURNAL*, *12*(2), 68. https://doi.org/10.32832/english.v12i2.3772

Derri, V., Papamitrou, E., Vernadakis, N., Koufou, N., & Zetou, E. (2014). Early Professional Development of Physical Education Teachers: Effects on Lesson Planning. *Procedia - Social and Behavioral Sciences*, *152*, 778–783. https://doi.org/10.1016/j.sbspro.2014.09.320

Effect of Lesson Planning on Academic Performance: Evidence from the Elementary Level Classroom. (2024). *Pakistan Social Sciences Review*, *8*(I). https://doi.org/10.35484/pssr.2024(8-I)15

Ely, D. P. (1990). Conditions that Facilitate the Implementation of Educational Technology Innovations. *Journal of Research on Computing in Education*, *23*(2), 298–305. https://doi.org/10.1080/08886504.1990.10781963

Fetzer, J. H. (1990). What is Artificial Intelligence? Dalam J. H. Fetzer, *Artificial Intelligence: Its Scope and Limits* (Vol. 4, hlm. 3–27). Springer Netherlands. https://doi.org/10.1007/978-94-009-1900-6_1

Fujii, T. (2019). Designing and Adapting Tasks in Lesson Planning: A Critical Process of Lesson Study. Dalam R. Huang, A. Takahashi, & J. P. Da Ponte (Ed.), *Theory and Practice of Lesson Study in Mathematics* (hlm. 681–704). Springer International Publishing. https://doi.org/10.1007/978-3-030-04031-4_33

Gagné, R. M. (1974). Educational Technology and the Learning Process. *Educational Researcher*, *3*(1), 3–8. https://doi.org/10.3102/0013189X003001004

Gligorea, I., Cioca, M., Oancea, R., Gorski, A.-T., Gorski, H., & Tudorache, P. (2023). Adaptive Learning Using Artificial Intelligence in e-Learning: A Literature Review. *Education Sciences*, *13*(12), 1216. https://doi.org/10.3390/educsci13121216

Granić, A. (2022). Educational Technology Adoption: A systematic review. *Education and Information Technologies*, *27*(7), 9725–9744. https://doi.org/10.1007/s10639-022-10951-7

Hallman, H. L. (2017). Millennial teachers and multiculturalism: Considerations for teaching in Uncertain Times. *Journal for Multicultural Education*, *11*(3), 194–205. https://doi.org/10.1108/JME-10-2016-0055

Hamet, P., & Tremblay, J. (2017). Artificial intelligence in medicine. *Metabolism*, *69*, S36–S40. https://doi.org/10.1016/j.metabol.2017.01.011

Hatmanto, E. D., & Purwanti, E. (2020). Strategies in Teaching and Engaging the Millennial Generation. *International Journal of Language Education and Applied Linguistics*, 81–88. https://doi.org/10.15282/ijleal.v10.3945

Holmes, J. H., Bellazzi, R., Sacchi, L., & Peek, N. (Ed.). (2015). *Artificial Intelligence in Medicine: 15th Conference on Artificial Intelligence in Medicine, AIME 2015, Pavia, Italy, June 17-20, 2015. Proceedings* (Vol. 9105). Springer International Publishing. https://doi.org/10.1007/978-3-319-19551-3

Huynh-The, T., Pham, Q.-V., Pham, X.-Q., Nguyen, T. T., Han, Z., & Kim, D.-S. (2023). Artificial intelligence for the metaverse: A survey. *Engineering Applications of Artificial Intelligence*, *117*, 105581. https://doi.org/10.1016/j.engappai.2022.105581

Issroff, K., & Scanlon, E. (2002). Educational Technology: The Influence of Theory. *Journal of Interactive Media in Education*, *2002*(1), 6. https://doi.org/10.5334/2002-6

Jiang, Y., Li, X., Luo, H., Yin, S., & Kaynak, O. (2022). Quo vadis artificial intelligence? *Discover Artificial Intelligence*, *2*(1), 4. https://doi.org/10.1007/s44163-022-00022-8

John, P. D. (2006). Lesson planning and the student teacher: Re-thinking the dominant model. *Journal of Curriculum Studies*, *38*(4), 483–498. https://doi.org/10.1080/00220270500363620

Kopp, M. L., Witte, C. E., & Vernon, G. M. (2025). A lesson plan for planning lessons. *Teaching and Learning in Nursing*, *20*(1), e43–e47. https://doi.org/10.1016/j.teln.2024.07.024

Mäkinen, M., Linden, J., Annala, J., & Wiseman, A. (2018). Millennial generation preservice teachers inspiring the design of teacher education. *European Journal of Teacher Education*, *41*(3), 343–359. https://doi.org/10.1080/02619768.2018.1448776

Marrero Galván, J. J., Negrín Medina, M. Á., Bernárdez-Gómez, A., & Portela Pruaño, A. (2023). The impact of the first millennial teachers on education: Views held by different

generations of teachers. *Education and Information Technologies*, *28*(11), 14805–14826. https://doi.org/10.1007/s10639-023-11768-8

Millennial vs Non-Millennial Teachers: Understanding the Ongoing Battle Occurring in Classrooms Around the World. (2019). *Journal of Business Diversity*, *19*(3). https://doi.org/10.33423/jbd.v19i3.2216

Minsky, M. (1961). Steps toward Artificial Intelligence. *Proceedings of the IRE*, *49*(1), 8–30. https://doi.org/10.1109/JRPROC.1961.287775

Ng, D. T. K., Lee, M., Tan, R. J. Y., Hu, X., Downie, J. S., & Chu, S. K. W. (2023). A review of AI teaching and learning from 2000 to 2020. *Education and Information Technologies*, *28*(7), 8445–8501. https://doi.org/10.1007/s10639-022-11491-w

Raynesa Noor Emiliasari. (2019). Lesson Planning in EFL Classroom: A Case Study in Lesson Plan Preparation and Implementation. *Wiralodra English Journal*, *3*(2), 367–375. https://doi.org/10.31943/wej.v3i2.67

Society for Information Technology and Teacher Education (with Association for the Advancement of Computing in Education). (2009). *Society for Information Technology & Teacher Education 2009 20th international conference: March 2 - 6, 2009, Charleston, South Carolina, USA* (I. Gibson, Ed.). AACE.

Wu, T., He, S., Liu, J., Sun, S., Liu, K., Han, Q.-L., & Tang, Y. (2023). A Brief Overview of ChatGPT: The History, Status Quo and Potential Future Development. *IEEE/CAA Journal of Automatica Sinica*, *10*(5), 1122–1136. https://doi.org/10.1109/JAS.2023.123618