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IMPLEMENTATION OF DEEP LEARNING IN PACKAGE C LEARNING (Possibility Study at PKBM Al-Insan, Sumedang Regency)

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Abstract

This study aims to explore how the deep learning classroom service model is implemented in Package C learning, where the availability of learning materials such as modules, student worksheets (LKS), and lesson plans (RPP) used by tutors are still based on pre–deep learning practices. These conditions are presumed to cause difficulties in the implementation process. Therefore, this research explores the following question: how is the deep learning classroom service model implemented in Package C learning? The study was conducted through observation and description of the Package C learning process implementing deep learning during the current semester. Accordingly, a qualitative research method was employed using observation as the main research instrument. The results indicate that the Package C learning process is generally considered to be in accordance with the stages of the learning process as conventionally applied, based on criteria that existed prior to the implementation of deep learning, such as the availability of modules, student worksheets (LKS), and lesson plans (RPP) that are still based on previous approaches. It is recommended that improvements be made, particularly in enhancing tutor competencies and organizing a more supportive learning environment.

Keywords: Deep Learning, Mindful Learning, Package C Learning

Abstrak

Penelitian ini bertujuan untuk mengeksplorasi bagaimana model layanan kelas deep learning yang diimplementasikan pada pembelajaran Paket C yang kondisi ketersediannya bahan material modul, dan LKS, serta RPP setiap tutor masih menggunakan yang sebelum deep learning, diduga mengalami kesulitan, sehinga penelitian/eksplorasi mengenai bagaimana model layanan kelas deep learning yang diimplementasikan pada pembelajaran Paket C? Metode dengan melakukan pengamatan dan pendeskripsian proses pembelajaran Paket C yang mengimplementasikan Deep Learning pada semester ini, sehingga penelitian ini menggunakan metode kualitatif dengan instrumen observasi. Hasilnya menunjukkan bahwa Proses pembelajaran Paket C dipandang sudah sesuai dengan tahap-tahap proses pembelajaran sebagaimana mestinya, dengan dasar kriteria yang berlaku sebelum deep learning, seperti tersedianya bahan material modul, dan LKS, serta RPP setiap tutor masih menggunakan yang sebelum deep learning. Direkomendasikan perlu pembenahan menyangkut peningkatan kompetensi tutor dan penataan lingkungan belajar.

Kata kunci: Pembelajaran Mendalam, Pembelajaran Kesadaran, Pembelajaran Paket C

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INTRODUCTION

Learners of the Package C program who intend to take the National Equivalency Education Examination (UNPK) are required to first participate in learning activities organized by Community Learning Activity Centers (Pusat Kegiatan Belajar Masyarakat/PKBM). PKBM provides various learning services, including face-to-face instruction, consultation services, and the provision of learning materials delivered through both offline and online modes (Kemendikbudristek, 2022; Kompas Edukasi, 2022). The curriculum implemented in the Package C program covers subjects equivalent to those in the senior secondary school (SMA) curriculum, including both general subjects and specialization-based subjects chosen by learners (Ariani, 2022).

Accordingly, learning conditions within the Package C program continue to refer to the policies of the Ministry of Primary and Secondary Education, including recent policies related to the implementation of the deep learning approach in the learning process (Kemendikdasmen, 2025). Recent studies indicate that deep learning has increasingly been adopted as a transformative learning approach aimed at improving learning quality and conceptual understanding in various educational settings (Haq & Prasetiyo, 2025; Akmal et al., 2025).

Nevertheless, the Package C program in Indonesia is essentially a government-initiated initiative aimed at providing alternative access to education for individuals who were unable to complete formal education. This program is open to anyone who meets the eligibility requirements and is not restricted by age. Package C is a non-formal education (NFE) program equivalent to Senior High School (SMA) or Madrasah Aliyah (MA), designed for learners who are unable to participate in formal education due to social, economic, time-related, opportunity-related, or geographical constraints. In addition, the program accommodates individuals with specific commitments such as athletes, entrepreneurs, employees, and civil servants, as well as learners with special educational needs, including those engaged in homeschooling (Wikipedia Bahasa Indonesia, 2023; Ruangguru, 2023).

Based on these characteristics, the implementation of the deep learning approach in Package C learning—within conditions marked by heterogeneous learner backgrounds and limited learning facilities—is presumed to encounter various challenges. Previous research highlights that implementing deep learning in diverse educational contexts requires careful adaptation of learning strategies, tutor competencies, and learning environments to ensure its effectiveness (Hastuti et al., 2025; Meirina et al., 2025). Therefore, an exploratory study is necessary to examine the deep learning classroom service model implemented in Package C learning, particularly through a possibility study conducted at PKBM Al-Insan, Sumedang Regency.

The deep learning approach has gained national attention following its introduction by the Minister of Primary and Secondary Education in various educational policy forums. In the educational context, deep learning is understood as a learning approach oriented toward learners' deep understanding of subject matter, rather than mere memorization of concepts (Kemendikdasmen, 2025; Apandi, 2024). Systematic reviews and empirical studies have confirmed that deep learning contributes to more meaningful, reflective, and transformative learning experiences (Haq & Prasetiyo, 2025; Akmal et al., 2025).

The deep learning approach is supported by three main pillars, namely mindful learning, meaningful learning, and joyful learning (Apandi, 2024). Mindful learning focuses on developing learners' awareness through the stimulation of contextual problems that encourage critical and creative thinking skills. Learning strategies applied include inquiry, discovery

learning, experimentation, problem-based learning, and project-based learning. Through direct experience, learners develop broader insights, analytical skills, and problem-solving abilities, as also evidenced in recent classroom-based studies on deep learning implementation (Meirina et al., 2025).

Meaningful learning emphasizes learners' reflective processes on their learning experiences, thereby enabling learning to be directly connected to real-life contexts and generating inspiration for follow-up actions in social and professional settings. Meanwhile, joyful learning aims to create a pleasant learning atmosphere that fosters enthusiasm and enhances learners' intrinsic motivation, allowing learning activities to be perceived as positive and meaningful experiences (Apandi, 2024). Research findings suggest that joyful and meaningful learning environments significantly enhance learner engagement and learning outcomes (Hastuti et al., 2025).

The implementation of deep learning requires tutors to possess specific competencies, including creativity and innovation in instructional design, communication and digital interaction skills, and the ability to organize a conducive learning environment through the effective use of diverse learning resources and media while minimizing learning disruptions (Seif, 2024; Kemendikdasmen, 2025). Studies further emphasize that tutor readiness and pedagogical competence are critical factors in the successful application of deep learning approaches (Akmal et al., 2025).

Randall (2025) explains that the concept of deep learning in education can be understood by distinguishing it from the surface learning approach. Surface learning emphasizes informative instruction and rote memorization without connecting concepts to real-life situations, whereas deep learning highlights conceptual interconnectedness, comprehensive understanding, and the application of knowledge across various life contexts. This distinction aligns with international perspectives on deep learning that stress learner engagement and real-world relevance (Fullan, Quinn, & McEachen, 2018).

The primary objective of implementing deep learning is to develop learners' competencies in critical and creative thinking, as well as problem-solving skills, enabling acquired understanding to be transferred and applied in real-world situations (Randall, 2025). To achieve this goal, teachers are required to possess strong conceptual understanding, the ability to apply learning across multiple contexts, collaborative skills, competence in project-based learning, and pedagogical use of technology, including AI and coding. Furthermore, teachers need to develop appropriate learning strategies, flexible curricula, relevant learning evaluations, and foster adaptive thinking skills to prepare learners for future workforce changes and technological developments (Kemendikdasmen, 2025; Randall, 2025; Hastuti et al., 2025).

In practice, deep learning requires teachers to explain the rationale and operational mechanisms of concepts, encourage learners to explore, pose questions, and independently seek solutions through open-ended experiments and collaborative projects. On the other hand, learners are expected not only to memorize concepts, facts, or formulas but also to understand the underlying principles so they can be applied across diverse real-life contexts. For instance, statistical understanding is not limited to mathematics instruction but is also applied in social, economic, and scientific data analysis (Randall, 2025; Meirina et al., 2025).

Despite its potential, the implementation of deep learning in Indonesia continues to face significant challenges, including limited teacher training in exploration- and problem-solving-

based learning methods, densely packed curricula that restrict conceptual deepening, inadequate technological infrastructure and access, and learning evaluation systems that still emphasize final outcomes rather than learners' cognitive processes (Kemendikdasmen, 2025; Timonera, 2024; Akmal et al., 2025).

METHODS

This study was conducted through observation and description of the Package C learning process implementing Deep Learning during the current semester. Accordingly, a qualitative research method was employed, with observation as the main research instrument. The observed objects are described as follows.

First, the anatomy of teachers'/instructors' activities in the implementation of learning, which includes the way concepts are explained and how their operations are clarified; encouraging learners to explore, ask questions, and seek solutions independently; training learners to think critically and apply concepts in different situations; providing open-ended experiments to discover solutions to problems; and conducting collaborative projects that foster cooperation among learners, broaden their perspectives, and generate innovative solutions.

Second, the anatomy of learners' activities in the learning process, which includes learning approaches that go beyond memorizing concepts, facts, and formulas to understanding the underlying principles so they can be applied in various real-life contexts; developing critical and adaptive mindsets and readiness to face real-world challenges; and constructing conceptual understanding (for example, statistics is not only used in mathematics lessons but also in the analysis of social, economic, and scientific data).

Third, teachers' competencies in implementing Deep Learning, which include strong conceptual understanding; application across various contexts; enhancement of critical and creative thinking skills; collaboration and project-based learning; utilization of technology, including artificial intelligence and coding in learning; the importance of lifelong learning; appropriate learning strategies; a flexible curriculum; and access to technology.

Fourth, relevant learning evaluation, which measures both learners' competency outputs and outcomes, particularly in terms of cultivating adaptive thinking skills so that learners are prepared to face changes in the world of work and future technological developments.

RESULTS AND DISCUSSION

Results

The results of the study indicate several key findings. *First*, the Package C learning program is divided into two age groups: adult learners and learners of formal school age. Adult learners follow a learning program consisting of four semesters (two years), while learners of formal school age follow a six-semester program (three years). Learning activities are flexible, with meetings conducted three times per week. The learning process is carried out through face-to-face instruction, online learning, and problem-based learning. However, in practice, the lecture method remains the most commonly used instructional approach. Each subject is supported by learning modules and student worksheets (LKS), and each tutor prepares a lesson plan (RPP) according to the subject taught.

Second, the implementation of Package C learning follows three main stages: preparation, implementation, and evaluation. The preparation stage includes the development of lesson plans (RPP), the preparation of learning modules, and the provision of learning facilities such as classrooms, stationery, and internet access. The implementation stage consists of offline learning, in which tutors deliver material, discuss exercises, and assign tasks; online learning conducted through video conferencing, discussion forums, email, and social media; problem-based discussions in which learners formulate, analyze, and solve problems; and extracurricular activities such as simulations and field visits to support learning materials. The evaluation stage includes formative assessment to monitor learners' progress during the learning process and summative assessment to measure the achievement of learning objectives at the end of the semester or academic year.

Third, the Package C program occasionally provides additional learning activities in the form of tutorials for subjects requiring deeper understanding, including exam preparation. In addition, the program collaborates with the Subject Teachers' Association (MGMP) to align perceptions and understanding regarding the equivalency of learning content.

Discussion

Based on the results, the Package C learning process is generally considered to have followed the standard stages of instructional implementation. This assessment appears to be based on conventional learning criteria applied prior to the adoption of the deep learning approach, such as the availability of learning modules, student worksheets (LKS), and lesson plans (RPP) that are still designed using pre–deep learning frameworks. As a result, the implementation of deep learning in Package C learning has not yet been fully integrated at the conceptual and practical levels.

The primary areas requiring improvement are tutor competence and the organization of the learning environment. Enhancing tutor competence should begin with a comprehensive understanding of the deep learning approach in the educational context. Unlike deep learning in the field of Artificial Intelligence (AI), which relies on complex neural networks, large datasets, and high computational power, deep learning in education refers to an instructional approach aimed at promoting deeper understanding of learning materials. This approach contrasts with surface learning, which emphasizes broad content coverage, information delivery, and memorization (Randall, 2025).

Educational deep learning is supported by three main pillars: mindful learning, meaningful learning, and joyful learning (Haq & Prasetiyo, 2025). The contextualization of mindful learning requires tutors to foster learners' awareness and active engagement throughout the learning process. Learners are encouraged to recognize prior knowledge, identify areas they have not yet mastered, and understand the importance of the material being learned. Tutors play a continuous role in maintaining this awareness through reflection activities, learning summaries, and the formulation of clear learning targets.

Meaningful learning requires tutors to connect new concepts with learners' prior knowledge and real-life experiences. By presenting real-world contexts and encouraging learners to apply concepts beyond the classroom, learning becomes more relevant and meaningful. For example, learners are guided to understand that statistical concepts are not only applicable in mathematics but also useful in analyzing social, economic, and scientific data, or to write articles related to environmental phenomena based on their interests (Akmal, et.al, 2025).

Joyful learning emphasizes the creation of a positive and engaging learning atmosphere through gamification, interactive activities, and challenging yet enjoyable learning experiences. A safe, comfortable, and cheerful learning environment enables learners to absorb information more easily and retain knowledge more effectively. This approach also contributes to the development of learners' character, including curiosity, initiative, perseverance, adaptability, leadership, and social awareness (Apandi, 2024).

In addition to improving tutor competence, the availability of supporting facilities and infrastructure is essential for the successful implementation of deep learning. Although educational deep learning does not necessarily require advanced AI-based computational systems, it still benefits from the use of appropriate technology, well-designed learning materials, and a supportive learning environment. Therefore, the development of deep learning–oriented modules, student worksheets, and lesson plans, as well as the arrangement of a conducive learning environment, is necessary (Seif, 2024).

As a recommendation, Teacher Professional Education (PPG) programs should equip graduates with competencies related to deep learning, including digital literacy, AI awareness, and basic coding skills. Education authorities are encouraged to provide deep learning training for Package C tutors. Tutors are also expected to independently develop their understanding of deep learning and integrate it into lesson planning and instructional practice. Furthermore, PKBM institutions should enhance learning facilities and infrastructure to support the effective implementation of deep learning in Package C programs.

CONCLUSION

This study confirms that the implementation of the deep learning approach in Package C learning at PKBM Al-Insan has not yet been fully realized in practice. Although the learning process has been conducted in accordance with conventional instructional stages—including preparation, implementation, and evaluation—and is supported by the availability of modules, student worksheets, and lesson plans, these components are still largely based on pre–deep learning frameworks. As a result, the learning practices observed remain dominated by lecture-based methods and have not optimally reflected the principles of deep learning.

The findings further confirm that the main challenges in implementing deep learning in Package C learning lie in tutor competence and the organization of the learning environment. Tutors have not yet consistently integrated the core pillars of deep learning—mindful learning, meaningful learning, and joyful learning—into instructional practices. Consequently, opportunities for learners to actively explore, critically analyze, meaningfully connect learning materials to real-life contexts, and experience joyful and engaging learning remain limited.

Therefore, this study confirms that the deep learning classroom service model in Package C learning requires systematic improvement, particularly through strengthening tutors' conceptual understanding and pedagogical competence in deep learning, as well as redesigning learning materials, lesson plans, and learning environments to align with deep learning principles. Without these improvements, the implementation of deep learning in Package C learning will remain procedural rather than substantive.

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REFERENCES

Ariani, N. W. S. (n.d.). Pendidikan formal, informal, dan nonformal. Detik Bali. https://apps.detik.com/detik/detikBali

Apandi, I. (2024). Implementasi tiga pilar deep learning dalam pembelajaran. https://www.ruangguru.com/blog/pendekatan-deep-learningIBM. (n.d.). Deep learning. IBM. https://www.ibm.com/topics/deep-learning

Akmal, A. N., Maelasari, N., & Lusiana, L. (2025). Pemahaman deep learning dalam pendidikan: Analisis literatur melalui metode systematic literature review (SLR). JIIP: Jurnal Ilmiah Ilmu Pendidikan, 8(3), 3229–3236. https://doi.org/10.54371/jiip.v8i3.7442

Fullan, M., Quinn, J., & McEachen, J. (2018). Deep learning: Engage the world, change the world. Corwin Press.

Hastuti, S., Ansar, A., & Hermawan, N. (2025). Penerapan teknologi deep learning dalam pendidikan digital. Jurnal Penelitian Ilmu Pendidikan Indonesia, 4(2), 359–365. https://doi.org/10.31004/jpion.v4i2.376

Haq, M. D., & Prasetiyo, N. T. (2025). Deep Learning sebagai pendekatan transformasional dalam pendidikan: Sebuah tinjauan literatur. Jurnal Studi Guru dan Pembelajaran, 8(3), 1826–1842. https://doi.org/10.30605/jsgp.8.3.2025.7021

Kemendikbudristek. (2022). Panduan penyelenggaraan pendidikan kesetaraan Paket C. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia.

Kementerian Pendidikan Dasar dan Menengah Republik Indonesia. (2025). Peran deep learning dalam meningkatkan kualitas pendidikan Indonesia.

Kompas Edukasi. (2022, September 2). Apa itu pendidikan formal, nonformal, dan informal? Ini bedanya. https://www.kompas.com/edu/read/2022/09/02/144900171/apa-itu-pendidikan-formal-non-formal-dan-informal-ini-bedanya?page=allRahiem, M. D. H. (2025). Deep learning dan strategi pendidikan berkualitas. Detik News. https://news.detik.com

Meirina, R., Sartini, J., Nurwahidiansyah, D., Meirissa, L. V., Rokhaniah, I., Kartikasari, A., & Abdurrahmansyah, A. (2025). Implementasi pendekatan pembelajaran mendalam (deep learning) dalam pembelajaran PAI di sekolah dasar. Jurnal Basicedu, 9(5), 1621–1632. https://doi.org/10.31004/basicedu.v9i5.10764

Randall, R. (2025). Konsep dan implementasi deep learning. Direktorat Guru Pendidikan Dasar.

Ruangguru. (n.d.). Pendekatan deep learning dalam pembelajaran. https://www.ruangguru.com/blog/pendekatan-deep-learning

Seif, E. (2024). Who should teach deep learning? ERA 3 Learning. https://www.era3learning.org

Timonera, K. (2024). The pros and cons of deep learning in education. Datamation & eWeek.

Wikipedia Bahasa Indonesia. (n.d.). Pendidikan formal, nonformal, dan informal. https://id.wikipedia.org