



Implementation of deep learning approach in equivalency education at PKBM Al Insan

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ABSTRACT

Equivalency education serves as a crucial alternative for providing learning opportunities to individuals excluded from formal schooling, particularly adults with diverse backgrounds and learning needs. However, learning practices in PKBM (Community Learning Centers) often remain instructional and fail to address the demand for contextual and meaningful education. This study aims to examine the implementation of a *deep learning* approach in the planning, implementation, and evaluation stages of the learning process within the Paket C Equivalency Program at PKBM Al Insan, Sumedang. Employing a descriptive qualitative method, data were collected through Focus Group Discussions (FGDs), observations, and in-depth interviews. Thematic analysis was employed to identify key patterns related to the study's focus. The findings suggest that learning practices are beginning to reflect the principles of mindful, meaningful, and joyful learning, although they have not yet been systematically applied. Flexibility in scheduling and close tutor-learner relationships emerged as major strengths, while key challenges included limited theoretical understanding among tutors and the absence of structured evaluation tools. The study recommends enhancing tutor capacity and developing contextual learning instruments to support better the application of the *deep learning* approach in non-formal equivalency education.

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ABSTRAK

Pendidikan kesetaraan menjadi alternatif penting dalam menyediakan layanan pendidikan bagi kelompok masyarakat yang tidak terjangkau pendidikan formal, termasuk orang dewasa dengan latar belakang dan kebutuhan belajar yang beragam. Namun, praktik pembelajaran di PKBM seringkali masih bersifat instruksional dan belum sepenuhnya menjawab kebutuhan pembelajaran yang bermakna dan kontekstual. Penelitian ini bertujuan untuk mengkaji implementasi pendekatan *deep learning* dalam proses perencanaan, pelaksanaan, dan evaluasi pembelajaran pada Program Pendidikan Kesetaraan Paket C di PKBM Al Insan, Sumedang. Penelitian ini menggunakan pendekatan deskriptif kualitatif dengan teknik pengumpulan data melalui Focus Group Discussion (FGD), observasi, dan wawancara mendalam. Data dianalisis menggunakan pendekatan tematik untuk mengidentifikasi pola temuan sesuai fokus penelitian. Hasil menunjukkan bahwa praktik pembelajaran telah mengarah pada prinsip *mindful, meaningful, dan joyful learning*, meskipun belum diterapkan secara sistematis. Fleksibilitas waktu dan hubungan personal antara tutor dan peserta menjadi kekuatan utama, sementara kendala muncul pada aspek pemahaman teoritik tutor dan keterbatasan perangkat evaluasi. Studi ini merekomendasikan penguatan kapasitas tutor dan pengembangan perangkat ajar kontekstual sebagai upaya mengoptimalkan pendekatan *deep learning* dalam pendidikan kesetaraan.

Kata Kunci: *deep learning; PKBM; pendidikan kesetaraan*

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INTRODUCTION

Equivalency Education is a non-formal education service that provides learning opportunities for people who have not completed formal education (Haqiqi, 2022). Equivalency Education is a non-formal education service designed to provide learning opportunities for people who have not completed formal education (Arianto et al., 2019). The 2024 Average Length of Schooling (RLS) data shows that the average male population in West Java has completed an average of 9.19 years of education, while females have completed 8.55 years, according to the 2025 report of the Central Statistics Agency of West Java Province (accessible at: <https://jabar.bps.go.id/id/statistics-table/2/MTg5IzI=/-komponen-ipg-rata---rata-lama-sekolah.html>). When converted, this is equivalent to achieving education up to the third or second grade of junior high school (SMP). This situation indicates the need for alternative education services that reach educationally disadvantaged groups.

PKBM Al Insan Cikeusi Village, Darmaraja District, Sumedang Regency, is here to answer these needs by organizing the Package A, B, and C Equivalency Education program. Ideally, learning in the Package C Program should take place in a participatory, contextual, and innovative manner, using an approach that encourages active participation and meaningful learning (Agustina & Nugroho, 2025). Learning must also involve students in discussions, questions, and answers, and active responses (Madani & Roesminingsih, 2023). Tutors play a role in designing and implementing learning processes that are relevant and adaptive (Damayanti, 2025). However, field practice shows limited two-way communication and minimal student participation (Evania & Susilo, 2024). This indicates that the learning approach is not yet optimal. This challenge is further complicated by students' diverse backgrounds in terms of age, education, motivation, and socioeconomic status (Dwiyatmono & Susilo, 2025).

Low student attention to learning materials is also an inhibiting factor (Apriany & Solfema, 2025). This situation demands a learning approach that addresses students' psychological and personal aspects, making learning more meaningful and relevant to their lives. The *deep learning* approach is considered relevant because it promotes conscious student involvement, mindful learning, meaningful learning, and a joyful learning environment (Arif et al., 2025). These three components form a learning ecosystem that is not only cognitively effective but also affectively and socially transformative. Several studies have shown that learning in the Package C Program at PKBM continues to rely on conventional methods such as lectures and written assignments, resulting in low student engagement (Nengsih et al., 2018). Another finding states that learning in equivalency education focuses more on managerial aspects and service quality than on classroom learning strategies (Manaf, 2025).

Meanwhile, studies in formal education show that the deep learning approach can increase student engagement and conceptual understanding (Royani et al., 2024). However, studies specifically implementing the deep learning approach in the context of equivalency education in PKBM remain rare, creating a research gap marked by the dominance of conventional approaches, limited studies that integrate comprehensive solutions, and the lack of deep learning adaptation in equivalency education. This study aims to fill this gap by examining the implementation of deep learning in PKBM through the three pillars of mindful, meaningful, and joyful. This study differs from previous studies because it presents novelty in three

aspects: implementing the *deep learning* approach in the context of the equivalency education package C, analyzing its implementation contextually in learning practices at PKBM Al Insan in Cikeusi Village, and exploring its contribution in encouraging community learning independence as part of strengthening lifelong learning.

Based on this gap, the main research question is how the planning, implementation, and evaluation processes of the deep learning approach, guided by the principles of mindful, meaningful, and joyful, can be applied in the Package C Equivalency Program to overcome the learning challenges faced so far. This study seeks to answer questions regarding the stages of deep learning-based learning planning designed to accommodate the heterogeneous characteristics of Package C learners, the process of implementing learning with a deep learning approach in learning practices at PKBM Al Insan, and a deep learning evaluation system that can measure the achievement of mindful, meaningful, and joyful aspects comprehensively. Therefore, this study aims to describe the stages of implementation of the introduction and implementation of the deep learning approach model through three main pillars, namely mindful, meaningful, and joyful, in the Package C Equivalent Education Program at PKBM Al Insan, Darmaraja District, Sumedang Regency. The results of this study are expected to provide a learning model that other PKBMs can adopt, serve as a reference for tutors in creating more participatory learning, and strengthen the quality of equivalency education services.

LITERATURE REVIEW

Deep Learning Concept

Deep learning in the educational context is a learning approach that focuses on in-depth understanding, connecting new knowledge with prior knowledge, and applying concepts to real-world situations. This approach has been proven to improve learning outcomes and support sustainable knowledge transformation, particularly in adult learning contexts, including equivalency education (Khong & Tanner, 2024). As learning theory evolves, this approach continues to be developed and adapted to address complex and diverse learning challenges. Over time, the deep learning approach has been widely adopted in educational contexts due to its ability to enhance students' conceptual understanding, active engagement, and critical and reflective thinking (Riani & Sujarwati, 2025). Furthermore, deep learning in the context of education is a learning approach that encourages students to develop a comprehensive understanding through a holistic learning experience, where students' cognitive and emotional engagement is key (Fatmawaty, 2024). Integration of holistic learning experiences, students' cognitive and emotional involvement, and learning that is not only instructional but also builds critical and independent thinking capacity.

Supporting Principles of Deep Learning

The deep learning approach relies not only on learning strategies but also on learning principles that support active engagement, meaningful understanding, and student motivation. Based on existing literature, there are at least three concepts that can improve learning quality: mindful, meaningful, and joyful learning (Feriyanto & Anjariyah, 2024). The principle of mindful learning emphasizes the importance of full awareness in every learning

process. Research shows that students who adopt a mindful attitude are better able to pay attention to new things, be open to different experiences, and respond to situations appropriately. This learning approach has been shown not only to improve understanding but also to positively contribute to students' psychological well-being (Wang *et al.*, 2023). In mindful learning, students are taught not only to focus on the material but also on how to learn, the strategies used, and how these strategies enhance the effectiveness of their learning (Wijaya *et al.*, 2025).

Meaningful learning emphasizes student engagement in constructing meaning by connecting new knowledge to prior experiences. This approach encourages students not only to understand information literally but also to critically relate to, evaluate, and apply it to real-life situations (Bryce & Blown, 2024). This principle strengthens meaningful learning by providing students with space to connect their personal experiences with new knowledge independently. Meanwhile, joyful learning emphasizes an enjoyable learning process, thereby increasing student motivation, engagement, and emotional well-being (Feriyanto & Anjariyah, 2024). This understanding aligns with research confirming that emotions play a crucial role in adult learning. Learning experiences involving positive emotions significantly influence engagement and motivation in adult education contexts (Rowe & Fitness, 2018). The principle of joyful learning encourages students to enjoy the learning process while maintaining long-term motivation.

The Relevance of Deep Learning for Equality Education

The deep learning approach is highly relevant for adult learning, including equivalency education, because it can increase active engagement, encourage critical reflection, and generate meaningful understanding that can be applied in everyday life. Equivalency education has a very diverse student population, including age, socioeconomic background, previous learning experiences, and learning motivation (Dwiyatmono & Susilo, 2025). This diversity demands an adaptive, flexible, and meaningful learning approach. The deep learning approach is highly relevant in this context because it can holistically accommodate students' differing needs and learning styles (Wulandari *et al.*, 2025). Several studies provide insights into the application of deep learning principles. One study in Ecuador found that the use of deep learning techniques in non-formal education can increase active participation, critical understanding, and student persistence, even under limited facilities and resources (Estrada-Molina *et al.*, 2024). Meanwhile, another study conducted at SMKN Pringkuku found that the deep learning approach increased students' enthusiasm for learning, developed critical thinking skills, fostered curiosity, and helped students internalize values relevant to everyday life (Khotimah *et al.*, 2025).

Challenges of the Teaching and Learning Process (PKBM)

To better understand the potential of deep learning in equivalency education, it is important to examine the actual conditions of Package C education in PKBM. Equivalency education is a form of non-formal education service that provides opportunities for the community to acquire competencies equivalent to those achieved in formal education (Sutisna, 2016). As institutions implementing equivalency education, Community Learning Centers (PKBM) play

a strategic role in expanding educational access for marginalized groups. In non-formal education units such as PKBM, the Package C Equivalency Program is a crucial pathway to improving quality of life and expanding access to employment opportunities and further education. This is emphasized in the Equivalency Education Pocketbook: Packages A, B, and C, published by the Ministry of Education, Culture, Research, and Technology (2023), which can be accessed through (<https://ditsmp.kemdikbud.go.id>). However, in practice, the implementation of equivalency education still faces various structural and andragogical challenges.

Limited competent human resources, minimal infrastructure, and diverse student characteristics often pose obstacles to the design of adaptive and high-quality learning (Handayani *et al.*, 2025; Pratiwi *et al.*, 2025). This situation not only impacts administrative aspects but also directly impacts the quality of classroom learning. Furthermore, the lack of adequate administrative support and funding often limits PKBM managers' ability to develop learning innovations (Ansori *et al.*, 2024). The impact of these challenges is reflected in the low level of active student participation during the learning process. A study found that many students in PKBM demonstrated a lack of active participation during the learning process, including failing to pay attention to the tutor, respond to questions, or focus on the material (Apriany & Solfema, 2025). This situation indicates that the learning approaches used so far tend to focus on delivering material rather than fostering active, reflective student engagement. This situation underscores the need for adaptive and meaningful learning approaches, such as deep learning, to address the challenges of non-formal education while simultaneously increasing student engagement and deeper understanding.

METHODS

This research uses a qualitative case study approach to describe in depth the planning, implementation, and evaluation of the deep learning model in the Package C Equivalency Education Program at PKBM Al Insan, Cikeusi Village, Darmaraja District, Sumedang Regency. The selection of this approach was based on its suitability for revealing the meaning, experience, and contextual dynamics in non-formal learning environments. The research was conducted on July 19–20, 2025, at PKBM Al Insan, Cikeusi Village, Darmaraja District, Sumedang Regency. The research participants consisted of two layers of data sources. First, 10 FGD participants were selected based on the following inclusion criteria: being active as tutors or managers of the Package C Program at PKBM Al Insan, having direct experience in implementing learning, and being willing to participate in the research. Second, three key informants, consisting of two tutors and one manager, were selected through a purposive sampling technique for in-depth interviews. These key informants were selected based on additional inclusion criteria, namely strategic involvement in the planning and implementation of the deep learning approach.

Data were collected through Focus Group Discussions (FGDs), in-depth interviews, direct observation, and documentation. FGDs were chosen because they were considered effective for exploring participants' views, experiences, and interactions in a participatory manner. The FGDs were conducted in one session lasting approximately 90 minutes with 10 participants. The procedure referred to Krueger and Casey's 2015 book, "Focus Groups: A practical guide for applied research," but was adapted to the PKBM context, for example,

using simpler, everyday language and maintaining a conducive discussion atmosphere with a relatively large number of participants. The FGD and interview instruments were prepared as a semi-structured guide based on relevant literature, then validated through discussions with non-formal education experts. Therefore, a pilot test was not conducted because the instruments were deemed suitable for the research context.

In-depth interviews and direct observations were conducted according to the guidelines in Creswell and Poth's 2016 book "Qualitative Inquiry and Research Design: Choosing Among Five Approaches," which emphasizes the importance of collecting data naturally, capturing nonverbal expressions, and noting the social context that shapes the meaning of the data. Observations were conducted to complement data from interviews and focus group discussions (FGDs), particularly to capture participants' nonverbal cues and emotional states. In-depth interviews were conducted individually, lasting approximately 60 minutes per informant. In contrast, observations captured nonverbal expressions and the dynamics of interactions that emerged during the FGDs and interviews. Additional data were obtained through documentation, including minutes, transcripts, and recordings of activities. Throughout the entire process, the researcher acted as a passive observer, taking notes without intervening.

Data analysis used the interactive model developed by Miles et al. (2018) in their book "Qualitative Data Analysis: A Methods Sourcebook," with manual coding. The focus group discussion (FGD) and interview transcripts were reread to identify key ideas, which were then assigned initial codes. These codes were grouped into categories based on shared meaning, from which the main research themes were developed inductively. Throughout the analysis process, the researcher created analytical notes as an audit trail to maintain transparency. Validity was maintained through method triangulation (FGD, interviews, observations, and documentation) and source triangulation (information from tutors and administrators). Member checks were also conducted by asking participants to review the interview summaries, and peer debriefing with colleagues was conducted to discuss the analysis process and minimize researcher bias.

RESULTS AND DISCUSSION

Implementation of the Deep Learning Approach in Learning at PKBM Al Insan

Based on focus group discussion (FGD) results, observations, and interviews with two tutors from the Package C Equivalency Education Program and one manager of the Al Insan Community Learning Center (PKBM), the implementation of the deep learning approach in the program reveals various dynamics and complexities. Although not yet fully formalized, efforts to implement deep learning principles are evident in the tutors' daily practices and in the management of learning activities. This analysis reveals four main themes: learning planning, learning implementation, learning evaluation, and supporting and inhibiting factors.

Learning Planning

Learning planning at PKBM AI Insan is flexible and adapts to students' diverse characteristics. Tutors generally develop plans based on Learning Implementation Plans (RPP) and available teaching modules, both from the government and online sources. Most do not create their own RPPs; instead, they use templates downloaded from the internet and discuss them with fellow tutors before use. This strategy is chosen because it is considered more efficient given the limited time and resources. In practice, initial assessments of student needs are often conducted informally. Tutors typically observe students' conditions and responses in previous meetings to determine the next material. This indicates that planning is not yet based on systematic diagnostic assessments, but rather relies on spontaneous observation. Nevertheless, efforts are underway to adapt the material to students' actual needs. The administrators exemplified that in Islamic Religious Education (PAI) subjects, the chosen themes often stem from the needs of the local community, for example, learning about the practice of funeral prayers, which many students have not yet mastered. The following quote demonstrates that the local context is an important consideration.

"Kami mencoba melihat kebutuhan peserta di lingkungannya, misalnya dalam pembelajaran PAI, banyak warga belajar belum bisa melaksanakan salat jenazah, maka itu yang diajarkan" (Interview, P1, July 19, 2025).

The curriculum used generally adheres to the Kurikulum Merdeka, but student involvement in developing lesson plans remains limited. Lesson plans primarily serve as administrative documents and do not fully reflect mindful learning principles. However, efforts are underway to make the learning process more relevant to participants' contexts. Tutors attempt to integrate everyday issues into the learning, such as local history, family dynamics, and social challenges faced by adult students. In general, the learning planning at PKBM AI Insan accommodates student characteristics, but has not yet fully implemented mindful principles based on a systematic learning needs assessment. With flexible, adaptive planning, the learning process at PKBM AI Insan reflects efforts to align the material with students' real-life situations.

Implementation of Learning

Learning at the AI Insan Community Learning Center (PKBM) focuses on connecting the material to the participants' real-life experiences. The lecture method is still used, but is interspersed with discussions, prompting questions, and linking the material to the local context for easier understanding. In history lessons, for example, discussions are directed at events in the village or by featuring local speakers, as stated below.

"Saya mengajar sejarah, jadi saya kaitkan dengan sejarah di sekitar desa dan mendatangkan narasumber" (Interview, T2, July 19, 2025).

The classroom atmosphere is inclusive and supportive, and non-academic activities, such as communal meals, are utilized to foster bonding and readiness to learn. Project-based activities are simple and contextual, such as supporting students involved in local food production to participate in bazaars or preparing simple products for shared consumption, facilitating practical skills and collaborative work. Technology is utilized functionally, depending on device availability. WhatsApp becomes the primary channel when face-to-face attendance is limited, enabling rapid distribution of materials, assignments, and feedback. Additionally, Google Forms is used for quizzes, Google Drive for storing and collecting

assignments, and Canva for developing teaching materials. Students tend to prefer video-based materials because they are considered to clarify learning steps and procedures, as stated by one of the following informants.

"Kami memakai WhatsApp karena banyak yang tidak bisa hadir. Kalau ada materi atau tugas, biasanya dikirim juga lewat Google Drive supaya lebih rapi dan bisa diakses kapan saja. Peserta didik juga lebih senang kalau dikasih video, karena mereka bisa ulang-ulang kalau belum paham (Interview, P1, July 20, 2025).

Although adaptive practices are evident, the implementation of more systematic exploratory strategies, such as project-based learning, structured written reflections, or simulations, remains limited. The main inhibiting factors are time constraints, minimal pedagogical training for adult participants, and uncertainty about selecting the most appropriate method. By combining lectures, discussions, and practical experiences, the learning process at PKBM Al Insan has created a connection between the material and the participants' real lives. The next step is to measure the success and challenges of this process through learning evaluations. Overall, the learning process has shifted toward a meaningful and joyful approach by linking the material to participants' contexts and using simple digital platforms. Moving forward, strengthening deeper, more reflective strategies is needed to achieve deep learning more fully.

Learning Evaluation

The implementation of the deep learning approach at PKBM Al Insan remains largely informal and spontaneous. Tutors rely more on verbal confirmation through direct questions to assess participants' understanding, for example, by reiterating the main points of the material or asking them to provide examples of everyday applications. Furthermore, the evaluation process is collaborative between tutors. They exchange information about students' progress, particularly in aspects of activeness, reflective skills, and difficulties that arise during the learning process. Participant input is an important source of evaluation. Tutors pay attention to comments, questions, and non-verbal responses, so that evaluation comes not only from the teacher but also involves the participants' own learning experiences. This makes evaluation more contextual and aligned with real-life classroom needs, as one tutor stated below.

"Biasanya saya tanya langsung ke peserta, misalnya 'paham atau belum?', atau saya suruh mereka menceritakan dengan bahasa sendiri. Dari situ saya bisa tahu siapa yang sudah mengerti dan siapa yang perlu dibimbing lagi" (T2, Interview, July 19, 2025).

Overall, although the evaluation method used is simple and does not yet use formal instruments, this approach still provides reflective space for both tutors and participants. This demonstrates an effort to ensure mindful, meaningful, and joyful learning, in keeping with the characteristics of equivalency education, which emphasizes flexibility and relevance to participants' needs.

Supporting and Inhibiting Factors for Deep Learning Implementation

From interviews and observations, several supporting and inhibiting factors influenced the implementation of the deep learning approach at PKBM Al Insan. A conducive, flexible learning environment supported the implementation of the deep learning approach at PKBM Al Insan. Tutors strive to create relaxed interactions so that students feel freer to express themselves and actively participate in learning activities. This condition is reinforced by the use of simple learning media such as videos, which can create a joyful atmosphere while facilitating conceptual understanding. This shows that the principle of joyful learning can be realized through strategies that are not always complex but emphasize a comfortable atmosphere and media relevance, as one of the tutors below stated.

"Kalau suasananya dibuat tidak kaku, peserta didik jadi lebih semangat. Apalagi kalau ditambah video, mereka bisa lebih gembira sekaligus lebih cepat paham materinya," (IT, interview, July 19, 2025)

However, implementation faces significant challenges. Technically, limited supporting facilities prevent the full optimization of method variations. Furthermore, internal evaluations between tutors are unstructured, resulting in incidental feedback. Another influential factor is the low motivation of some students, particularly regarding face-to-face attendance, due to work, family responsibilities, and personal circumstances. Furthermore, tutors face conceptual challenges related to changes in curriculum policies. Tutors believe that the dynamics of these changes often create confusion, both in adapting materials and teaching methods. This situation makes it difficult to consistently apply mindful and meaningful learning principles, as tutors' focus is divided between understanding the new curriculum and adapting it to their students' needs. One tutor shared the following statement.

"Banyak perubahan kurikulum saja sudah membingungkan, apalagi kalau ditambah dengan tuntutan metode baru. Jadi kadang kita perlu waktu lebih lama untuk menyesuaikan," (T2, interview, July 19, 2025)

Furthermore, limited technological resources and diverse student backgrounds also pose challenges. However, tutors strive to overcome these obstacles through creativity, utilization of local learning resources, and strategic flexibility. Overall, supporting factors such as a relaxed learning environment, engaging video media, and collaboration among tutors are crucial for implementing a deep learning approach. Meanwhile, inhibiting factors primarily relate to changes in curriculum policies and limited resources. However, these obstacles do not deter tutors from maintaining a mindful, meaningful, and joyful learning process.

Discussion

Learning Planning

The research results show that the deep learning-based learning planning stage at PKBM Al Insan is directed at three main pillars: mindful, meaningful, and joyful. Tutors develop learning plans that take into account students' heterogeneity, including age, educational background, and learning motivation. This planning emphasizes not only the development of learning materials but also the creation of a participatory learning environment that is relevant to the students' real needs. This finding is consistent with research emphasizing that learning in equivalency education must be designed contextually and participatory to fit students' lives (Agustina & Nugroho, 2025; Dwiyatmono & Susilo, 2025).

The planning carried out by tutors at the Al-Insan Community Learning Center (PKBM Al-Insan) can be viewed as an adaptive strategy to address the complexities of the equivalency education context. However, research results indicate that learning planning at PKBM Al-Insan remains adaptive and flexible. Tutors tend to use lesson plans and teaching modules from online sources, then adapt them to the participants' contextual needs. This reflects a significant adaptation effort, although the planning has not yet fully adopted the principles of mindful learning, which require a systematic and in-depth assessment of learning needs to improve learning effectiveness (Feriyanto & Anjariyah, 2024). There is a gap between the idealization of the principle of mindful learning and the practice of planning in the field, which remains practical and adaptive.

Compared with previous research, it was found that learning in PKBM remained dominated by conventional methods (Nengsih *et al.*, 2018). However, the planning strategy at PKBM Al Insan indicates a shift toward a more innovative approach. On the other hand, research also shows that implementing deep learning in non-formal education contexts often faces obstacles, such as limited tutor competency and resources. (Royani *et al.*, 2024). This contrast shows that, despite progress in planning, the application of deep learning principles in equivalency education still requires more systematic support so that it does not stop at the adaptation level but is truly able to internalize mindful, meaningful, and joyful values in learning planning practices.

Implementation of Learning

In terms of implementation, it was found that tutors worked to create an interactive classroom atmosphere that was relevant to participants' real lives. For example, the use of local case studies and the involvement of participants in traditional food production projects demonstrated that learning was not only theoretical but also practical. This aligns with the principle of meaningful learning, which emphasizes the connection of material to everyday life contexts (Diputera *et al.*, 2024). In addition, a warm, informal learning atmosphere, such as eating together and relaxed discussions, supports the creation of joyful learning conditions that increase participants' emotional comfort and motivation (Rowe & Fitness, 2018). This finding is supported by research confirming that real-world experience-based learning can increase motivation and retention in equivalency education programs (Wijaya *et al.*, 2025).

However, learning is still dominated by simple lectures and discussions, with limited application of exploratory methods such as project-based learning or simulations. This situation reflects the challenges in implementing fully mindful and participatory learning strategies. A lack of training for tutors and a limited understanding of adult learning strategies may cause these limitations. This aligns with findings that the success of deep learning implementation is greatly influenced by educators' readiness to manage a variety of methods (Royani *et al.*, 2024). On the other hand, mindful learning strategies are evident in tutors' habits of establishing class consensus, maintaining focus by providing discussion starters, and providing space for exploring ideas. However, limited theoretical understanding of mindful strategies has resulted in practices that are not yet fully structured.

In terms of the learning environment, joyful learning is evident in the fluid learning atmosphere, communal meals, and the informal interactions fostered by tutors. This is crucial

in the context of non-formal education, as students tend to require a safe and comfortable environment to be actively involved. However, the lack of method variation, such as educational games or interest-based learning, indicates that joyful learning has not been optimally implemented. While the implementation of learning at PKBM Al Insan reflects several principles of deep and mindful learning, this study reveals gaps in method variation and tutor readiness. The contribution of this study is to emphasize that although the principles of meaningful and joyful learning are beginning to emerge, strengthening tutor capacity and method innovation are key to ensuring that non-formal learning truly supports in-depth learner engagement.

Learning Evaluation

During the evaluation process, tutors employ a flexible, open, and adaptive approach to the participants' circumstances. This reflects a humanistic approach and aligns with the principles of mindful evaluation. Assessments are geared toward participants' personal development rather than just cognitive achievement (Wulandari *et al.*, 2025). This finding is consistent with research showing that flexibility in evaluation can increase participants' sense of ownership of the learning process (Sari *et al.*, 2025). However, evaluation practices at the Al Insan Community Learning Center (PKBM) are still not supported by systematic documentation or instruments. Learning follow-up tends to be spontaneous and memory-based, making it difficult to use as a basis for long-term program improvement. This limitation is similar to the finding that many non-formal education tutors still rely on undocumented oral evaluations (Handayani *et al.*, 2025). This condition reveals a gap between the idealization of data-based evaluation and the still-informal practice in the field.

The presence of participant feedback in the evaluation process indicates that the principles of meaningful learning, which emphasize reflection and active involvement, are beginning to be implemented (Bryce & Blown, 2024). This participation contributes to learning improvements despite the lack of formal instruments. However, the effectiveness of evaluation remains affected by limited resources and tutors' capacity to design more structured assessments. Some studies even suggest that, without a documented evaluation system, assessments may be short-term and fail to impact sustainable learning outcomes (Syafi'I *et al.*, 2025). Evaluation at PKBM Al Insan has led to responsive and participatory practices, but still needs strengthening to measure learning outcomes more comprehensively. This research emphasizes the importance of developing a documented evaluation system, for example, through portfolios or project-based assessments, to strengthen long-term learning follow-up. This aligns with recommendations that emphasize integrating formative and summative assessments in non-formal education to sustain learning outcomes (Nurjanah & Adawiyah, 2025).

Supporting and Inhibiting Factors

A friendly, flexible, and open learning environment supports the implementation of the deep learning approach at PKBM Al Insan. This aligns with the principle of joyful learning, which emphasizes the importance of a pleasant, comfortable learning environment for students (Feriyanto & Anjariyah, 2024). Tutors and administrators strive to create a relaxed

environment by allowing students to bring their own life experiences into the classroom and choose their own learning styles. This demonstrates that a positive emotional climate can strengthen engagement and intrinsic motivation, as evidenced by the important role positive emotions play in adult learning and achievement, particularly in building sustained student engagement (Rowe & Fitness, 2018). Furthermore, the use of simple technologies such as WhatsApp, Google Forms, and video tutorials is a supporting factor that increases accessibility and diversity in learning methods. This practice aligns with findings showing that digital technology integration, even simple ones, can be a bridge to implementing deep learning techniques in non-formal education with limited resources (Estrada-Molina *et al.*, 2024).

The findings at the Al Insan Community Learning Center (PKBM) align with literature that emphasizes the importance of adapting technology to facilitate meaningful learning. However, barriers emerged from tutors' limited understanding of deep learning principles and participatory learning strategies. This barrier aligns with findings that emphasize the quality of non-formal learning is highly dependent on tutor capacity and ongoing training support (Handayani *et al.*, 2025). Participants' low motivation to attend face-to-face sessions is also a challenge related to external factors, such as socioeconomic conditions and work requirements. This aligns with studies indicating that structural constraints are among the main obstacles to equivalency education (Riani & Sujarwati, 2025). In addition, technical limitations, such as unstable internet access, increasingly demonstrate that facilities and infrastructure are important prerequisites for the effectiveness of deep learning-based learning (Handayani *et al.*, 2025). The supporting and inhibiting factors identified at the Al Insan Community Learning Center (PKBM) are not isolated but align with theory and previous research findings. This demonstrates that implementing deep learning in non-formal education requires a conducive learning environment, the use of adaptive technology, capacity-building for tutors, and strategies to strengthen participant motivation for optimal implementation.

The results of this study indicate several important implications for implementing the deep learning approach at PKBM Al Insan. Practically, administrators and tutors need to strengthen learning planning based on systematic assessments of participant needs, increase the variety of exploratory and reflective methods, and document the evaluation process in a more structured manner. The use of simple digital technologies, such as WhatsApp, Google Forms, and video tutorials, also needs to be tailored more specifically to reach participants with limited time and access. From a policy perspective, these findings emphasize the need for government or non-formal education provider support, including ongoing training for tutors, adequate digital resources, and the development of participatory evaluation mechanisms to support the sustainability of the learning process. Theoretically, this study enriches the discourse on the application of deep learning in non-formal education by demonstrating the gap between the idealization of mindful, meaningful, and joyful learning principles and adaptive practices in the field. These findings confirm that the deep learning approach is relevant not only for formal education but also for flexible non-formal learning environments, provided adequate conditions and resources support it.

This study has several limitations that require attention. First, the data obtained were qualitative and came from a limited number of informants, so the diversity of tutors' views on the implementation of deep learning was not fully represented. This may affect the

completeness of interpretations regarding the most effective strategies in the context of PKBM. Second, the evaluation of the implementation of the deep learning approach was conducted through observations and interviews, without systematic quantitative instruments, so the assessment of learning effectiveness placed greater emphasis on informants' perceptions and experiences. This condition makes the findings more descriptive than generalizable. Third, time and resource constraints limited the scope of a more in-depth analysis of the long-term impact of implementing this model, for example, the extent to which the principles of mindful, meaningful, and joyful learning truly contribute to lifelong learning. Therefore, the results of this study need to be interpreted with these contexts and limitations in mind, and further research with a wider number of informants, more diverse evaluation instruments, and a longer observation period is recommended.

CONCLUSION

The results of this study indicate that implementing the deep learning approach in the Package C Equivalency Education Program at PKBM Al Insan has led to positive progress in integrating the three pillars of mindful, meaningful, and joyful learning. Learning planning is adaptive and flexible, with lesson plans and online modules serving as references tailored to participants' social context, reflecting the principles of mindful and meaningful learning; however, creative strategies for joyful learning remain limited. Learning implementation uses lecture methods, interactive discussions, and real-life practice, which support participant engagement and a conducive classroom atmosphere. However, the variety of exploratory methods and educational games to enhance joyful learning remains limited. Evaluation is carried out informally and participatory through questions, answers, and feedback, which supports mindful and meaningful learning. However, joyful learning cannot be systematically measured due to the lack of validated instruments. Overall, this study confirms that implementing deep learning at PKBM Al Insan can accommodate participants' heterogeneous characteristics and enhance the quality of non-formal learning. The findings can serve as a practical reference for tutors and other PKBM managers in designing more participatory and balanced learning across the three pillars. Further research is recommended to develop standardized evaluation instruments capable of measuring mindful, meaningful, and joyful learning; expand the number of informants and PKBM locations; and explore the use of interactive digital technology to support the implementation of more innovative and effective learning.

AUTHOR'S NOTE

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