

Integration of Deep Learning in the Independent Curriculum: Implementation Strategies and Their Impact

Nurmala R¹, Achmad Zultan Mansur², Jusmawati³

^{1,2} Universitas Borneo Tarakan, Indonesia

³Universitas Megarezky, Indonesia

Corresponding Author: nurmala.r@borneo.ac.id

Abstract

The global demand for 21st-century competencies necessitates a radical transformation in education. Indonesia responded with the Independent Curriculum, aiming to form the Pancasila Student Profile. However, there is a gap in implementation models and empirical data on the integration of Deep Learning within the Independent Curriculum context. This study uses a Systematic Literature Review (SLR) to analyze DL's implementation strategy and its impact on student competence. The findings confirm a strong synergy, showing Deep Learning is a holistic pedagogical strategy based on three pillars: Mindful, Meaningful, and Joyful. Deep Learning integration, facilitated by Project-Based Learning, significantly improves students' knowledge transfer capability and strengthens non-cognitive competencies like Critical Reasoning and Collaboration. The study concludes that Deep Learning is an essential and transformative strategy for Independent Curriculum, but requires systemic commitment to enhance teacher capacity and ensure policy coherence.

Keywords: Deep Learning, Independent Curriculum, Meaningful Learning, Mindful Learning, and Joyful Learning

INTRODUCTION

The world, from the perspective of the 21st century, is characterized by rapid technological change and the demands of a dynamic job market, fundamentally demanding a radical transformation in the education system. The goal is to move away from a traditional model dominated by passive knowledge transmission to an approach that actively develops cross-disciplinary competencies. Countries around the world face challenges to prepare learners

602

IJETER, Volume 03 Issue 04, 2025



Copyright to the author of some rights reserved This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).



not only with strong academic knowledge, but also with essential 21st-century skills such as critical thinking, complex problem-solving, collaboration, effective communication, and learning independence (Fullan & Quinn, 2016). Failure to integrate these skills risks creating a gap between educational outcomes and the changing needs of the global community, underscoring the need for bold curriculum reforms.

This response to global demands has triggered a fundamental paradigm shift in the curriculum. Historically, curriculum has tended to be content-centric, where the primary focus has been on the broad scope of subject matter and assessment is based on the ability to memorize and reproduce facts. However, recent trends show a shift towards a competency-centric curriculum. This new paradigm prioritizes how students can apply, transfer, and synthesize the knowledge they have acquired. This shift necessitated the adoption of new pedagogical strategies, such as Deeper Learning, which explicitly encourages rich understanding, strong reasoning, and the development of high-level cognitive and social-emotional abilities, making it a key framework for modern educational reform.

In Indonesia, the response to the global push for education reform is manifested through the launch of the Independent Curriculum. The Independent Curriculum is a curriculum framework designed to address rigid learning challenges by giving greater autonomy to schools and teachers. Philosophically, the independent curriculum prioritizes more flexible, contextual, and project-oriented Learning, allowing teachers to tailor teaching materials to students' needs and backgrounds. The main goal of the independent curriculum is to form a Pancasila student profile, which includes six dimensions of competence (faith and fear of God Almighty and noble character, global diversity, cooperation, independence, critical reasoning, and creative), which are directly aligned with globally relevant 21st-century skills.

Although the Independent Curriculum has succeeded in laying a strong philosophical foundation and conceptual framework for the transformation of national education, its actual success lies at the operational level, that is, in the classroom. A curriculum framework alone is not enough; It must be supported by a pedagogical strategy that can translate the vision into a meaningful learning experience. Therefore, the successful implementation of the Independent Curriculum is highly dependent on the pedagogical strategies adopted at the grade level. This is where the relevance of integrating learning models that encourage deep understanding becomes crucial. Learning strategies must go beyond content delivery and explicitly focus on developing high-level cognitive abilities, knowledge transfer, and mastery of core competencies required by the Pancasila Student Profile.

The Independent Curriculum offers an ideal space to adopt a learning model that



encourages deeper understanding, known as Deep Learning. Deep Learning is not only about mastering knowledge, but also about how learners can transfer, apply, and create new knowledge through six core competencies: mastery of academic content, critical thinking and problem-solving, collaboration, effective communication, independent Learning, and growth mindset (National Research Council, 2012).

However, despite the conceptual synergy between the independent curriculum and deep Learning, there are significant gaps in the literature, particularly those focusing on the Indonesian context: 1) lack of implementation models, there is no clear and tested framework on effective implementation strategies for integrating deep learning principles into the process and assessment of the Independent Curriculum, 2) empirical impact gaps: the real (empirical) impact of integration in-depth Learning of specific student learning outcomes in the Independent curriculum, especially in knowledge transfer capabilities and competencies in the 21st century, still requires rigorous scientific validation.

Therefore, this study emerged as an attempt to bridge the gap. This study aims to analyze in depth the implementation strategy of integrating Deep Learning in the Independent Curriculum and measure its impact on improving student competence. Specifically, this study will develop and validate a model or framework for the implementation of Deep Learning that is appropriate to the context of the Indonesian Independent Curriculum, and assess the impact of this integration on students' academic performance, critical thinking skills, and collaboration skills.

The main contribution of this research is to provide empirical evidence and practical guidance to policymakers, principals, and teachers in Indonesia and other developing countries. The results of this study are expected to: (1) Inform the design of teacher training programs for the Independent Curriculum; and (2) Enrich the international literature with case studies focusing on the integration of deep Learning in the midst of national-scale curriculum reform.

METHOD

The research method used in this study is a Systematic Literature Review (SLR). This approach was chosen to comprehensively analyze, synthesize, and integrate findings from various relevant literature sources (Fink, 2019). The research process began with extensive data collection through a literature search using a combination of keywords that were specific and relevant to the focus of the study, namely Deep Learning Integration and Independent Curriculum. To ensure the validity and timeliness of the data, the reference selection process is strictly implemented based on three main criteria: (1) Relevance of the Content to the topic of

integration of Deep Learning and the Independent Curriculum; (2) Publication Credibility (indexed journals, scientific books, or theses from reputable institutions); and (3) Actuality of the Year of Issue, where only references published in the range of 2021 to 2025 are considered.

Data collection is carried out digitally through various scientific platforms and databases, including Google Scholar, Crossref, Sinta, national and international journal houses, as well as other reputable sources such as academic e-books and thesis repositories. Once found, the literature that met the selection criteria was compiled into a structured database. The next stage is In-Depth Thematic Analysis, in which the data obtained is broken down into units of information, coded, and grouped based on key themes (e.g., implementation models, impacts on competencies, pedagogical challenges). This analysis aims to examine, analyze, and integrate various deep learning approaches associated with the Independent Curriculum from various reference perspectives. This synthesis process ultimately resulted in a solid conclusion and an integrated framework, which is the main contribution of this study.

RESULTS AND DISCUSSION

Independent Curriculum

The Independent Curriculum is an education policy launched by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) as an effort to recover learning loss after the COVID-19 pandemic. The main concept is to provide autonomy and flexibility to educational units, teachers, and students to create more relevant and in-depth Learning. The Independent Curriculum in Indonesia represents an educational reform that shifts power and responsibility to schools, educators, and students in designing, regulating, and evaluating the learning process (Dian Fitra, 2023; Fianingrum et al., 2023; Simarmata & Mahyuni, 2023). The Independent Curriculum is based on a more relevant, inclusive, and student-centric approach to education. This paradigm explicitly prioritizes learning that is responsive to the individual needs and abilities of students, while providing ample space for the development of creativity and active involvement of students in the construction of knowledge (Bakar, S, 2021; Chetry, K. K, 2024).

The implementation of the Independent Curriculum also has a significant impact on the atmosphere and the overall learning system. Traditionally, Learning has been dominated by activities in the classroom, but the independent curriculum encourages spatial flexibility. For example, outdoor Learning has become a common practice, utilizing the environment as a contextual learning resource. In addition, the independent curriculum pays greater attention to the development of student character in line with the Pancasila Student Profile. This approach

is implemented through constructive communication between teachers and students, as well as the use of discussion methods that psychologically create a sense of security and comfort for students to express themselves (Al Hasan, et al, 2025; Romanovska, L., & Novak, M, 2024).

In the context of subjects such as mathematics, the Independent Curriculum prioritizes a very interactive and dialogical learning method. The learning process is no longer dominated by one-way lectures, but is realized through dynamic interactions, where students are encouraged to ask questions directly to the teacher. In this scenario, teachers transform into facilitators and catalysts for learning. Furthermore, the independent curriculum encourages interaction and mutual communication among fellow students (Pramesworo, 2023; Ndraha, 2024), which effectively promotes collaboration skills and mathematical reasoning skills.

Literature reviews highlight that the independent curriculum is built on several basic principles that distinguish it from previous curricula (such as the 2013 Curriculum):

1. Material Simplification (Essential Focus): the independent curriculum focuses on essential materials, aiming to ensure that teachers have enough time to conduct deep and meaningful Learning and not rush to pursue content targets (Pramesworo, 2023; Reimers, F. M., & Chung, 2019)
2. Flexible Learning: Teachers are given the freedom to design Learning Objectives Flow (ATP) and relevant teaching tools according to the level of student achievement and development (teaching at the right level) (Tunas & Pangkey, 2024).
3. Pancasila Student Profile (PPP): The main goal of the independent curriculum is to shape the character and competencies of students in accordance with the six dimensions of PPP (Faithful, Global Diversity, Mutual Cooperation, Independence, Critical Reasoning, and Creative). This is realized through the Pancasila Student Profile Strengthening Project (P5), which is interdisciplinary and not tied to the content of certain subjects.
4. Diagnostic Assessment: The learning process begins with a diagnostic assessment to recognize the specific potential, characteristics, and needs of each student (Detik.com, 2023).

In the implementation of the Independent Curriculum, teachers are required to apply variations in learning models, intelligently utilize media to support the learning process, and determine assessment techniques that are in accordance with the indicators of curriculum achievement. The main factor that greatly influences the success of the implementation and implementation of the curriculum is the professional ability of teachers to interpret and implement the principles of the independent curriculum (Nari et al., 2023). The Independent curriculum offers more adaptive Learning and focuses on essential materials, which are expected to strengthen students' abilities so that they are able to compete effectively at the international

level (Zafirah et al., 2024).

Three specific characteristics define the Independent Curriculum: 1) Focus on essential materials, which avoids unnecessary content density; 2) Flexible, allowing teachers to make adjustments according to the local context and the speed of student learning; and 3) Diverse teaching tools are available, supporting teachers in learning planning and implementation (Pratiwi et al., 2023). More than that, the Independent Curriculum is designed to be responsive and comprehensive to relevant social life and able to balance the diversity of needs. Its nature must always be dynamic and influenced by changes in fundamental factors, ensuring that the curriculum continues to strive to meet the evolutionary needs of students (Srivastava, 2023).

The systematic review identified several main challenges faced by schools in implementing the Independent Curriculum:

Key Challenges	Problem Description	Reference Source
Teacher Capacity and Understanding	Lack of optimal understanding of the concept of the independent curriculum and difficulties in designing Learning Objectives Flow (ATP), Teaching Modules, and authentic assessments.	Astuti, 2023; Rusmiati et al., 2023; Fatimatuzzahrah et al., 2023.
Infrastructure Limitations	Disparities between regions and limited facilities and supporting facilities (especially technology) hinder the implementation of innovative and flexible Learning.	Rusmiati et al., 2023; Nugraheny et al., 2023.
Stakeholder Support	Lack of involvement and comprehensive support from all stakeholders is an obstacle to the implementation of the program at the Driving School.	Pertiwi, 2023; Fatimatuzzahrah et al., 2023.
Policy Adaptation	School readiness in the process of adaptation, especially in non-driving schools, requires	Rosmana et al., 2023; Simon Paulus Olak Wuwur, 2023.

	intensive efforts and stronger government support.	
--	--	--

Overall, the Independent Curriculum is a progressive breakthrough step in Indonesian education that aims to improve the quality of Learning, develop character, and produce graduates who are relevant to the demands of the 21st century. However, its success depends on the government's continued commitment to addressing implementation challenges, especially through improving the quality and capacity of teachers, as well as strengthening collaboration between all relevant parties.

Deep Learning

The primary focus of deep Learning is to transform the classroom experience into a fun and engaging one, motivating students to interact with the content actively. This approach fundamentally drives a shift from passive Learning dominated by memorization to mastery of high-level cognitive competencies. In the context of education, this approach does not only refer to artificial intelligence technology, but is interpreted as an in-depth way to understand the content of the material that emphasizes a meaningful and student-centered learning process.

Deep Learning explicitly demands students to go beyond memorization skills. Students are encouraged to understand, analyze, and create innovative solutions in real-life contexts. As explained by Alhammadi (2021), deep Learning is an in-depth learning approach, where students become proactive towards the topic, consciously try to relate various ideas, and try to understand the material thoroughly. This cognitive process ensures that the knowledge gained is solid and functional. Furthermore, the ability of students to take what they have learned in one condition and apply it to a new condition or situation (knowledge transfer) is a hallmark of the success of deep Learning (Elbashbishy & Eman, 2024).

Through the process of relating various ideas gained, Deep Learning allows students to integrate the material learned on cognitive, social, and affective aspects simultaneously. This integration ensures that the learning process is not just an intellectual exercise. Mystakidis et al. (2021) emphasize that with deep engagement, students not only master the material cognitively but also become active in deep social and emotional interactions. This is in line with the demands of the 21st century that require collaborative skills and emotional intelligence as the keys to success, complementing academic mastery.

Literature review confirms that the implementation of Deeper Learning is rooted in the integration of three main concepts that are integrated with each other: Mindful (fully conscious),

Meaningful (meaningful), and Joyful (Sari & Arta, 2025). This trinity integration aims to transform the educational process to pay more attention to emotional involvement, relevance to the real context, and the happiness of students during the learning process. This holistic approach ensures that Learning is not only about the transfer of cognitive information, but also about the development of students' mental and emotional well-being. The following table presents a summary of key findings from the current academic literature on Deep Learning Approaches in the context of education.

Researcher (Year)	Focus of research/study	Method	Findings and implications
Sari & Arta (2025)	The philosophical pillar of deep learning implementation.	Kajian literature	Identify three main concepts of deep Learning: mindful, meaningful, and joyful, as a prerequisite for creating an optimal learning experience.
Elbashbishy, A., & Eman, R. (2024)	The effect of deep Learning on application and transfer capabilities.	Experimental research	Validates that students educated with a deep learning approach exhibit higher knowledge transfer abilities to new situations, proving conceptual application proficiency.
Ramadhan, I. (2023)	Adaptation of the independent curriculum to new learning approaches.	Case studies & document analysis	The independent curriculum provides a flexible space for deep Learning. An independent curriculum strategy that focuses on essential materials supports teachers to design in-depth learning experiences that are oriented towards ppp competencies.
Feriyanto, F., & Anjariyah, D. (2024)	Examine how the meaningful Learning,	Kajian literature	The main finding of this literature review study is that the integration of the three

	mindful Learning, and joyful learning approaches support the implementation of deep Learning in education.		learning approaches (meaningful, mindful, and joyful) in the framework of deep Learning provides a holistic framework to improve the overall quality of education.
Mystakidis, S., et al. (2021)	The role of social and emotional interactions in deep Learning.	Conceptual/literature studies	Deep Learning is holistic. Deep Learning requires cognitive, social, and affective engagement. Highlight the importance of deep engagement for comprehensive understanding.
Darling-Hammond et al. (2020)	Implications of the science of Learning and development on educational practice.	Bukti empiris synthesis	Supports scientifically deep Learning: student-centered and project-oriented pedagogy (core of deep Learning) significantly improves academic performance and knowledge transfer capabilities.
Fullan & Scott (2020).	Transformation of education in the post-COVID-19 digital era.	Policy & conceptual analysis	Emphasizing that deep Learning is an essential response to global shocks. Requires systemic coherence (leadership, culture, pedagogy) for effective implementation of deep Learning.

A literature review from 2020 to 2025 shows a strong consensus on the holistic nature, transformative impact, and implementation requirements of the Deep Learning Approach. Recent studies emphatically emphasize that deep Learning is not only a cognitive process, but



also a profound affective and social process. Sari & Arta (2025) and Feriyanto & Anjariyah (2024) identify three philosophical pillars that must be integrated to create an optimal learning experience: Mindful (fully aware), Meaningful (meaningful), and Joyful (fun). These findings show that the success of deep Learning is highly dependent on the psychological state of students who must be mentally present, feel relevant to the material, and have an independent curriculum in the process.

Mindful Learning is defined as a learning process that adopts the principle of mindfulness, which requires students to focus and actively engage in the moment of what is being learned. This principle of mindfulness serves to create an optimal psychological state: comfort, high concentration, and relaxation during the learning process. By adopting a mindful attitude, students are encouraged to develop metacognitive abilities and manage emotions effectively, reduce stress levels, and significantly increase their curiosity, which ultimately correlates positively with improved academic achievement (Adnyana, 2024). This emphasizes the importance of holistic engagement between emotions, senses, and thoughts in the process of knowledge acquisition.

Practically, Mindful Learning is realized through pedagogical strategies that encourage reflection and introspection. Examples include the application of inquiry learning, where students actively search for and find answers. Crucial supporting practices include the use of a study journal, metacognitive discussions (reflecting on how they learn, not just what they learn), and constructive feedback. These strategies are collectively able to enhance the learning process to be more conscious and focused, empowering students to identify strengths and areas of improvement within themselves.

While Mindful Learning prepares mental states, the other two concepts, Meaningful and Joyful, complement the Deeper Learning integration. Learning becomes Meaningful when the content learned is closely connected to the student's real life, values, or future goals, thus encouraging relevance and intrinsic motivation. At the same time, Learning should be Joyful means designing a learning experience that is fun, collaborative, and free from excessive anxiety, which is a prerequisite for deep emotional engagement. When these three patterns (Mindful, Meaningful, Joyful) are integrated, the educational process creates an environment that encourages students to not only master the material but also grow socially and emotionally.

Mystakidis et al. (2021) reinforce this argument by highlighting that deep Learning requires cognitive, social, and affective (emotional) engagement. Deep Learning must touch students' emotions (deep engagement) so that a comprehensive understanding can be achieved. This directly challenges traditional educational models that often ignore the emotional





aspects of the learning process.

Empirical evidence suggests that Deep Learning is a superior strategy in developing high-level cognitive and functional abilities in students. Elbashbishy & Eman (2024), through experimental research, validated the most critical impact of deep Learning, knowledge transfer capabilities. Students who engage in deep Learning demonstrate higher proficiency in applying the concepts learned to a completely new situation or problem. This is clear evidence that they have achieved conceptual understanding, not just memorization. Darling-Hammond et al. (2020), through the synthesis of extensive empirical evidence, scientifically support deep Learning. Their findings confirm that student-centered and project-oriented pedagogy (the core of deep Learning) significantly improves academic performance and knowledge transfer capabilities. This research became the main scientific foundation for curriculum reform that adopted deep Learning.

Findings from the literature also highlight how deep Learning should be integrated at the system and policy levels, particularly in the Indonesian context. Ramadhan (2023) links deep Learning to the Independent Curriculum in Indonesia, concluding that the independent curriculum provides a flexible and ideal space for the adoption of deep Learning. The independent curriculum strategy that focuses on the essential materials and competencies of the Pancasila Student Profile (PPP) supports teachers to design meaningful, deep learning experiences. This shows that the independent curriculum is the framework of the curriculum, while deep Learning is a pedagogical strategy to fill it. Fullan & Scott (2020) provide a global policy perspective. They state that deep Learning is an essential and transformative response to global shocks (such as pandemics) and changing times. Successful implementation of deep Learning requires systemic coherence, which means leadership, school culture, and pedagogy must work in harmony toward deep learning goals.

Overall, the 2020-2025 literature review data strengthen the status of deep Learning as an effective, transformative approach. The success of its implementation depends not only on the use of methods such as projects, but also on the creation of an emotionally and systemically supported learning environment that consciously (mindful) and joyful (joyful) encourages meaningful understanding.

CONCLUSION

This literature review concludes that Deep Learning Integration is an essential and transformative pedagogical strategy to realize the vision of the Independent Curriculum in Indonesia, which focuses on the formation of the Pancasila Student Profile (PPP). The synergy of





Deep Learning and the Independent Curriculum is demonstrated through the common competency objectives, where DL provides an operational framework through strategies such as Project-Based Learning, primarily through P5 and authentic process-oriented assessments. This integration ensures that the learning process is not just limited to memorization, but encourages holistic understanding supported by the three pillars of Deep Learning: Mindful, Meaningful, and Joyful. Although the Independent Curriculum provides the flexibility needed, the implementation of Deep Learning demands a restructuring of the teacher's role from a conveyor of information to a facilitator capable of designing a learning experience that is challenging, authentic, and engages students cognitively, socially, and emotionally.

The impact of the integration of Deep Learning in the Independent Curriculum has proven to be significant in improving the quality of graduates. The findings show a marked improvement in knowledge transfer ability, a crucial indicator that students have achieved a deep conceptual understanding. In addition, Deep Learning effectively strengthens non-cognitive competencies, such as Critical Reasoning, Collaboration (Gotong Royong), and Independent Learning, which are directly aligned with the PPP dimension. Therefore, the sustainability and success of the Independent Curriculum is highly dependent on systemic commitment to address implementation challenges, especially by providing ongoing professional training to teachers on the pedagogical design of Deep Learning and ensuring systemic coherence in school policies. By adopting Deep Learning, Indonesian education can produce graduates who are not only academically intelligent but also competent, adaptive, and have strong character in the global era.

REFERENCE

- Al-Hassan, O. M., AlAli, R. M., Bataineh, R. F., Aboud, Y. Z., & Ibrahim, N. A. (2025). Shaping young minds: How teachers foster social interaction, psychological security and motivational support in the primary language classroom. *International Journal of Learning, Teaching and Educational Research*, 24(1), 359–378.
- Astuti. (2023). Literature Review on the Implementation of the Independent Learning Curriculum. *Madani*, 6(2).
- Bakar, S. (2021). Investigating the dynamics of contemporary pedagogical approaches in higher education through innovations, challenges, and paradigm shifts. *Social Science Chronicle*, 1(1), 1–19.
- Chetry, K. K. (2024). Transforming education: Paradigm shifts in 21st century learning. *International Journal of Multidisciplinary Research*, 2(5), 469–479.



- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140.
- Dian Fitra. (2023). Kurikulum Merdeka dalam Pendidikan Modern. *Jurnal Inovasi Edukasi*, 6(2), 149–156. <https://doi.org/10.35141/jie.v6i2.953>
- Fatimatuazzahrah, F., Sakinah, L., & Alyasari, S. A. (2023). Problems of Implementing the Independent Curriculum in Schools: Challenges in Building the Quality of Education. *Journal of Indonesian Education Stars*, 2(1).
- Feriyanto, F., & Anjariyah, D. (2024). Deep Learning Approach Through Meaningful, Mindful, and Joyful Learning: A Library Research. *Electronic Journal of Education, Social Economics and Technology*, 5(2). <https://doi.org/10.33122/ejeset.v5i2.321>
- Fianingrum, F., Novaliyosi, N., & Nindiasari, H. (2023). Kurikulum Merdeka pada Pembelajaran Matematika. *Edukatif : Jurnal Ilmu Pendidikan*, 5(1), 132–137. <https://doi.org/10.31004/edukatif.v5i1.4507>
- Fink, A. (2019). *Conducting research literature reviews: From the internet to paper*. Sage publications.
- Fullan, M. (2020). System change in education. *American Journal of Education*, 126(4), 653–663.
- Jihan, I., Asbari, M., & Nurhafifah, S. (2023). Quo Vadis of Indonesian Education: Curriculum Changes, Education Improves?. *JISMA: Journal of Information Systems and Management*, 02(05).
- Marlina, T., & Soleha, S. (2023). Implementation of Independent Learning of Driving Teachers in Realizing Independent Curriculum-Based Learning in Elementary Schools. *Dikdaya Scientific Journal*, 13(2).
- Mystakidis, S., Berki, E., & Valtanen, J. P. (2021). Deep and meaningful e-learning with social virtual reality environments in higher education: A systematic literature review. *Applied Sciences*, 11(5), 2412.
- Nari, N., Khaidir, C., Arif, Y., Gistituati, N., Rusdinal, R., & Intes, A. (2023). The Strategy of the School Principle in the Implementation of the Independent Curriculum. *Lingeduca: Journal of Language and Education Studies*, 2(2), 174–186.
- Nasution. (2023). Strengthening the Tricenter of Education Collaboration (Listed in the Journal of the Independent Curriculum: New Hope for Indonesian Education).
- National Research Council, Division of Behavioral, Social Sciences, Board on Science Education, & Committee on a Conceptual Framework for New K-12 Science Education Standards.

- (2012). A framework for K-12 science education: Practices, crosscutting concepts, and core ideas. National Academies Press.
- Ndraha, S. (2024). Teacher and Student Communication Model in the Independent Curriculum. *As-Salam: Journal Islamic Social Sciences and Humanities*, 2(4), 141–147.
- Pertiwi. (2023). Literature Review: Implementation of the Independent Curriculum in Driving Schools. *Al-Madrasah - STIQ Amuntai Journal*.
- Pramesworo, I. S., Fathurrochman, I., Sembiring, D., Bangkara, B. A., & Sudrajat, D. (2023). Relevance between Blended Learning and Students' Independent Learning Curriculum: An Overview of Digital Age Education, Student and Teacher Engagement, Technological Resources. *Jurnal Kependidikan*, 9(3), 858–869.
- Pratiwi, W., Hidayat, S., & Suherman, S. (2023). Kurikulum Merdeka Sebagai Kurikulum Masa Kini. *JTPPM (Jurnal Teknologi Pendidikan dan Pembelajaran) : Edutech and Instructional Research Journal*, 10(1). <https://doi.org/10.62870/jtpm.v10i1.21407>
- Ramadhan, I. (2023). Independent Curriculum: The Process of Adaptation and Learning in Senior High School. *Journal of Education Research*, 4(4).
- Reimers, F. M., & Chung, C. K. (Eds.). (2019). Teaching and learning for the twenty-first century: Educational goals, policies, and curricula from six nations. Harvard education press.
- Romanovska, L., & Novak, M. (2024). The role of teacher-student relationships in providing social and psychological support to participants of the educational process. *Social work and education*, 11(2), 308–319.
- Rusmiati, M. N., Ashifa, R., & Herlambang, Y. T. (2023). Analysis of Problems in the Implementation of the Independent Curriculum in Elementary Schools. *Naturalistic: Journal of Education and Learning Studies and Research*, 7(2).
- Sari, A. W., & Arta, D. J. (2025). Implementasi Deep Learning: Suatu Inovasi Pendidikan. *WASPADA (Jurnal Wawasan Pengembangan Pendidikan)*, 13(1), 121–126.
- Simarmata, H. A., & Mayuni, I. (2023). Curriculum reform in indonesia: from competency-based to freedom of learning. *International Journal Of Pedagogical Novelty*, 2(2), 1–13.
- Simon Paul, E. (2023). PROBLEMS OF THE IMPLEMENTATION OF THE INDEPENDENT CURRICULUM IN ELEMENTARY SCHOOLS. *SOKO GURU: Journal of Education*, 3(1).
- Srivastava, S. (2023). The evolution of education: Navigating 21st-century challenges. *International Journal for Multidisciplinary Research*, 5(5), 1–9.
- Tuerah, R. M. S., & Tuerah, J. M. (2023). Kurikulum Merdeka dalam Perspektif Kajian Teori: Analisis Kebijakan untuk Peningkatan Kualitas Pembelajaran di Sekolah. *Jurnal Ilmiah Wahana Pendidikan*, 9(19), 979–988. <https://doi.org/10.528/zenodo.10047903>



- Tunas, A., & Pangkey, R. D. H. (2024). Analysis of the Application of the Independent Curriculum in Pancasila Education Learning. *IDEAS: Journal of Educational, Social, and Culture*, 8(1).
- Yenti, D., Hefrita, N. O., & Fadriati, F. (2024). The Foundation for the Development of the Independent Curriculum. *Indo-MathEdu Intellectuals Journal*, 5(3).
- Zafirah, A., Gistituati, N., Bentri, A., Fauzan, A., & Yerizon, Y. (2024). Studi Perbandingan Implementasi Kurikulum Merdeka dan Kurikulum 2013 Pada Mata Pelajaran Matematika: Literature Review. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 8(1), 276–304. <https://doi.org/10.31004/cendekia.v8i1.2210>
- Zakso, A. (2023). Implementation Of The Independent Learning Curriculum In Indonesia. *Untan Journal*, 8(1).

