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Interactive learning on increasing knowledge of midwifery master's students on curriculum and transformational learning

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ABSTRACT
The transformation of higher education encourages the adoption of active and meaningful learning methods. In midwifery education, students must have a deep understanding of the curriculum and transformational learning approaches to become effective educators and agents of change. One effective strategy is interactive learning, which promotes active student engagement. This study aimed to examine the effect of interactive learning methods on improving the knowledge of Master of Midwifery students regarding transformational curriculum and learning. Using a quantitative cross-sectional design, the research was conducted in March 2025 with 44 students who were purposely selected. Pre-tests and post-tests were administered via Google Forms before and after an interactive learning session delivered through an online general lecture via Zoom. The Wilcoxon test results showed a significant increase in knowledge scores after the intervention. The findings demonstrate that the interactive learning method effectively enhances students' understanding and is well-suited for integration into midwifery education, particularly within a transformational curriculum. This method can be adopted as a strategic learning approach to strengthen conceptual comprehension among students and support the development of future midwifery educators.

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ABSTRAK
Transformasi pendidikan tinggi mendorong dosen dan institusi untuk menerapkan metode pembelajaran yang aktif dan bermakna. Dalam pendidikan kebidanan, mahasiswa perlu memahami kurikulum dan pendekatan pembelajaran transformasional secara mendalam agar dapat berperan sebagai pendidik dan agen perubahan. Salah satu strategi yang efektif adalah interactive learning, yang mendorong keterlibatan aktif mahasiswa dalam proses belajar. Penelitian ini bertujuan menganalisis pengaruh metode interactive learning terhadap peningkatan pengetahuan mahasiswa S2 Kebidanan mengenai kurikulum dan pembelajaran transformasional. Peneliti menggunakan pendekatan kuantitatif dengan desain cross-sectional dan melaksanakan studi ini pada Maret 2025. Sebanyak 44 mahasiswa dipilih melalui teknik purposive sampling. Peneliti membagikan pre-test dan post-test melalui Google Form sebelum dan sesudah pelaksanaan kuliah umum berbasis interactive learning secara daring melalui Zoom. Hasil uji Wilcoxon menunjukkan adanya peningkatan signifikan pada skor pengetahuan setelah intervensi. Temuan ini membuktikan bahwa metode interactive learning secara efektif meningkatkan pemahaman mahasiswa dan layak diintegrasikan ke dalam pendidikan kebidanan berbasis kurikulum transformasional. Metode ini dapat menjadi strategi pembelajaran yang memperkuat pemahaman konseptual dan mendukung pengembangan calon pendidik bidan di masa depan.
Kata Kunci: *kurikulum dan pembelajaran; pembelajaran Interaktif; pengetahuan*

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INTRODUCTION

Higher education plays a strategic role in preparing high-quality human resources who are responsive to global challenges (Abdillah, 2024). In Indonesia, the government has developed various policies to support the transformation of higher education, including the Independent Learning Independent Campus (MBKM) program, the implementation of National Higher Education Standards (SNPT), and the strengthening of curricula based on the Indonesian National Qualification Framework (KKNI). All of these policies require a learning process that not only focuses on knowledge transfer but also fosters critical, creative, and adaptive thinking skills. Midwifery education is faced with increasingly complex educational challenges. A midwife is not only required to master clinical skills but also to become an educator, counselor, advocate, and agent of change in society (Thompson et al., 2021). Therefore, educators must equip midwifery students with a comprehensive understanding of the curriculum and learning approaches grounded in transformational values. A well-designed curriculum can produce graduates who are both technically competent and reflective and humanistic in their midwifery practice. Through the curriculum, institutions make a structured effort to reorganize education in response to global challenges and the needs of a diverse society (Luckett & Shay, 2020).

Transformational curriculum emphasizes changing mindsets, increasing self-awareness, and active involvement in the learning process. Students are not only positioned as recipients of information but also as the main factor involved in creating meaning and reflection on learning (Jaakkola et al., 2022). This approach aligns with student-centered learning, emphasizing the importance of active student participation in the teaching and learning process (Andrews et al., 2020). One of the transformational learning methods is the interactive learning approach, which is based on the transformational learning paradigm. This method positions students as active participants in their learning by employing various strategies, including group discussions, case studies, simulations, reflective quizzes, and contextual problem-solving. Interactive learning aims to improve knowledge and students' critical thinking skills through active participation, problem-solving, and reflection on the learning process. Additionally, this method fosters collaboration and communication among students, thereby enriching their conceptual understanding and enhancing motivation and knowledge retention (Blyznyuk & Kachak, 2024).

Interactive learning methods are an essential part of modern education, particularly in the health sciences, which require a dynamic and adaptive pedagogical approach alongside the development of knowledge and technology. Health students in midwifery programs must develop strong cognitive understanding, refined psychomotor skills, and critical thinking and reasoning abilities. Conventional learning tends to be less effective in forming behavioral skills because it is one-way and lacks direct practice, often failing to arouse student interest due to the delivery of material that lacks variety (Epp et al., 2021). Interactive learning strategies address the limitations of conventional methods by actively engaging students in the learning process and enabling them to apply theoretical knowledge to real-life situations (Ross et al., 2021). One widely adopted form of interactive learning since the COVID-19 pandemic is online learning through the Zoom application (Yusuf & Susanti, 2022). The integration of Zoom represents a broader shift in information and communication technology

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that has facilitated the transition to home-based learning and enhanced student engagement (Alfadda & Mahdi, 2021). Researchers have also highlighted that overcoming educational challenges during the COVID-19 pandemic required innovation in educational technology and the core elements of learning to effectively achieve educational objectives (Denadi & Sopyan, 2022). Online learning has been shown to enhance learning and critical thinking skills, allowing students to review material or assignments to achieve a deeper understanding (Schuler et al., 2021). This is reinforced by the research results, which showed that medical and health science students were satisfied with online learning in terms of academic progress (Debnath et al., 2021). Accessibility of materials that can be accessed anytime and anywhere is also an advantage. However, limitations such as internet connection and difficulty in mastering clinical skills online are still often complained about (Dergham et al., 2023).

Interactive learning methods are a potential alternative to improve the quality of learning. By actively involving students, this method can enhance comfort, promote work-life balance, and improve information retention in the learning process (Jameyfield et al., 2023). This approach becomes particularly relevant when combined with Bloom's taxonomy, which categorizes cognitive domains into several levels, ranging from remembering (C1) to understanding (C2). Students need to be guided to recognize and understand essential concepts in depth. Achieving this level is the foundation for building advanced thinking skills. In this study, students were able to construct cross-chapter concept maps through the implementation of a combined model of synchronous interaction via Zoom and asynchronous communication (Zhang et al., 2023). In the context of curriculum and transformational learning, clinical skills are not the primary focus. Activities such as team discussions, curriculum development exercises, and reflective learning processes can be effectively conducted online. However, face-to-face sessions may still be used for reinforcement and further clarification. However, research examining the impact of interactive learning methods in midwifery education remains limited, particularly in enhancing knowledge of curriculum and transformational learning. This study aims to analyze the effect of interactive learning methods on improving the understanding of master's students in midwifery regarding these topics. The findings are expected to be a foundation for developing more effective and relevant learning strategies within midwifery education.

LITERATURE REVIEW

Interactive Learning Methods

The integration of constructivist and social learning theories within interactive learning methods provides a strong theoretical foundation for adult education and vocational training. According to constructivist theory, learners construct knowledge through their own experiences, with instructors acting as facilitators who guide and support rather than directly delivering information (Chen & Lertamornsak, 2023). In parallel, social learning theory emphasizes the role of observation and social interaction in learning, positioning instructors as role models and recognizing the social environment as a key factor in enhancing learning outcomes (Widodo & Astuti, 2024). These two theories emphasize social interaction and interpersonal relationships as essential components in fostering compelling adult learning experiences. Building on these foundations, the alignment of instructional strategies with learner needs has been further refined through constructive alignment, which promotes deep

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learning by linking intended learning outcomes with appropriate teaching and assessment methods. In digital learning contexts, this alignment helps manage cognitive load by balancing the demands placed on learners' working memory, thereby enhancing retention and comprehension. While digital learning environments offer numerous benefits, some positive impacts can only be measured using specific and suitable assessment tools, emphasizing the importance of evidence-based approaches in instructional design. Notably, research demonstrated that constructivist approaches in vocational education were positively correlated with improved learner performance, reinforcing the value of integrating these theories into practice (Chen & Lertamornsak, 2023). Moreover, incorporating social presence into learning environments, even outside conventional education, such as in marketing research, can further deepen engagement and improve knowledge retention (Miao & Hua, 2022).

Knowledge Based on Anderson's Bloom Taxonomy

Bloom's Taxonomy provides a foundational framework for categorizing educational objectives and cognitive outcomes. Initially developed in 1956 by Benjamin Bloom and colleagues, the taxonomy was revised in 2001 by Anderson and Krathwohl to better align with the demands of contemporary education. The revised taxonomy emphasizes cognitive processes and organizes learning into six hierarchical levels: Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating. Notably, it replaced "Knowledge" with "Remembering" and reversed the order of "Synthesis" and "Evaluation," placing "Creating" at the highest level, highlighting the ability to generate new and innovative knowledge. This revised taxonomy remains a central tool in educational design, particularly in guiding the development of learning objectives and assessments. Its focus on cognitive processes supports deeper student engagement and enhances instructional clarity in both traditional and modern learning contexts. Bloom's Taxonomy also plays a critical role in fostering critical thinking skills in higher education, primarily through its higher-order thinking categories (Katende, 2023). Moreover, its application in evaluating skills like information hygiene demonstrates both theoretical coherence and empirical effectiveness in educational practice (Rudenko et al., 2023). This underscores the taxonomy's continued relevance as a comprehensive guide for designing learning experiences that promote meaningful and transformative cognitive engagement.

Curriculum and Transformational Learning

A curriculum refers to a structured plan and organization of objectives, content, instructional materials, and teaching methods that serve as a guideline for conducting educational activities aimed at achieving specific learning goals (Nurfitri & Noviani, 2023). The curriculum serves multiple essential functions, including acting as a foundation for planning and organizing the content and learning materials used in educational activities. It encompasses clearly defined educational goals, structured content, and instructional strategies that educators must implement to achieve targeted learning outcomes. Furthermore, the curriculum is a strategic tool for enhancing the quality of education at the national level, ensuring it remains aligned with societal demands and evolving global trends. It also offers

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clear guidance on what should be taught and how it should be delivered, ultimately equipping students with the necessary skills and knowledge to navigate real-world challenges (Dhomiri et al., 2023; Amarta et al., 2023). One of the key approaches to curriculum development is the transformative approach, which seeks to reshape students' perspectives and cognitive frameworks through critical reflection and meaningful learning experiences.

The stages of transformative learning begin with a disorienting experience, in which an individual encounters a situation that challenges their previously held beliefs or perspectives. This experience triggers critical reflection, prompting the individual to re-evaluate personal values and assumptions while opening up to new viewpoints. The outcome of this reflection is then manifested in reflective action, involving concrete steps to apply the new understanding in real life, often reflected in changes in behavior or more conscious decision-making (Briciu, 2025; Müller et al., 2024; Rowan & Duerden, 2024). Transformative learning theory is central to shaping educational interventions that support sustainability. It emphasizes social interaction, critical reflection, and engagement—elements crucial for fostering both individual growth and societal change (Aboytes & Barth, 2020). Cognitive and socio-emotional dimensions, often underrepresented, are essential for strengthening sustainability education frameworks. Integrating transformative learning with concepts such as ESD and responsible citizenship enhances its practical application, especially when learning is contextual and involves stakeholder collaboration (Alam, 2022; Holmén et al., 2021).

METHODS

This research method uses a quantitative approach with a cross-sectional approach. A cross-sectional design is an observational study approach that examines data from a population at a single point in time. This study was conducted in March 2025 with 59 participants. Data collection was conducted by administering a pre-test and post-test via a Google Form link before and after a general lecture was delivered using an interactive learning method online via a Zoom meeting. However, the sample in this study employed a purposive sampling technique, consisting of 44 people. The inclusion criteria for this study were respondents who completed the attendance list and both the pre-test and post-test. The exclusion criteria in this study were respondents who completed only one evaluation.

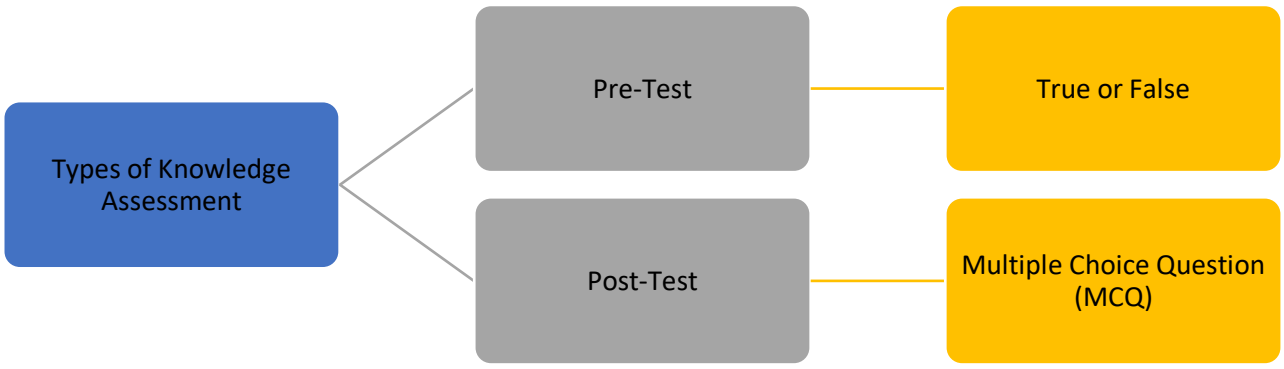

Figure 1. Form of Knowledge Evaluation in the Interactive Learning Method
Source: Research (2024)

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Figure 1 shows that the form of knowledge evaluation in the interactive learning method is a pre-test with right and wrong answers, while the post-test is in the form of MCQ questions. The study aims to determine the increase in knowledge based on Bloom Anderson's taxonomy by using pre-test questions to assess the respondents' knowledge at the remembering level (C1) and post-test questions to assess their knowledge at the understanding level (C2).

RESULTS AND DISCUSSION

Results

This section presents the research results obtained by collecting data before and after the intervention. The researchers compare the pre-test and post-test results to assess the intervention's effect on improving respondents' knowledge.

Table 1. Pre-Test Values Based on Question Items

No.	Question Item	Pre-Test Score			
		Correct		Not Correct	
		n	%	n	%
1	The higher education curriculum in Indonesia is primarily developed with a focus on academic excellence, without considering the needs of society, and its primary objective is to provide assessments to students.	44	100	0	0
2	The Indonesian National Qualifications Framework (KKNI) emphasizes the importance of students developing theoretical knowledge and practical competencies.	44	100	0	0
3	The eight key performance indicators (KPI) of the MBKM program include international accreditation and research implementation.	37	84.1	7	15.9
4	Project-based Learning (PBL) and lecture-based Teaching are methods that support HOTS (Higher Order Thinking Skills).	27	61.4	17	38.6
5	Project-based Learning (PBL) and lecture-based Teaching are methods that support HOTS (Higher Order Thinking Skills).	40	90.9	4	9.1
6	The Teaching to Transform concept emphasizes education as merely a transfer of knowledge without changing mindsets.	43	97.7	1	2.3
7	The principles of project-based learning, case studies, and simulations are included in the Teaching to Transform approach.	44	100	0	0
8	Behaviorism theory focuses on learning that is formed through reinforcement and is very suitable for application in drill methods and continuous practice.	42	95.5	2	4.5

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No.	Question Item	Pre-Test Score			
		Correct		Not Correct	
		n	%	n	%
9	Constructivism argues that students' understanding cannot be formed passively by simply listening to the teacher; instead, it requires active participation and exploration in the learning process.	4	9.1	40	90.9
10	Differentiation of learning involves adapting teaching methods and learning materials to the characteristics and needs of individual students.	40	90.9	4	9.1

Source: Research (2024)

Based on the pre-test (**Table 1**) results of 44 Midwifery Masters students (Table 1), variations in the level of initial understanding of participants regarding concepts in the curriculum and transformational learning were obtained. The majority of respondents showed a good understanding of several basic concepts, with 82.95% of all answers being correct across the ten questions. All respondents (100%) answered correctly to the statement about the higher education curriculum in Indonesia, which not only focuses on academic excellence, but also the importance of KKNI in developing theoretical knowledge and practical competence. Additionally, all respondents understood that the principles of project-based learning, case studies, and simulations are incorporated into the Teaching to Transform approach (100%). Most respondents also understood that the Teaching to Transform concept is not only a transfer of knowledge (97.7%), but that behaviorism theory focuses on learning through reinforcement and is suitable for the drill method (95.5%). In addition, 90.9% of participants answered correctly to the item regarding learning differentiation and that the PBL method and lectures support Higher Order Thinking Skills (HOTS).

Table 2. Post-Test Scores Based on Question Items

No.	Question Item	Post-Test Score			
		Correct		Not Correct	
		n	%	n	%
1	What is the primary purpose of the higher education curriculum?	42	95.5	2	4.5
2	Which of the following is NOT one of the key performance indicators (KPI) of the MBKM program?	41	93.2	3	6.8
3	Which methods support HOTS (Higher Order Thinking Skills)?	43	97.7	1	2.3
4	What do the National Higher Education Standards (SNPT) require the semester learning plan (RPS) to contain?	42	95.5	2	4.5
5	Which of the following is the main component of KKNI (Indonesian National Qualification Framework) in curriculum design?	43	97.7	1	2.3

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No.	Question Item	Post-Test Score			
		Correct		Not Correct	
		n	%	n	%
6	What is the main objective of the Teaching to Transform concept?	44	100	0	0
7	A learning method that challenges students to solve real problems is called	44	100	0	0
8	The following are learning models used in Teaching to Transform, except	42	95.5	2	4.5
9	In the philosophy of learning, constructivism theory emphasizes that learning is	42	95.5	2	4.5
10	What is meant by learning differentiation in the context of teaching to transform?	42	95.5	2	4.5

Source: Research (2024)

Based on the post-test results (**Table 2**), there was an increase in the level of participants' knowledge regarding the concepts in the curriculum and transformational learning at the remembering level (C2) in the Bloom-Anderson taxonomy. Most respondents were able to answer almost all of the questions given correctly after participating in the interactive learning method. All respondents (100%) answered correctly to the item about the main objective of the Teaching to Transform concept, as well as learning methods that challenge students to solve real problems. In addition, 97.7% of participants answered correctly to the item asking about methods that support Higher Order Thinking Skills (HOTS) and the main components of the KKNI in curriculum design. Most participants (95.5%) also answered correctly to the item regarding the main objective of the higher education curriculum, the content that must be included in the RPS according to the National Higher Education Standards (SNPT), the learning model used in Teaching to Transform, the meaning of learning differentiation, and the philosophy of constructivism theory in the learning process. The item with the lowest achievement, namely 93.2%, was obtained from the question about indicators that were not included in the main performance indicators (IKU) of the MBKM program. However, this percentage still shows high achievement. After the interactive learning method was implemented, the post-test results showed an increase in knowledge at the understanding level (C2), indicating the ability to comprehend the learned information correctly. This indicates that students not only understand the concept but also grasp important aspects and answer accurately when retested.

Interactive Learning Methods for Master's of Midwifery Students' Knowledge

This finding aligns with a study on the effectiveness of health education about Breast Self-Examination (BSE) delivered via Zoom, which demonstrated a significant increase in participants' knowledge after the intervention. The study confirmed that Zoom is an effective platform for delivering health-related material online (Herniyatun et al., 2021).

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Table 3. The Effect of Interactive Learning Method on Improving Knowledge of Master's in Midwifery Students

Knowledge Level	Interactive Learning Method (n=44)				p-value*	Effect Size
	Pre-Test	(mean)	Post-Test	(mean)		
Good	39	82.95	42	96.36	0,001	0.783
Poor	5		2			

Note: (*) Uji Wilcoxon
Source: Research (2025)

As shown in **Table 3**, this study also revealed a significant increase in students' knowledge before and after the intervention (p-value < 0.05). The effect size of 0.783 indicated that the interactive learning method had a significant impact on students' learning outcomes. Students' average pre-test score was 82.95, which increased to 96.36 after participating in the interactive learning session. These pre-test and post-test averages reflect a clear improvement in learning outcomes following the intervention.

The Influence of Interactive Learning Methods on Improving the Knowledge of Midwifery Master's Students

The increase in students' understanding of constructivist theory during the pre-test stage was the item with the lowest achievement, but showed a drastic improvement in the post-test. This improvement from the C1 to C2 level supported the claim that the interactive learning method effectively facilitated the internalization of knowledge. The shift from remembering to understanding indicates more stable and cognitively measurable conceptual mastery (Winget & Persky, 2022).

Discussion

The interactive learning method, presented in the form of public lectures via Zoom, has been proven to have a positive impact on increasing the knowledge of midwifery postgraduate students, particularly in understanding the curriculum and facilitating transformational learning. To measure the increase in student knowledge, it refers to Bloom's Taxonomy, which Anderson and Krathwohl have revised. The level of Bloom's taxonomy in the interactive learning method, presented in the form of online lectures, is at the level of understanding. This level not only targets basic understanding but can also stimulate high-level thinking skills. The application of this taxonomy approach is an important foundation in designing interactive learning, including transformational learning. Therefore, current midwifery education emphasizes the importance of adaptive curriculum and transformational learning to produce competent professional midwives. Transformational learning focuses on changing students' perspectives and understanding through in-depth and reflective learning experiences that increase self-awareness and critical reflection, encourage changes in professional attitudes and values, strengthen empathy, cultural competence, and communication skills.

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The application of interactive learning methods to Master's of Midwifery students aligns with andragogy theory, which emphasizes the active role of adult students in the learning process, as well as with constructivism theory, which encourages students to build knowledge through social interaction (Knapke et al., 2024). This makes online discussion-based lectures very relevant for midwifery postgraduate students. With the integration of a transformational approach into the curriculum and the strengthening of the evaluation aspect based on Bloom's Taxonomy, students are expected to undergo a meaningful learning process, achieve targeted competencies, and contribute to reducing maternal mortality rates (Nugraheny et al., 2022). However, the learning outcomes show that midwifery postgraduate students still have limitations in understanding the main performance indicators (IKU) of the Merdeka Belajar Kampus Merdeka (MBKM) program. This finding aligns with various previous studies that have shown a low level of student knowledge of the MBKM program.

Most students are unaware of the supporting documents for MBKM. This is due to the lack of socialization and information regarding MBKM, which means that most students do not yet understand the essence of this program (Panjaitan et al., 2022). It was even found that students' perceptions of the MBKM policy varied, which highlights the need to strengthen MBKM material, including IKU, in curriculum development courses (Ariani et al., 2024; Laga et al., 2021). The implementation of interactive learning methods through the Zoom Meeting application aligned with the principles of transformational learning. Zoom could be used to create dynamic and interactive learning experiences (Handayani et al., 2021; Serembus & Kemery, 2020). Digital platform-based learning has been proven effective in enhancing students' cognitive domains, while tool-based and training-oriented approaches were more effective in developing affective and psychomotor aspects (Budi et al., 2024). Several studies have shown that this approach not only improves students' theoretical understanding but also strengthens their engagement in higher-order analytical and synthesis skills during the learning process (Zhang et al., 2023). In addition, from the instructors' perspective, the use of Zoom in lectures also provided a sense of satisfaction (Kay & Pasarica, 2019). The effectiveness of online learning largely depends on the interaction design created by the instructor (Aryani & Putra, 2022). Effective communication in online learning contributed to better understanding (Herniyatun et al., 2021).

Online interactive methods can also increase students' learning motivation because they provide space for students to be actively involved in discussions and Q&A directly. This strategy helps students understand complex concepts, especially in transformational learning. Additionally, Zoom sessions offer other benefits, including real-time interaction with lecturers and colleagues, which can enhance the absorption of material compared to conventional lecture strategies (Aryani & Putra, 2022). The effectiveness of public lectures via Zoom is highly dependent on the teaching method used. Discussion-based learning and case studies have proven to be more effective than one-way lecture models (Zhang et al., 2022). Teachers need to pay attention to interactive learning methods because students who are actively engaged in online discussions tend to have a higher level of understanding than those who are passive (Khotimah et al., 2021). Interactive online learning not only contributes to academic achievement but also has a positive impact on students' psychological conditions. Interactive online learning can reduce anxiety, and improve emotional well-being (Qiu, 2022; Wang, 2024; Yu et al., 2020). In midwifery education

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today, the use of technology in transformational learning offers students opportunities to gain a deeper understanding of concepts. The integration of digital platforms supports interactive learning environments that encourage students to engage actively in the learning process. Additionally, the use of digital tools, such as digital whiteboards on the Zoom application, in online learning has proven effective in facilitating high-level thinking skills (Mendez et al., 2022).

In addition to the digital whiteboard feature in Zoom, the breakout rooms feature is used for small-group online discussions, which has been proven to enhance concept comprehension and learning outcomes (Lim et al., 2022). The use of learning technology also allows students to learn independently by utilizing lecture recordings and other digital teaching materials. However, it is essential to emphasize that the use of online platforms should encourage student engagement and two-way communication to foster a participatory learning environment (Downer et al., 2021). Overall, the results of research from several sources indicate that the interactive learning method, in the form of online general lectures, plays a significant role in enhancing the knowledge of midwifery postgraduate students. Although there are challenges in the form of limited internet access and poor connectivity in implementing the interactive method through online lectures and varying levels of student involvement, this approach remains an effective solution in delivering curriculum materials and supporting transformational learning and student academic performance (Veeraiyan et al., 2022; Zalat et al., 2021). The limitations of this study include the absence of direct measurements on the attitude and skills aspects, and its current focus remains limited to the cognitive aspect.

CONCLUSION

This study demonstrates that interactive learning enhances the knowledge of Midwifery master's students concerning the curriculum and transformational learning. Students who initially only knew the basic concepts were able to understand the material more deeply after participating in interactive learning. This method not only corrects misconceptions but also encourages the development of increased cognitive abilities, as outlined in the Bloom-Anderson taxonomy. Thus, interactive learning is a worthy approach to apply as a learning strategy that supports a more meaningful, participatory, and competency-oriented learning process. Further research is recommended to explore various strategies to increase student engagement in online learning. One potential approach is synchronous small-group discussions via an online platform. In addition, longitudinal studies are also necessary to evaluate the long-term effects of online learning implementation on work readiness and competency achievement among midwifery graduates. This type of research can provide a more comprehensive understanding of the impact of online learning on both cognitive aspects and students' application skills and professional attitudes upon entering the workforce. Findings from long-term research can also be the basis for developing educational policies and curricula that are more responsive to learning challenges in the 4.0 era, as well as supporting the achievement of national competency standards in midwifery education.

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AUTHOR'S NOTE

The author declares that there is no conflict of interest regarding the publication of this article. The author confirms that the data and content of the article are free from plagiarism.

REFERENCES

Abdillah, F. (2024). Peran perguruan tinggi dalam meningkatkan kualitas sumber daya manusia di Indonesia. *Educazione: Jurnal Multidisiplin*, *1*(1), 13-24.

Aboytes, J. G. R., & Barth, M. (2020). Transformative learning in the field of sustainability: A systematic literature review (1999-2019). *International Journal of Sustainability in Higher Education*, *21*(5), 993-1013.

Alam, A. (2022). Mapping a sustainable future through conceptualization of transformative learning framework, education for sustainable development, critical reflection, and responsible citizenship: An exploration of pedagogies for twenty-first century learning. *ECS Transactions*, *107*(1), 1-12.

Alfadda, H. A., & Mahdi, H. S. (2021). Measuring students' use of Zoom application in language course based on the Technology Acceptance Model (TAM). *Journal of Psycholinguistic Research*, *50*(4), 883-900.

Amarta, M., Lestari, A., Cahyani, I,. & Mustafiyanti, M. (2023). Peranan dan fungsi kurikulum secara umum dan khusus. *Alfihris: Jurnal Inspirasi Pendidikan*, *2*(1), 82-89.

Andrews, D. A., Sekyere, E. O., & Bugarcic, A. (2020). Collaborative active learning activities promote deep learning in a Chemistry-Biochemistry course. *Medical Science Educator*, *30*(2), 801-810.

Ariani, T., Triyanti, M., Nawawi, S., Mukharomah, E., Rusdi, M., & Asyhar, R. (2024). Analisis kendala penerapan Kurikulum Merdeka Belajar Kampus Merdeka (MB-KM) bagi mahasiswa. *Jurnal Perspektif Pendidikan*, *18*(1), 1-15.

Aryani, A., & Putra, F. A. (2022). The effect of online learning methods via Zoom Meeting on critical thinking ability of nursing students: The effect of online learning methods via zoom meeting on critical thinking ability of nursing students. *Jurnal Keperawatan Malang*, *7*(1), 1-9.

Blyznyuk, T., & Kachak, T. (2024). Benefits of interactive learning for students' critical thinking skills improvement. *Journal of Vasyl Stefanyk Precarpathian National University*, *11*(1), 94-102.

Briciu, B. (2025). Emotions and meaning in transformative learning: Theory u as a liminal experience. *Journal of Transformative Education*, *23*(2), 202-218.

https://doi.org/10.17509/curricula.v4i1.82020

Budi, S. C., Putri, D. G. P., Puspitasari, K., & Sena, A. R. (2024). Implementation of the digital health approach to support learning for health students based on Bloom's Taxonomy: A systematic review. *Healthcare Informatics Research*, *30*(4), 387-397.

Chen, L., & Lertamornsak, G. (2023). Internet of Things (IoT) based investigation between instructors' insight of constructivist learning theory and learners performance analysis in higher vocational accounting training. *International Journal on Recent and Innovation Trends in Computing and Communication*, *11*(6), 217-227.

Debnath, M., Ojha, S., Niraula, A., & Sharma, D. (2021). Perceptions of medical and allied health students towards online education during the COVID-19 pandemic phases and its future impact in India. *Journal of European CME*, *10*(1), 1-7.

Denadi, A. R., & Sopyan, W. N. (2022). Educational technology innovation during the COVID-19 pandemic. *Curricula: Journal of Curriculum Development*, *1*(2), 143-156.

Dergham, P., Saudagar, F. N. I., Jones-Nazar, C. C., Hashim, S. A., Saleh, K., Mohammedhussain, A. A., Wafai, S. A., & Madadin, M. (2023). Medical students' perceptions towards online teaching during the COVID-19 pandemic: A cross-sectional study from Saudi Arabia. *Advances in Medical Education and Practice*, *14*(1), 407-419.

Dhomiri, A., Junedi, J., & Nursikin, M. (2023). Konsep dasar dan peranan serta fungsi kurikulum dalam pendidikan. *Khatulistiwa: Jurnal Pendidikan dan Sosial Humaniora*, *3*(1), 118-128.

Downer, T., Gray, M., & Capper, T. (2021). Online learning and teaching approaches used in midwifery programs: A scoping review. *Nurse Education Today*, *103*(1), 1-19.

Epp, S., Reekie, M., Denison, J., de Bosch Kemper, N., Willson, M., & Marck, P. (2021). Radical transformation: Embracing constructivism and pedagogy for an innovative nursing curriculum. *Journal of Professional Nursing*, *37*(5), 804-809.

Handayani, Z. L., Hadiapurwa, A., Azzahra, D. H., & Nugraha, H. (2021). Pembaharuan strategi dan metode pembelajaran pada mata pelajaran Sejarah SMA di era pandemi COVID-19. *JKTP: Jurnal Kajian Teknologi Pendidikan, 4*(4), 329-426.

Herniyatun, H., Novitasari, A. A., & Novyriana, E. (2021). Efektivitas pendidikan kesehatan sadari melalui Zoom terhadap tingkat pengetahuan remaja putri pada masa pandemi. *Jurnal Ilmiah Kesehatan Keperawatan*, *17*(3), 260-268.

Holmén, J., Adawi, T., & Holmberg, J. (2021). Student-led sustainability transformations: Employing realist evaluation to open the black box of learning in a challenge lab curriculum. *International Journal of Sustainability in Higher Education*, *22*(8), 1-24.

Jaakkola, N., Karvinen, M., Hakio, K., Wolff, L. A., Mattelmäki, T., & Friman, M. (2022). Becoming self-aware—how do self-awareness and transformative learning fit in the sustainability competency discourse?. *Frontiers in Education*, *7*(1), 1-13.

https://doi.org/10.17509/curricula.v4i1.82020

Jameyfield, E. L., Tesfai, S., Palma, A. A., Olson, A. S., Palma, A., & Olson, A. (2023). An asynchronous curriculum: Learner perspectives on incorporating asynchronous learning into in-person and virtual emergency residency didactics. *Cureus*, *15*(4), 1-8.

Katende, E. N. (2023). Critical thinking and higher education: A historical, theoretical and conceptual perspective. *Journal of Education and Practice*, *7*(8), 19-39.

Kay, D., & Pasarica, M. (2019). Using technology to increase student (and faculty satisfaction with) engagement in medical education. *Advances in Physiology Education*, *43*(3), 408-413.

Khotimah, N. K., Ashar, M. U., & Nurhidayah, N. (2021). Penerapan metode diskusi berbasis e-learning dengan penggunaan aplikasi Edmodo, Zoom Cloud Meeting dan Quizizz untuk meningkatkan hasil belajar mahasiswa materi sistem pencernaan pada Program Studi Keperawatan UIN Alauddin Makassar. *Jurnal Pendidikan dan Pembelajaran Indonesia (JPPI)*, *1*(1), 61-71.

Knapke, J. M., Hildreth, L., Molano, J. R., Schuckman, S. M., Blackard, J. T., Johnstone, M., Kopras, E. J., Lamkin, M. K., Lee, R. C., Kues, J. R., & Mendell, A. (2024). Andragogy in practice: Applying a theoretical framework to team science training in biomedical research. *British Journal of Biomedical Science*, *81*(1), 1-8.

Laga, Y., Nona, R. V., Langga, L., & Jamu, M. E. (2021). Persepsi mahasiswa terhadap kebijakan Merdeka Belajar Kampus Merdeka (MBKM). *Edukatif: Jurnal Ilmu Pendidikan*, *4*(1), 699-706.

Lim, J., Ko, H., Park, J., & Ihm, J. (2022). Effect of active learning and online discussions on the academic performances of dental students. *BMC Medical Education*, *22*(1), 1-9.

Luckett, K., & Shay, S. (2020). Reframing the curriculum: A transformative approach. *Critical Studies in Education*, *61*(1), 50-65.

Mendez, A., Brioso, J., Jaramillo, A., Premawardena, D., Cunningham, E., Sarran-Armogan, L., & Zhou, C. (2022). Use of digital whiteboard to engage undergraduates in online studies of instructor-generated biological diagrams. *Journal of Microbiology & Biology Education*, *23*(1), 1-4.

Miao, L., & Hua, Y. (2022). Integrating social presence with social learning to promote purchase intention: Based on social cognitive theory. *Frontiers in Psychology*, *12*(1), 1-13.

Müller, J., Meyer, R., Bantjes, J., Archer, E., & Couper, I. (2024). Handle with care: Transformative learning as Pedagogy in an under-resourced health care context. *Teaching and Learning in Medicine, 1*(1), 1-10.

Nugraheny, E., Yanti, Y., & Joewono, H. T. (2022). Why we have to reform midwifery education?. *Jurnal Pendidikan Kedokteran Indonesia: The Indonesian Journal of Medical Education*, *11*(3), 332-339.

https://doi.org/10.17509/curricula.v4i1.82020

Nurfitri, R., & Noviani, D. (2023). Peran administrasi kurikulum dalam sebuah pendidikan. *Pengertian: Jurnal Pendidikan Indonesia (PJPI)*, *1*(1), 183-192.

Panjaitan, M., Rini, A. D., Agusalim, L., Abdullah, Z., Purwandaya, B., & Pasaribu, B. (2022). Persepsi mahasiswa Program Studi Ekonomi Pembangunan Universitas Trilogi terhadap program Merdeka Belajar Kampus Merdeka (MBKM). *Islamic Banking: Jurnal Pemikiran dan Pengembangan Perbankan Syariah*, *7*(2), 351-361.

Qiu, F. (2022). Reviewing the role of positive classroom climate in improving English as a foreign language students' social interactions in the online classroom. *Frontiers in Psychology*, *13*(1), 1-8.

Ross, M. W., Newstrom, N., & Coleman, E. (2021). Teaching sexual history taking in health care using online technology: A PLISSIT-Plus Zoom approach during the coronavirus disease 2019 shutdown. *Sexual Medicine*, *9*(1), 1-7.

Rowan, J. C., & Duerden, M. D. (2024). Designing identity transformations through transformative learning objectives and experiential learning competencies. *Journal of Transformative Education*, *22*(4), 455-472.

Rudenko, Y., Proshkin, V., Naboka, O., Yurchenko, A., & Semenikhina, O. (2023). Using Bloom's taxonomy to assess information hygiene skills. *Scientific Editor Eugenia Smyrnova-Trybulska, 15*(1), 141-152.

Schuler, M. S., Tyo, M. B., & Barnett, K. (2021). Nursing student perceptions of required online educational programs utilized outside the classroom. *Nurse Education Today*, *105*(1), 1-12.

Serembus, J. F., & Kemery, D. C. (2020). Creating dynamic learning with Zoom. *Nurse Educator*, *45*(6), 291-293.

Thompson, S. M., Low, L. K., Budé, L., de Vries, R., & Nieuwenhuijze, M. (2021). Evaluating the effect of an educational intervention on student midwife self-efficacy for their role as physiological childbirth advocates. *Nurse Education Today*, *96*(1), 1-7.

Veeraiyan, D. N., Varghese, S. S., Rajasekar, A., Karobari, M. I., Thangavelu, L., Marya, A., Messina, P., & Scardina, G. A. (2022). Comparison of interactive teaching in online and offline platforms among dental undergraduates. *International Journal of Environmental Research and Public Health*, *19*(6), 1-8.

Wang, Y. (2024). An interactive online educational environment to reduce anxiety, improve emotional well-being, and critical thinking for college students. *Acta Psychologica*, *248*(1), 1-9.

Widodo, A., & Astuti, B. (2024). Critical analysis of social cognitive learning theory and its implementation in elementary schools. *Mandalika*, *2*(1), 6-12.

Winget, M., & Persky, A. M. (2022). A practical review of mastery learning. *American Journal of Pharmaceutical Education*, *86*(10), 1-9.

https://doi.org/10.17509/curricula.v4i1.82020

Yu, J., Huang, C., Han, Z., He, T., & Li, M. (2020). Investigating the influence of interaction on learning persistence in online settings: Moderation or mediation of academic emotions?. *International Journal of Environmental Research and Public Health*, *17*(7), 1-21.

Yusuf, F. A. M. El, & Susanti, T. (2022). The impact of Zoom as a learning application on student learning concentration in the COVID-19 era. *Curricula: Journal of Curriculum Development*, *1*(2), 129-142.

Zalat, M. M., Hamed, M. S., & Bolbol, S. A. (2021). The experiences, challenges, and acceptance of e-learning as a tool for teaching during the COVID-19 pandemic among university medical staff. *Plos One*, *16*(3), 1-12.

Zhang, H., Li, Y., & Fulk, M. (2023). Zoom-sandwiched cross-chapter concept map: A novel model to optimize a concept map project in online STEM courses. *Advances in Physiology Education*, *47*(2), 326-332.

Zhang, J., Zhou, Y., & Li, Y. (2022). Effects of an interaction and cognitive engagement-based blended teaching on obstetric and gynecology nursing course. *International Journal of Environmental Research and Public Health*, *19*(12), 1-10.

Zhang, X., Zhang, B., & Zhang, F. (2023). Student-centered case-based teaching and online-offline case discussion in postgraduate courses of computer science. *International Journal of Educational Technology in Higher Education*, *20*(1), 1-20.

https://doi.org/10.17509/curricula.v4i1.82020