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A Deep Learning Approach in the Independent Curriculum

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ABSTRACT

Deep Learning is a learning approach that emphasizes in-depth conceptual understanding and mastery of competencies within a narrower scope of material. Students are encouraged to actively engage in the learning process until they understand the topic through a deeper exploration of the topic. This research was designed using the Library Research method. Library research is a research method that examines various theories, hypotheses, and various reference sources related to the values, culture, and standards of living created in the social situation being studied. The deep learning approach aims to create a comprehensive learning experience, where students become more active and involved in the learning process. This approach encourages a shift from traditional learning methods that rely solely on memorization to more creative and meaningful learning. In the independent curriculum, deep learning is used to connect learning concepts, encourage students to solve problems, and utilize technology in the learning process. This learning also creates a fun, meaningful, mindful, and joyful learning atmosphere by involving various aspects, such as thinking (intellectual), ethics (heart), appreciation of beauty (feeling), and active movement (sports) in a unified and comprehensive manner. Deep learning in education focuses on a learning approach that emphasizes understanding and the connection between concepts and knowledge in various situations. This approach involves more cognitive activities, such as analyzing, evaluating, and creating, which motivate students to learn. Deep learning is not only about what we teach, but also how we teach it, making it a relevant and applicable skill in various contexts.

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INTRODUCTION

The last PISA assessment was conducted in 2022, with the publication only released in 2023. The PISA assessment was originally scheduled for 2021, but due to the COVID-19 pandemic, the assessment was postponed by a year. Indonesia's 2022 PISA results provide several insights into the state of education and national competitiveness. Overall, Indonesia achieved a PISA score of 369 points. Ironically, this 2022 PISA score is Indonesia's lowest, roughly the same as its scores in 2003 and 2006. This is crucial for evaluation, as it demonstrates a significant decline in the quality of national education. Looking at each domain of the 2022 assessment, Indonesia scored 366 points for mathematics. Furthermore, Indonesia scored 359 points for reading. Finally, Indonesia scored 383 points for science. Of these three assessment domains, it is clear that Indonesia scored the lowest in reading. (Budiawan Sidik A, 2025)

Comparing Indonesia's 2022 PISA scores with those of several countries in the Asian region, the results are quite surprising, reflecting the current lagging competitiveness of the nation's young generation. Given the above issues, the government, specifically the Ministry of Primary and Secondary Education, needs to innovate to catch up with Indonesia's educational progress. One

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548

such innovation being implemented by the Ministry of Primary and Secondary Education is the deep learning approach. Deep learning is a learning approach that emphasizes in-depth conceptual understanding and mastery of competencies within a narrower scope of material. Students are encouraged to actively engage in the learning process until they understand the topic through deeper exploration. Deep learning is driven by unpredictable future changes: issues with educational quality, including literacy, numeracy, and low levels of Indonesian students' HOTs (High Order Thinking Skills), inequality in educational quality, the 2035 Demographic Bonus, and the 2045 Golden Indonesia vision. Minister of Primary and Secondary Education (Mendikdasmen), Abdul Mu'ti, explained, "We have now begun conducting studies related to the implementation of the Deep Learning approach, and these have been completed. Of course, after we issue the ministerial regulation, we will conduct training for teachers on the implementation of Deep Learning."(Kipin, 2025).

METHOD

This research was designed using the Library Research method. A library study is a research method that examines various theories, hypotheses, and various reference sources related to the values, culture, and standards of living created in the social situation being studied. In this study, the researcher collected various literature relevant to the topic of study, then read, recorded, and researched, presenting it theoretically within a framework closely related to the Deep Learning Approach to Learning. This was carried out in such a way that the various facts obtained could be analyzed to identify similarities and differences, both theoretically and based on actual facts. Furthermore, the researcher also used the method of accessing websites and sites that provide various information related to the development of mutual cooperation and creativity in elementary school students, as well as various data regarding the Deep Learning Approach to Learning. (Iddian, Zulkarnain).

RESULTS AND DISCUSSION

Definition of Deep Learning Deep learning, in the context of education, refers to a learning approach that emphasizes in-depth understanding and the relationship between concepts and the application of knowledge to real-world situations. Unlike surface learning approaches that focus on memorization and repetition of information, it focuses on in-depth mastery of concepts and the development of critical thinking skills in a school setting. It aims to help students understand the rationale behind a concept, how it relates to their life context, and how they can apply it to solve real-world problems. According to Hottie and Donoghue, deep learning involves higher cognitive activities, such as analyzing, evaluating, and creating. This engages students emotionally and cognitively, making them more motivated to learn. This definition emphasizes that deep learning is not only about what we learn but also how we learn it. This process includes understanding, reflection, and transforming knowledge into relevant and applicable insights in various contexts. Furthermore, this approach helps students develop a growth mindset, the belief that their abilities can continue to develop through continuous effort and learning (Zaka Hadikusuma Ramadan, Miranti Eka Putri, 2025).

Deep learning is not limited to cognitive abilities; this approach also involves affective dimensions, such as the development of empathy, collaboration, and social awareness. The term "deep learning" is not new in education. It was first coined by Marton and Säljö in 1976 through their scientific publication on the levels of learner information processing. These levels are: deep learning and surface learning. In the context of Bloom's taxonomy, deep learning encompasses

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548

learners' abilities to apply, analyze, evaluate, and create. Meanwhile, surface learning only encompasses learners' abilities to remember and understand. Furthermore, in 2018, Michael Fullan et al. formulated deep learning as a process for acquiring the six global competencies (6Cs) that students must possess: character, citizenship, collaboration, communication, creativity, and critical thinking. The emergence of these 6 competencies is their answer to the long discussion and debate among education experts and practitioners about what essential competencies students must have to face global challenges (Arief Fadillah, 2025).

Norway, like a match made in heaven, has become one of the countries considering adopting an immersive learning approach in its curriculum. This began with a 2015 report issued by a government committee to assess the curriculum's alignment with the competencies students will need in the future. Finally, in 2020, the Norwegian government fully implemented a new curriculum with an immersive learning approach.

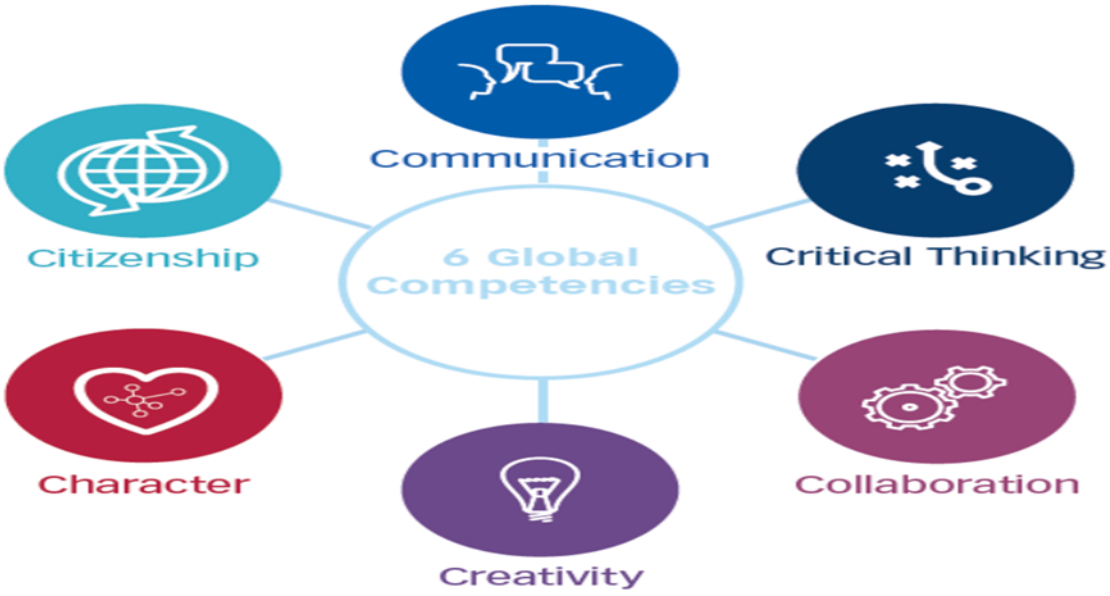

Figure 1: Six Global Competencies (6Cs) of Deep Learning

Indonesia is following Norway in adopting a deep learning approach in its curriculum. This signal emerged in a deep learning presentation document issued by the Center for Curriculum and Learning (Puskurjar), Ministry of Primary and Secondary Education. Interestingly, Michael Fullan's deep learning concept has been "naturalized" in the Center's deep learning framework for teaching and learning. surface learning and urgensi Deep learning

In the context of modern education, surface-based learning approaches are still common. These include the dominance of rote memorization, fragmented knowledge, and a lack of critical reflection. This approach often focuses on superficial mastery of material for short-term goals, such as passing exams, without encouraging in-depth understanding or real-world application of that knowledge. Students engaged in traditional learning tend to develop superficial learning motivation, characterized by a reliance on memorization and a lack of intrinsic engagement with the subject matter. The negative impact of surface learning on long-term learning achievement is significant. This approach can hinder the development of critical thinking skills, problem-solving skills, and the ability to integrate and apply knowledge in different contexts. In today's era of global complexity, where information is rapidly expanding and real-world challenges require innovative solutions,

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548

surface learning approaches are no longer adequate. Instead, deep learning approaches emphasize in-depth conceptual understanding, knowledge integration, and critical reflection. This approach encourages students to actively engage in the learning process, develop intrinsic motivation, and develop higher-order thinking skills. Innovative pedagogical approaches, such as problem-based learning in flipped classrooms, significantly improve critical thinking skills and student learning outcomes in higher education, careers, and community life. The transition from surface learning to deep learning is not just an option but an urgent need in today's education system. By adopting a deep learning approach, students not only improve their technical competency but also enhance their understanding and critical thinking skills, preparing them to be adaptive, reflective, and contextual learners, and encouraging meaningful engagement and intrinsic motivation in learning.

Here are the differences between surface learning and deep learning

Aspect	Surface Learning	Deep Learning
Emotional involvement	Low- learning is done due to external pressure	High- learning is done because of curiosity and intrinsic motivation.
Motivation to learn	Extrinsic. Grades, certificates, pressure from teachers/environment	Intrinsic. Need to understand, interest in the topic, awareness of learning.
The role of teachers	Delivery of information. Dominant one-way lecture	Facilitator of learning. Sparking questions and exploration
Student Role	Passive. Recipient of knowledge	Active. Building meaning and knowledge
Assessment character	Focus on exam results and memorization	Focus on thinking processes, reflection and authentic assessment.
Knowledge transfer	Limited. Difficult to apply to new situations.	High. Able to relate and apply to various contexts
Memory resilience	Quickly disappears after the exam or practice is finished	More durable because it is based on understanding and integration of meaning
Curriculum context	Fragmentation between subjects, knowledge is not interrelated.	Interconnection between subjects. Holistic and integrative lessons
Technology	Used technically and passively.	Used for exploration, simulation, collaboration, reflection.
Long-term impact	At least form 21st century competencies. (critical thinking, problem solving, collaborating)	Encouraging the birth of an adaptive, reflective, solution-oriented generation and lifelong learners. (Nadia Nadawina, Aswadi Jaya, Dina Ramadhanti, Imronudin Imronudin, Fatchiatuzahro

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548

		Fatchiatuzahro, Amar Halim, 2024)

Deep learning elements

1. Mindful Learning

Full awareness in the learning process is the essence of mindful learning. This approach teaches students to be fully present at every stage of learning, understanding goals, reflecting on progress, and designing effective strategies to achieve desired outcomes. Students who are able to regulate their learning process tend to be more effective in overcoming obstacles and achieving optimal results.

At the Early Childhood Education (PAUD) level, this approach can begin by teaching children to recognize and express their emotions in healthy ways. At the Elementary School (SD) level, daily reflection through learning journals helps students understand the connection between classroom lessons and daily life. This awareness is not only about academics, but also about building a solid foundation of emotional and spiritual well-being from an early age.

According to Achmad Anwar Abiding, as quoted by Anis Ridha Wardati and Vivi Alida Putri, student interest can be increased through several efforts, including:

a. Improving Teaching Skills Teachers' teaching skills are a crucial element in successful learning because teachers not only transfer knowledge but also must be able to provide effective guidance and training. In reality, teachers still face many obstacles in the learning process. Besides infrastructure, the difficulties teachers themselves face in designing learning are equally important. Teacher education and training are one way to improve the quality of learning.
b. Making Learning More Engaging Student interest in a school subject does not depend on the learning material, but rather on the teacher's teaching style. With engaging learning, students become more enthusiastic about learning. There are many ways to make learning more engaging and enjoyable, including using varied learning methods and models and utilizing learning media. A teacher must have specific methods and strategies that can make students enjoy attending class.
c. Providing Motivation to Students In education, learning motivation is essential for students to achieve their learning goals. There are two types of learning motivation: intrinsic (from within) and extrinsic (from outside). Both play a crucial role in fostering enthusiasm for learning. Learning motivation is a key factor in determining student success. Motivation arises when students have goals they want to achieve. High learning motivation will foster enthusiasm for learning, while low motivation will also decrease enthusiasm for learning. To achieve optimal learning outcomes, teachers are required to be creative in fostering student motivation. Creative teachers can engage students in the learning experience they will experience or engage with during the learning process.
d. Always Provide Appreciation for Student Learning Outcomes Appreciation is a form of recognition for student effort or achievement. Genuine praise and appreciation can boost students' self-confidence. Zuyyina Candra Kirana stated that teacher appreciation has a positive effect on students' enthusiasm for learning.(Wardati & Putri, 2025)

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548
P- ISSN: 1979-5548

Meaningful Learning: Connecting Knowledge to Reality

Meaningful learning occurs when students can connect the knowledge they learn with real-life experiences. This process allows students to see the relevance between theory and practice, so that the knowledge gained is not merely memorized information but also understood and applied. At the elementary school level, mathematical concepts can be taught through simulations of buying and selling in a mini market, so students understand how numbers and calculations work in a real-life context. In secondary school, a project-based or problem-based learning approach can be an effective tool for teaching critical thinking skills on issues such as the environment or public health

Joyful Learning: Happiness as Learning Energy

Joyful learning doesn't just mean playing in class. Joyful learning is about creating a positive, motivating, and challenging learning environment. A stressful atmosphere can actually dampen students' curiosity and enthusiasm, while a joyful atmosphere makes them more open to understanding material and exploring ideas. At the preschool level, a learning atmosphere full of exploration and creativity through songs, dances, and games is an effective approach. At the elementary school level, storytelling and dynamic group activities help students stay focused and enthusiastic. At the secondary level, technologies such as gamification and digital simulations can be used to make complex material more engaging and easier to understand. (Maila Dinia Husni Rahiem, 2025)

Joyful learning is an educational approach that places happiness, enthusiasm, and positive emotional engagement as essential elements in the learning process. In joyful learning, the learning atmosphere is not rigid and stressful, but rather full of curiosity, exploration, and provides space for creativity and meaningful experiences for students. The goal is not just academic achievement, but also building a healthy emotional relationship with knowledge and the learning process itself. According to Fredricks, Blumenfeld, & Paris, emotional and affective engagement play a crucial role in shaping a positive learning experience. Joyful learning encourages students to experience joy in learning through activities that are fun, interactive, and suited to their interests and learning styles. This aligns with the principles of positive psychology in education, which emphasize the importance of creating emotional conditions that support optimal learning. (Seligman etal., 2009), Joyful learning emphasizes three main aspects:

1. Emotional engagement, which is the extent to which students feel happy, interested, and energized in learning activities.
2. Interest-based learning, which is an approach that accommodates students' curiosity and individual preferences.
3. Supportive environment, which is a learning atmosphere that is safe, open, and frees students from the fear of failure. In other words, joyful learning is a form of learning that humanizes students. This approach helps them learn more effectively.(Bermakna & Menyenangkan, n.d.)

The challenges in implementing deep learning, as cited by Arman Abdullah and Sudirman Yahya, are that Robert Rondall stated that implementing deep learning in Indonesia requires the right strategy. Some of the main challenges that need to be addressed are:

1. Teacher Readiness; Teacher readiness is the main foundation for the successful implementation of innovative learning, including technology-based learning. Many teachers still face obstacles in: Digital literacy: Not all teachers understand or master the use of the latest learning technologies such as AI, LMS platforms, or learning analytics data. Pedagogical understanding of technology: Even though teachers understand technology, they need to know how to integrate

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548

technology into the teaching process effectively. Attitudes towards change: Some teachers feel threatened or hesitant about technology-based learning due to uncertainty or lack of training. Solutions: Continuous training (continuous professional development), mentoring and communities of practice, provision of easily accessible and practical learning resources.

2. Overly Compact Curriculum: A compact curriculum can hinder the implementation of innovative learning methods. When teachers and students are under pressure to complete material targets, time for exploration, discussion, or the application of new approaches becomes very limited. The impact: Learning tends to focus solely on cognitive achievement. Opportunities for developing 21st-century competencies (collaboration, critical thinking, etc.) are reduced. There is no time for project-based learning approaches or technologies such as AI and deep learning. Solution: There is a need to simplify the curriculum and focus on essential competencies. Technology integration must be aligned with learning outcomes, not an additional burden.
3. Technology Access; Access to devices and connectivity are key prerequisites for implementing technology-based learning. However, the reality is that not all schools or training institutions have adequate facilities (computers, internet, and stable electricity), the gap between urban and rural areas remains large, and access to personal devices (laptops/smartphones) is also unequal among participants. The impact: digital learning inequality, participants cannot optimally participate in training, and advanced technologies such as deep learning are difficult to implement widely. Solutions: Investing in technology infrastructure in education, providing loanable devices, and developing content that can be accessed offline or with low data consumption.
4. Relevant Learning Evaluation; Traditional learning evaluation systems (written exams, multiple-choice tests) are less able to measure students' real skills and deep understanding in today's digital age. Common problems: Focus on memorization rather than application, do not measure collaborative and critical thinking skills or the use of technology, difficulty assessing project-based or experimental learning outcomes. Solution: Use authentic assessments, such as digital portfolios, project-based assessments, and performance rubrics. Leverage technology for automated and adaptive assessment (e.g., AI/NLP for essay grading). Conduct ongoing formative evaluation, not just summative. (Abdullah & Yahya, n.d.)

To address these challenges, a number of strategic steps need to be taken, including: Providing ongoing training for educators to continuously develop their competencies. Providing mentoring and building communities of practice as a forum for sharing experiences. Offering practical and easily accessible learning resources for all

Integrating Deep Learning Approaches in Independent Curriculum Design

Indonesia's education system is currently undergoing significant changes to adapt to the needs of the 21st century. Skills such as critical thinking and creativity, as well as communication and collaboration skills, are becoming increasingly important in education. One effort to reform education is implementing the independent curriculum using a deep learning approach, which plays a significant role in improving the quality of learning. This approach emphasizes in-depth learning, where students are not simply asked to memorize but also learn to relate the knowledge they learn to everyday life. The success of the independent curriculum depends largely on the extent to which educational goals are achieved through this approach.

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548

The independent curriculum in Indonesia is designed to be more student-centered and tailored to the needs and conditions of each individual environment. Meanwhile, the deep learning approach aims to create a comprehensive learning experience, where students become more active and engaged in the learning process. This approach encourages a shift from traditional learning methods that rely solely on memorization to more creative and meaningful learning. In the independent curriculum, deep learning is used to connect learning concepts, encourage students to solve problems, and utilize technology in the learning process. This learning also creates a fun, meaningful, mindful, and joyful learning environment by involving various aspects, such as thinking (intellectual), ethics (heart), appreciation of beauty (feeling), and active movement (sports) in a unified and comprehensive manner. This approach represents an innovation in education because it aims to enable students to truly understand the material in depth, while simultaneously developing critical thinking and problem-solving skills. Thus, students learn not only to receive information but also to connect, evaluate, and apply it in real life. Furthermore, developing an independent curriculum using a deep learning approach also requires teachers to be better prepared. Teachers need to undergo training to gain a deeper understanding of the independent curriculum and how to effectively implement the deep learning approach in learning activities. This training is crucial for a more effective teaching and learning process that aligns with the curriculum's objectives (Cholifatunisa, Aulia, Marlina, & Iskandar, 2025).

CONCLUSION

Deep learning in education focuses on a learning approach that emphasizes understanding and connecting concepts and knowledge across diverse situations. This approach involves more cognitive activities, such as analyzing, evaluating, and creating, which motivate students to learn. Deep learning is not just about what we teach, but also how we teach it, making it relevant and applicable across diverse contexts. Deep learning also helps students develop critical thinking skills, enabling them to solve problems through active and collaborative learning. The concept of deep learning, as proposed by Marton and Säljö in 1976, is not new in education. Deep learning is a process aimed at developing six global competencies (6Cs) that students must possess: character, citizenship, collaboration, communication, creativity, and critical thinking. In Indonesia, the government has implemented a new curriculum with a deep learning approach. However, surface learning has limitations, such as fragmented knowledge and a lack of critical thinking. Deep learning can help develop critical thinking skills, problem-solving skills, and integrate various fields of knowledge. In an era of global complexity, deep learning is crucial for achieving desired educational outcomes.

REFERENCES

Abdullah, A., & Yahya, S. (n.d.). KAJIAN PEMANFAATAN DEEP LEARNING DALAM PEMBELAJARAN PADA LEMBAGA PELATIHAN, 25–41.

Arief Fadillah, M. P. (2025). Deep Learning: dari Norwegia hingga Indonesia. Retrieved from https://smaitthariq.sch.id/deep-learning-dari-norwegia-hingga-indonesia/

Bermakna, P. P., & Menyenangkan, D. A. N. (n.d.). OJS+BC+Deep+Learning+dalam+Pendidikan+Pendekatan+Pembelajaran+Bermakna,+Sadar,+dan+Menyenangkan_compressed.

Budiawan Sidik A, N. I. (2025). Skor PISA, Acuan Tingkat Keterampilan Pelajar dalam Visi

Jurnal Arriyadhah
Vol. XXII, No. II, Month 2025, pp. 8~16
P-ISSN: 1979-5548

Indonesia Emas 2045. Retrieved from https://www.kompas.id/artikel/skor-pisa-acuan-tingkat-keterampilan-pelajar-dalam-visi-indonesia-emas-2045

Cholifatunisa, A., Aulia, L., Marlina, N., & Iskandar, S. (2025). Pengembangan Kurikulum Merdeka dengan Pendekatan Deep Learning dalam Meningkatkan Kompetensi Siswa Sekolah Dasar. Jurnal Pedagogik Pendidikan Dasar, 12(1), 128–126.

Iddian, S., Zulkarnain Sekolah Tinggi Agama Islam Ibnu Sina Batam, N., & Iddian Sekolah Tinggi Agama Islam Ibnu Sina Batam, S. (2024). Strategi Penyusunan Proyek Penguatan Profil Pelajar Pancasila (P5) Dalam Kurikulum Merdeka. Jurnal Arriyadhah, XXI, No. I(I), 29–40. Retrieved from https://jurnalstaiibnusina.ac.id/index.php/ary

Kipin. (2025). Mengenal Deep Learning: Pendekatan Pembelajaran Mendalam, Solusi Perubahan Masa Depan yang Sulit Diprediksi. Retrieved from https://pendidikan.id/news/mengenal-deep-learning-pendekatan-pembelajaran-mendalam-solusi-perubahan-masa-depan-yang-sulit-diprediksi/

Maila Dinia Husni Rahiem. (2025). Deep Learning dan Strategi Pendidikan Berkualitas. Retrieved from https://uinjkt.ac.id/id/deep-learning-dan-strategi-pendidikan-berkualitas#:~:text=Salah satu pendekatan yang kini,%2C dan joyful (menggembirakan).

Nadia Nadawina, Aswadi Jaya, Dina Ramadhanti, Imronudin Imronudin, Fatchiatuzahro Fatchiatuzahro, Amar Halim, G. P. R. S. J. (2024). Penerapan Pembelajaran Deep Learning dalam Pendidikan di Indonesia. Retrieved from https://books.google.co.id/books?hl=id&lr=&id=deVhEQAAQBAJ&oi=fnd&pg=PA129&dq=perbedaan+surface+learning+dan+deep+learning&ots=OePVpVTeT_&sig=gGRcj1Sas9sAFC8KExrxASPMhbs&redir_esc=y#v=onepage&q=perbedaan surface learning dan deep learning&f=false

Wardati, A. R., & Putri, V. A. (2025). Upaya Guru Dalam Membangun Kesadaran Belajar Di Sekolah Formal Pada Siswa Ma Darul Ilmi Banjarbaru. Al-Falah: Jurnal Ilmiah Keislaman Dan Kemasyarakatan, 25(1), 63–74. https://doi.org/10.47732/alfalahjikk.v25i1.674

Zaka Hadikusuma Ramadan, Miranti Eka Putri, M. N. (2025). Pendekatan Pembelajaran Deep Learning Di SEkolah Dasar (Teori dan Aplikasi). Jakarta. Retrieved from https://books.google.co.id/books?hl=id&lr=&id=aBtZEQAAQBAJ&oi=fnd&pg=PA98&dq=keunggulan+pendekatan+deep+learning&ots=VVZGgxWfcv&sig=Zxb5yM6ylMaWsxrG3GBhGosCnbo&redir_esc=y#v=onepage&q=keunggulan pendekatan deep learning&f=false.