

Implementation, impact and strategies for facing challenges in the independent learning curriculum in elementary schools



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Abstract The independent learning curriculum is a new concept that provides space for every teacher and student to gain the freedom to teach and learn in an educational environment. This study aims to examine the implementation and impact as well as strategies for facing challenges in implementing an independent learning curriculum. This study uses mixed methods research. This study was conducted with elementary school teachers in East Java. The results of the study show that the implementation of the curriculum has been adapted to several independent learning curriculum standards, although in its implementation, there are challenges that must be faced, such as the following: there is a demand to create active, creative learning and shape student character; teachers' readiness to bring about change in the classroom; the diversity of students in the class; digital-based capability competency; and a network of educational units that partnerships with stakeholders. This study also reveals that there are more positive impacts than negative impacts when the independent learning curriculum is implemented. This study concludes that the independent learning curriculum has many strategies that have been well implemented. One of the best strategies to use is to carry out regular evaluations to identify potential improvements and adjustments that need to be made. Another strategy is to study learning support technology. Participating in training/workshop activities, as well as looking for references from various sources, including independent teaching platforms, social media, and other sources.

Keywords: freedom to learn, curriculum implementation, elementary school education, learning strategies

1. Introduction

In an effort to form a new curriculum with the aim of independent learning education, government policy encourages students to develop themselves, and new ideas and a new atmosphere can form a new academic atmosphere. This concept then leads to education with a curriculum that is full of knowledge and skills, which is expected to motivate students to learn and share knowledge and enrich their knowledge and creative ideas (Hertati et al., 2023). Independent learning curricula have now become a new concept that allows teachers and students to gain the freedom to teach and learn in an educational environment (Leuwol et al., 2020; Muhsin, 2021; Wijayanto, 2021). This program is essentially an innovation in the world of education where the focus of learning is to obtain optimal learning quality.

One of the determinants of high-quality human resources (HR) and national development is education with character (Siregar, 2017; Widiensyah et al., 2018; Effendi, 2021). Teaching and learning activities cannot be carried out well without a curriculum that is implemented in an effort to monitor education. The existence of a curriculum is an integral part of the educational process (Egodawatte, 2014; Babaci-Wilhite, 2015; Angga et al., 2022). In addition, the curriculum is a reference for all educators (not only teachers) in the teaching and learning process (Setiadi, 2016; Fatmawati & Yusrizal, 2020; Manalu et al., 2022).

Studies about curriculum have mostly focused on curriculum content, topics, and curriculum materials (Yüksel et al., 2025; Garcia et al., 2024; Huang & Wang, 2022; Sarbaini et al., 2022), competencies, aspects of content understanding and curriculum understanding (Maryani et al., 2025), curriculum renewal (Kim, 2024); curriculum development (Shih, 2024; Kang & Kim, 2023; Diah et al., 2022). Meanwhile, studies on learning have mostly focused on teaching strategies and design (Daga et al., 2023; Tsybulsky & Levin, 2019), development of teaching materials and resources (Zhang & Siegler, 2022; Shirai, 2019), learning methods (Bessho et al., 2019; Imran et al., 2024), the importance of literacy in teaching and learning (2024), the importance of literacy in learning (Marmoah et al., 2022), difficulties experienced by teachers in the learning process



(Whitehead & Ryu, 2023), the need for teacher adaption in learning (Kahmann et al., 2024), and learning outcomes (Berhanu & Naidoo, 2024).

Studies on the independent curriculum has not been widely researched by previous researchers. A study conducted by Rahayu et al. (2022) explained the implementation of the independent curriculum from various points of view. Teachers can continue to improve the quality of education with their lessons and provide guidance from the school principal and colleagues. In addition to teachers, other educational personnel seen in schools are also trained to use IT. Driving schools with an independent learning curriculum also receives financial support to complement the availability of infrastructure that supports learning. Sumarsih et al. (2022) found that the implementation of an independent curriculum starts with the formation of a learning committee. The first challenge in implementing the independent learning curriculum is training teachers or teaching staff to implement new learning paradigms, learning administration systems that comply with guidelines, synchronizing digital applications such as e-reports, and changing the mindset of school residents in implementing student-centered education. Another study from Barlian et al. (2022) explained the implementation of the independent curriculum has prepared a learning plan that is adapted to the independent learning curriculum. This means that learning outcomes (CP) are used for the purpose of developing learning and learning pathways, developing teaching modules according to student abilities and characteristics, planning diagnostic assessments, and developing summative and formative assessment plans.

Studies that specifically discuss the challenges faced by elementary school teachers in implementing independent learning are difficult to find. Previous studies have focused on the implementation of an independent learning curriculum, which is considered to suit Indonesia's educational needs. However, the picture of implementation, which involves many challenges, and the positive and negative impacts of implementing the curriculum have not been widely discussed. Therefore, the aim of this research is to examine the implementation and impact as well as strategies for facing challenges in implementing an independent learning curriculum. This study will produce contributions in the form of new findings and analysis related to implementation, impacts and strategies in facing challenges in implementing the independent learning curriculum. This study contributes to scientific developments in the field of elementary school education curriculum. This is important as an evaluation material for teachers, schools and the government in implementing independent curriculum policy.

To date, studies on freedom of learning in Indonesia have been carried out mostly at the tertiary level, and studies on the implementation of freedom of learning in elementary schools are rare. This study was conducted with elementary school teachers in East Java. Elementary schools are believed to be the foundation or foundation for character formation and individual development, so individual strengthening in elementary schools must be strengthened first. This study is very important because it examines not only the implementation and impact of the independent learning curriculum on students. This study offers novelty, namely, producing strategies to address challenges in implementing an independent learning curriculum, especially in elementary schools.

2. Materials and Methods

The research focuses on the social setting of elementary school. At this age, the process of forming individual character is common. This study focuses on strategies for facing challenges in implementing the independent learning curriculum in elementary schools. This study uses mixed methods research with descriptive research types. The combination of qualitative and quantitative approaches allows for a better understanding of the research problem than using only one approach. It broadens and strengthens the research conclusions, obtains a high degree of knowledge and validation, and overcomes the weaknesses of each approach. The quantitative approach has a weakness in controlling the context or setting when the research subject speaks or expresses an opinion, because the voice of the research subject is not heard directly. Meanwhile, qualitative research, in terms of personal interpretation, is formulated by the researcher himself, which will possibly bias the interpretation process. In addition, it is difficult to generalize the findings to a large number of target groups (Creswell et al., 2010a; Creswell, 2010b; Creswell, 2012).

In a research, significant ethical considerations are important things that must be adhered to by researchers. This study has ensured that the research stages have followed the ethical standards of research that must be followed by researchers. This study has obtained informed consent from the participants. The researcher informed the participants of the purpose and procedures of the study. Participants in the study consented and were willing to be interviewed and they also agreed that the interview data be published. Interviews were conducted after obtaining participants' consent and willingness to be interviewed. The interview process used the principle of caution, and ensured that the participants were in a safe condition and without pressure from any party. Participant confidentiality was maintained and participants were anonymized.

The number of respondents of this study was 220 teachers in East Java. Quantitative data were collected through structured interviews in the form of questionnaires. Then, on the basis of the data, teachers who had interesting experiences were interviewed in depth to add richness and variety to the data. The number of informants was 22 teachers. The number of participants in this study refers to Creswell (Creswell, 2022; Creswell, 2010). In quantitative research, Creswell (2022) recommends a minimum of 30 respondents in a group for statistical generalizability. The number of respondents can vary, but generally 100 - 300, depending on the complexity and type of analysis being conducted. Meanwhile, in qualitative research,

Creswell (2010) suggests the number of informants in qualitative research is 5 - 30 who are selected purposively or using other techniques.

The data obtained from the questionnaire are then processed and presented in table form. Meanwhile, data from in-depth interviews are presented in the form of direct interview quotations. Next, the data are analyzed and discussed with respect to previous studies and theory that are relevant to the topic studied.

3. Results and Discussion

The discussion of this study focuses on three main aspects: first, the implementation and challenges of the independent learning curriculum. Second, the impact results from the implementation of the independent learning curriculum. Third, strategies used to address challenges in implementing the independent curriculum are needed. The results of this study show that the independent learning curriculum provides a breath of fresh air for the world of education, which has led to many positive things. However, in its implementation, it is still necessary to adapt the method and suitability of the program so that it is right on target and meets students' needs. Details related to the results of the study regarding the independent learning curriculum are discussed in detail in the subdiscussion below.

3.1. Implementation and challenges of the independent learning curriculum

The implementation of free learning in various schools that have been going on until now cannot be separated from the role of educational elements, starting from teachers, students and parents as subjects and objects of education, and community organizations and private institutions to the government as national-level policy makers. The implementation of the curriculum in Indonesia, which has undergone several changes and adjustments—in this case, freedom to learn as the curriculum is being implemented—is certainly still full of challenges. The challenge for teachers in implementing an independent curriculum in driving schools is that they need to dedicate time every day to preparing creative, innovative and useful learning (Fadhli, 2022).

The various challenges that arise in implementing independent learning are not only faced by educators but also by students and parents. The large distribution shows that teachers are the most influential party in implementing free learning. Some of the challenges experienced are actually divided into several groups: first, challenges from the teacher's side, such as the following: (1) There is a demand to create active, creative learning and shape the character of Pancasila students. (2) Teachers' readiness to bring about changes in the classroom. (3) Teachers do not have sufficient experience (the change from Curriculum 13 to IKM takes time). (4) Educator competency is uneven. (5) School support in providing supporting facilities, both material and nonmaterial. (6) Limited references and (7) preparation of learning media (interesting student worksheets).

Second, the challenges experienced by the students include the following: (1) Diversity of students in the class. (2) The unequal abilities of students require teachers to innovate and be creative. (3) Unequal student competition. Third, the challenges faced by parents include the following: (1) parents/guardians of students who have not been socialized optimally, thus affecting student learning. (2) Due to financial constraints, parents are unable to provide learning support equipment. Fourth, the challenges experienced by the school include the following: (1) Formative evaluation and assessment (implementation of P5 and completion of P5 report cards). (2) Application of differentiation learning. (3) Carrying out diagnostic assessments. (4) Preparation and implementation of learning strategies that suit the conditions and needs of each CP student. (5) Digital-based ability competencies, as digitalization has now become one of the benchmarks for the emergence of an independent learning curriculum (Manalu et al., 2022). (6) Network of educational unit partnerships with stakeholders.

In Table 1, at least 31.8% of the respondents stated that the challenge of implementing the independent learning curriculum lies in the readiness of teachers to create active and creative learning and the availability and support of schools in facilitating the teaching and learning process. As many as 20.5% stated that the diversity of students in the class and unequal student competition were challenges in implementing independent learning. Moreover, 26.9% of them indicated that there were limitations in preparing learning media, insufficient experience in facilitating the change from Curriculum 13 to Implementasi Kurikulum Merdeka (implementation of independent learning curriculum), unequal student abilities, and the preparation and implementation of learning strategies that were appropriate to the conditions and needs of students at each level learning.

In addition, other challenges reported by at least 13.6% of the results of this study included limited references, uneven teacher competency, implementation of differentiated learning, implementation of diagnostic assessments, formative evaluation and assessment (implementation of P5 and completion of P5 report cards), and competency. digital-based capabilities. Another 7.4% stated that parents/guardians of students had not been properly socialized, thus affecting student learning, the inability of parents to provide learning support equipment due to financial constraints, and the education unit's partnership network with stakeholders.

This study revealed that several elementary school teachers expressed that they were not prepared enough to adapt to the independent learning curriculum. As stated by the following informant:

"The challenge is that children who initially do not know it, it is quite difficult for teachers to introduce it because initially from K13 to IKM, it takes time, while currently, children are still being guided to learn IKM." (HID informant).

"The biggest challenges in the process of implementing this independent curriculum include the readiness of teachers as bringers of change in the classroom, school support in providing supporting facilities both material and nonmaterial, and the diversity of students in a class." (ANI informant).

"Making projects for students requires cooperation and sufficient time, lack of experience in the independent curriculum, facilities and infrastructure that are not supportive enough, implementation of activities is less than optimal owing to other factors." (RAM informant).

"Paradigm change: The main challenge is to change the traditional paradigm, which is more teacher-centered and curriculum-centered. Teacher readiness: Teachers need to have a deep understanding of the concepts and principles of the independent learning curriculum as well as the skills needed to support students in independent learning. Evaluation and assessment: The Merdeka Belajar curriculum emphasizes formative assessment and authentic assessment that actively involve students in the assessment process." (MAY informant).

Table 1 Challenges in implementing the independent learning curriculum (n = 220).

| Challenges in Implementing the Independent Learning Curriculum | F | % |
|---|-----|------|
| Creating active, creative learning and shaping the character of Pancasila students | 29 | 13,2 |
| The readiness of the teaching teacher to bring about change in the classroom | 24 | 10,9 |
| School support in providing supporting facilities both material and nonmaterial | 17 | 7,7 |
| Diversity of students in the class | 23 | 10,5 |
| Limited references | 9 | 4,1 |
| Preparation of learning media (interesting student worksheets) | 12 | 5,5 |
| Teachers do not have enough experience (changes from Curriculum 13 to IKM which need time) | 17 | 7,7 |
| Unequal abilities of students make teachers have to innovate and be creative | 12 | 5,5 |
| Uneven student competition | 22 | 10 |
| Uneven competence of educators | 7 | 3,2 |
| Parents/guardians of students who have not been socialized optimally, thus affecting student learning | 12 | 5,5 |
| Parents' inability to fulfill learning support equipment due to financial constraints | 3 | 1,4 |
| Formative evaluation and assessment (P5 implementation and P5 report card filling) | 6 | 2,7 |
| Implementation of differentiated learning | 2 | 0,9 |
| Implementation of diagnostic assessment | 2 | 0,9 |
| Development and implementation of learning strategies that are in accordance with the conditions and needs of each CP student | 18 | 8,2 |
| Competence in digital-based skills | 4 | 1,8 |
| Network of education unit partnerships with stakeholders | 1 | 0,5 |
| | 220 | 100 |

The results of this study are in line with those of the study conducted by Rahayu et al. (2022), who reported that the independent learning curriculum is not yet fully able to reach all elements of education, both in terms of implementation and the consequences of challenges in the world of education. The existence of an independent curriculum has another aim: to reorganize the national education system and respond to progress and changes in the country so that it can adapt to changing times. The concept of an independent learning curriculum also requires the use of technology as an aid in the learning process, such as the use of digital platforms, the use of learning videos by teachers, and the availability of e-books. Technology can also be used as a means of accessing broader resources so that the information obtained by students is not limited to learning books alone. By entering the digital era, curriculum changes cannot be separated from the evolution of an all-digital era (Angga et al., 2022). Therefore, it becomes clear that changes to the curriculum are necessary, with the essence of it being able to respond to global developments.

3.2. Impact of Implementing the Independent Learning Curriculum

The implementation of independent learning has more or less changed student learning methods and outcomes. However, in its implementation, there are many challenges that must be faced by teachers and students, for example, adapting to new learning methods, as well as internal and external abilities that must be improved by teachers as educators and students as learners. The following explanations illustrate the impact of the curriculum that is actually experienced by students in implementing the independent learning curriculum. As shown in Table 2, a very different positive impact is felt by the students, with 71.8% stating that the independent curriculum is better able to develop soft skills because it focuses more on the skills and talents of each student, thus making students more interested in the learning process, which is also encouraged. with the existence of varied media and learning mechanisms. Only 28.2% of the respondents stated the opposite: they had not felt the positive impact of the independent curriculum.

Another positive impact is that the independent learning curriculum helps as many as 64.5% of the students think more critically and creatively, more easily stimulating them to understand easily and interact. As many as 51.4% of the students became more motivated and comfortable in the classroom, were better able to solve daily problems, and had interesting



experiences while at school. Moreover, 77.3% of the students felt that it was easier to develop and express the learning styles they could, so that there was no boredom in learning. As many as 60.4% of the students became more active, creative, interactive, independent and more skilled because they could not only understand the material but also apply it to everyday life.

However, in terms of improving student learning outcomes, this does not have much of an impact because there is competency development through methods that refer to students' talents and interests; only 26.4% felt this. Another 73.6% stated that the independent learning curriculum was not able to improve student learning outcomes positively. In addition, 56.4% did not feel that their ability had increased in terms of creating a more flexible learning environment and providing freedom in implementing the independent curriculum. As many as 28.2% of the respondents stated that the independent curriculum enables students to manage the natural and social environment simultaneously, which means that they can have a greater impact on society, whereas the other 71.8% have not experienced this ability.

Table 2 The Impact of the Merdeka Belajar Curriculum on Students (n=220).

| The Impact of Merdeka Belajar Curriculum on Students | Yes | | No | | Total | |
|---|-----|-------|-----|-------|-------|-----|
| | F | % | F | % | F | % |
| Students are better able to develop soft skills because they are more focused on the skills and talents of each student, so that they are more interested in learning, because of the varied media and learning mechanisms. | 158 | 71,8% | 62 | 28,2% | 220 | 100 |
| Improve student learning outcomes due to competency development through methods that refer to the talents and interests of students | 58 | 26,4% | 162 | 73,6% | 220 | 100 |
| Helps students think more critically and creatively, by more easily stimulating students to understand, and interactive | 142 | 64,5% | 78 | 35,5% | 220 | 100 |
| Creating a learning environment that is more flexible and provides freedom | 96 | 43,6% | 124 | 56,4% | 220 | 100 |
| Enable students to be able to manage the natural and social environment simultaneously which means they can have more impact in society | 62 | 28,2% | 158 | 71,8% | 220 | 100 |
| Students become more motivated and comfortable in the classroom, better able to solve everyday problems, and gain interesting experiences while at school | 113 | 51,4% | 107 | 48,6% | 220 | 100 |
| Students can more easily develop and express their learning styles, so there is no boredom in learning | 170 | 77,3% | 50 | 22,7% | 220 | 100 |
| Students become more active, creative, interactive, independent, and more skilled because they can not only understand the material but also apply it in everyday life | 133 | 60,4% | 87 | 39,6% | 220 | 100 |

The conditions that have an impact on the implementation of the independent curriculum are supported by statements from several research informants. They agree that with an independent curriculum, students can explore more in learning. The learning currently used is also adapted to the student's character. As stated by several informants below:

"The Merdeka curriculum is a curriculum with diverse intracurricular learning where the content will be better so that students have enough time to explore concepts and strengthen competencies so that teachers have the freedom to choose various methods and learning models so that learning can be contextual according to students' needs and interests." (AHK informant).

"The existence of freedom in learning methods according to the character needed by students, younger students stimulate students to understand easily and be more active in learning, such as by asking questions and answers, watching various videos about learning, role playing." (MAU informant).

As previously explained, the independent learning curriculum identified through the results of this study can be explained as having a more positive impact than a negative impact, which can be felt by students. In addition to students, the positive impact of implementing independent learning is also felt by teachers and educators, as shown in Table 3. The eight points summarized from the results of direct studies in the field can be divided into two groups, four of which have percentages above 50%. Positive impact, with the following distribution: (1) Teachers can choose strategic methods so that learning can be achieved well, as reported by 70.0% of the respondents in this study. (2) As many as 52.3% stated that the independent curriculum encouraged teachers to use more interactive and participatory teaching methods, encouraging learning with a contextual, collaborative and relevant approach to everyday life (not only with teachers and peers but also with the community). (3) 55.5% believe that the independent curriculum enables teachers to encourage students to actively participate in discussions, research and projects that are relevant to social, political, economic and cultural issues. (4) Meanwhile, 51% of them stated that teachers could more freely apply or use various integrated learning methods or use thing pair sharing, jigsaw and project-based learning methods.

The other four points also have a positive impact, but the percentages do not significantly influence the development of independent learning methods that have been tried and applied in the teaching and learning process, including the following: (1) Making it easier for teachers to teach, 47.3% agree with 52.7% who say no. This finding shows that the presence or absence of an independent curriculum does not have a significant effect on the ease with which teachers implement teaching methods. (2) When teachers were previously able to apply various integrated learning methods more freely, 65.5% and 34.5% disagreed



that, with an independent curriculum, they have the freedom to design and arrange learning materials according to students' needs and link learning to everyday contexts. (3) Meanwhile, 58.6% did not agree that the independent curriculum could make it easier for teachers to use various forms of assessment that consider the understanding of concepts and their application in the context of everyday life. (4) Meanwhile, only 23.2% agreed that all assessments become more positive because they have a variety of methods when the independent learning curriculum is used. In fact, 76.8% stated that the implementation of an independent curriculum does not necessarily make all assessments more positive because it has a variety of methods.

Table 3 Impact of the Merdeka Belajar Curriculum on Teachers (n=220).

| The Impact of Merdeka Belajar Curriculum on Teachers | Yes | | No | | Total | |
|--|-----|-------|-----|-------|-------|-----|
| | F | % | F | % | F | % |
| Simplify the way teachers teach | 104 | 47,3% | 116 | 52,7% | 220 | 100 |
| Teachers have the flexibility to design and organize learning materials according to students' needs, and relate learning to everyday contexts | 76 | 34,5% | 144 | 65,5% | 220 | 100 |
| Teachers can choose methods, strategic ways so that learning can be achieved well | 154 | 70,0% | 66 | 30,0% | 220 | 100 |
| Teachers can use various forms of assessment that consider concept understanding and application in the context of everyday life | 91 | 41,4% | 129 | 58,6% | 220 | 100 |
| Encourage the use of more interactive and participatory teaching methods, encouraging learning with a contextualized, collaborative approach, and relevant to everyday life (not only with teachers, peers but also the community) | 115 | 52,3% | 105 | 47,7% | 220 | 100 |
| Teachers can encourage students to actively participate in discussions, research and projects relevant to social, political, economic and cultural issues | 122 | 55,5% | 98 | 44,5% | 220 | 100 |
| Teachers can more freely apply or use various integrated learning methods, as well as using thing pair share, jigsaw, and project-based learning methods | 112 | 51% | 108 | 49% | 220 | 100 |
| The whole assessment is more positive because it has a variety of methods | 51 | 23,2% | 169 | 76,8% | 220 | 100 |

The impact of independent learning has provided several better opportunities for educational progress in general. This was also felt directly by several informants through their narratives as follows:

"Teachers have the freedom to design and organize learning materials according to students' needs and context. Teachers can relate learning materials to the context of everyday life. Apply a project-based learning approach, where students are involved in project activities that require critical thinking." (QR informant).

"It is very influential, teachers as agents of change must truly understand both the characteristics of students and the background of students so that teachers must know how to teach students in order to achieve good learning goals. So teachers can truly choose methods, strategic methods so that learning can be achieved well." (CAH informant).

"The independent learning curriculum is very influential in learning. In this independent curriculum, for example, science and social studies learning is combined into science. The hope is that students can manage the natural and social environments to understand them. "To understand the natural and social environment, I usually use project-based learning to strengthen the Pancasila learning profile, where in this curriculum, the Pancasila student profile is the main goal." (ECH informant).

Freedom to learn gives teachers freedom in designing and compiling learning materials according to students' needs and context. The positive side is that teachers and students are not forced to follow the teaching material provided and achieve a passing grade, but the negative side is that students are sometimes reluctant to compete with other students (Fadhli, 2022). Teachers, as agents of change, are truly required to be able to understand the characteristics and background of students well, so teachers must know how to teach students to achieve good learning goals. The existence of freedom to learn is also expected to balance various kinds of lessons/classes of knowledge.

3.3. Strategies for Facing Challenges in Implementing the Independent Curriculum

The implementation of policies, program changes, and, in this case, the transition of the education curriculum from the previous use of Curriculum 13 to the independent learning curriculum still requires assistance and program evaluation. This is based on its comprehensive use as an educational model established in Indonesia. Therefore, challenges in implementing the curriculum certainly also have an impact on the teaching and learning process. Therefore, appropriate strategies are needed to address existing challenges so that, in the future, the implementation of the independent learning curriculum can adapt and become an appropriate curriculum model and provide more positive impacts by minimizing negative impacts in the world of education. A good strategy is needed from the school to invite teachers/educators because this relatively new curriculum is not easy to implement according to the standards imposed by the government (Kinesti et al., 2021).

Several strategies have been implemented and are working well in the development of independent learning curricula. Table 4 shows that these strategies are able to overcome the challenges arising from the implementation of the independent learning curriculum. One of the best strategies to use is to carry out regular evaluations to identify potential improvements and adjustments that need to be made; as many as 84.5% said that they agreed to use this strategy. Moreover, 83.6% of the other best strategies agreed with studying learning support technology. On the other hand, the strategy that is also widely used by teachers and schools in facing the challenges of implementing the independent curriculum is to participate in



training/workshop activities (65%); seek references from various sources, both independent teaching platforms, social media and other sources (60.9%); and the preparation and fulfillment of facilities and infrastructure needs to be met immediately to expedite the learning process (57.7%). Additionally, outreach with student guardians/parents either through parent meetings or WhatsApp groups (64.5%) is needed.

Table 4 Strategies for Facing Challenges in Implementing the Merdeka Belajar Curriculum (n = 220).

| The various strategies used | Yes | | No | | Total | |
|--|-----|-------|-----|-------|-------|-----|
| | F | % | F | % | F | % |
| Learning about technology to support learning | 184 | 83,6% | 36 | 16,4% | 220 | 100 |
| Participate in training/workshop activities | 143 | 65,0% | 77 | 35,0% | 220 | 100 |
| Learn more about assessment in Merdeka curriculum | 106 | 48,2% | 114 | 51,8% | 220 | 100 |
| Collaborate with peers to use technology and understand independent curriculum implementation | 75 | 34,1% | 145 | 65,9% | 220 | 100 |
| Seeking references from various sources including seeking independent teaching platforms, social media, and other sources | 134 | 60,9% | 86 | 39,1% | 220 | 100 |
| Teachers must have a lot of knowledge | 98 | 44,5% | 122 | 55,5% | 220 | 100 |
| Teachers must have the ability not only academically but also in classroom control (creating a pleasant classroom atmosphere) | 63 | 28,6% | 157 | 71,4% | 220 | 100 |
| Preparation and fulfillment of facilities and infrastructure needs that must be met immediately for smooth learning | 127 | 57,7% | 93 | 42,3% | 220 | 100 |
| Consulted with senior teachers to find appropriate methods and models | 69 | 31,4% | 151 | 68,6% | 220 | 100 |
| Organize Pancasila profile projects every week such as crafts or bazaars. | 47 | 21,4% | 173 | 78,6% | 220 | 100 |
| Initiative to create simple yet interesting and weighty learning media | 98 | 44,5% | 122 | 55,5% | 220 | 100 |
| Establish a learning community among teachers | 103 | 46,8% | 117 | 53,2% | 220 | 100 |
| Conducting socialization with student guardians/parents either through student guardian meetings or whatsapp groups | 142 | 64,5% | 78 | 35,5% | 220 | 100 |
| Consultation with facilitators on implementation and obstacles encountered | 74 | 33,6% | 146 | 66,4% | 220 | 100 |
| Conduct periodic evaluations to identify potential improvements and adjustments that need to be made | 186 | 84,5% | 34 | 15,5% | 220 | 100 |
| Grouping students according to character, talent and interest | 79 | 35,9% | 141 | 64,1% | 220 | 100 |
| Explain the terms and conditions related to the independent learning curriculum to students and parents/guardians from the beginning so that learning becomes conducive | 77 | 35,0% | 143 | 65,0% | 220 | 100 |
| Provide an understanding of the Pancasila learner profile | 68 | 30,9% | 152 | 69,1% | 220 | 100 |
| Both teachers, schools, students, and parents/guardians continue to update the development of the implementation of the Merdeka learning curriculum so that collaboration is formed with maximum results | 72 | 32,7% | 148 | 67,3% | 220 | 100 |
| Involvement of all stakeholders in all processes, from planning, implementation to evaluation of the independent learning curriculum | 52 | 23,6% | 168 | 76,4% | 220 | 100 |
| Utilization of nature as a source of learning media | 31 | 14,1% | 189 | 85,9% | 220 | 100 |
| Pretesting students on their hobbies, learning model, teacher's capital, etc. | 16 | 7,3% | 204 | 92,7% | 220 | 100 |

Through Table 4, this study also shows that the selected strategies provide several very good impacts, but there are also strategies that are still rated equally and are not even able to provide a good stimulus in the learning process in the implementation of the independent learning curriculum. These strategies include the following: learn more about assessments in the independent curriculum (48.2%); collaborate with colleagues to use technology and understand the application of the independent curriculum (31.4%); teachers must have much insight (44.5%); and teachers must have the ability not only academically but also in classroom control (creating a pleasant classroom atmosphere) (28.6%).

Furthermore, junior teachers use strategies by consulting senior teachers to obtain appropriate methods and models (31.4%). Pancasila profile projects, such as crafts or bazaars (21.4%), are held every week. The initiative to create learning media is simple but interesting and meaningful (44.5%). Using strategies by forming learning communities among teachers (46.8%). Facilitators were encouraged regarding implementation and obstacles faced (33.6%). The students were grouped according to their character, talent and interests (35.9%). The terms and conditions related to the independent learning curriculum are explained to students and parents/guardians from the beginning so that learning is conducive (35%). The strategies were applied to provide understanding regarding the Pancasila student profile (30.9%). Previous studies have shown that for senior teachers, appropriate special guidance is needed so that they are willing to move (Fadhli, 2022). Moreover, in this study, junior teachers tried to find appropriate learning methods and models by consulting with senior teachers who had more teaching experience.

Teachers, schools, students and parents/guardians continue to update developments in implementing the independent learning curriculum so that collaboration is formed with maximum results (32.7%). Involvement of all stakeholders in all processes, from planning and implementation to evaluation of the independent learning curriculum (23.6%). The use of



strategies that utilize nature as a source of learning media (14.1%). Additionally, a pretest was administered to the students regarding hobbies, learning models, teacher capital, etc. (7.3%).

The strategies that have been described are in line with the results of interviews with several informants; for example, one informant stated that "I always consult with senior teachers so that I can find a learning method or model that suits the material being taught so that the learning objectives are achieved." (SAL informant). This was echoed by several other informants, who expressed their opinions as follows:

"Teachers must have a lot of insight into the independent curriculum, facilities and infrastructure are better prepared and provided so that learning runs smoothly; they must have skills in teaching, such as creating a pleasant classroom atmosphere." (ARI informant).

"For teachers, we form a learning community, hold IHT, improve teaching skills through PMM (Merdeka Mengajar Platform). We fulfill school conditions periodically on a priority scale. "For parents, hold socialization through parent meetings and socialization through the Wa Group for parents at school." (SES informant).

"Teachers must be willing to change first to continue learning throughout life, and automatically, teachers will easily educate students to become children who have the Pancasila student profile in accordance with the independent curriculum. The principal and the school with the principal provide policies and facilities that are supportive and adequate to develop what is needed for learning in the classroom. "We must get support from parents and the community in order to carry out the project to strengthen the profile of Pancasila students well." (JES informant).

"Teacher training and development: Provide adequate training and development to teachers to understand the concepts and principles of the independent learning curriculum. Collaboration and knowledge exchange: Encouraging collaboration between schools, teachers and educational institutions to share experiences. Evaluation and feedback: This can help identify areas for improvement and refine the approach used" (NIN informant).

The quantitative data show that, on average, under 50% of the participants agreed that they had used the strategy, whereas the remaining participants said that they had not or even did not use the strategy in facing challenges in implementing the independent learning curriculum. This is similar to the statements of several research informants. This shows that many strategies still need to be developed to create a learning atmosphere that suits the conditions of education in Indonesia if the implementation must use an independent learning curriculum.

This study uses Piaget's theory to analyze the independent curriculum. Piaget's theory is a strong foundation to support independent curriculum, especially in the context of learning in elementary schools. Piaget emphasized the importance of direct experience in children's cognitive development, especially in the concrete operational stage (7-11 years) (Alves, 2014). At this stage children begin to be able to think logically, but children's thinking is more easily understood when interacting directly with real objects and situations. When students are encouraged to engage in various project-based activities in independent curriculum whose context is directly related to real life, this learning provides children with the opportunity to develop logical thinking in accordance with the developmental stage described in Piaget's theory such as in collaborative projects, experiments, or field activities (Wahyuni et al, 2023).

Piaget's theory explains that children are active learners. Children not only receive information, but also try to construct their knowledge based on experience and interaction with others. This is in line with what independent curriculum does, where independent curriculum provides space for students to explore various things with various learning resources, explore their interests, and build knowledge through real experiences (Wahyuni et al., 2023). This student-focused learning allows them to develop a sense of responsibility for learning in accordance with Piaget's principle that children learn through assimilation and accommodation to new experiences (Bakhrudin et al., 2023).

Piaget's theory suggests that cognitive development is also influenced by social interaction. At the concrete operational stage, children begin to cooperate with peers, share ideas, and solve problems together. Independent curriculum which also emphasizes collaboration between students supports social learning which is important for cognitive development in accordance with Piaget's theoretical view of the role of social interaction in learning (Bakhrudin et al., 2023; Wahyuni et al, 2023).

Independent curriculum provides space for elementary students to gradually introduce elements of abstract thinking through challenging projects and problem-based approaches. This is in accordance with Piaget's theory that at the formal operant stage, children begin to be able to think abstractly and do hypothetical problem solving. For example, in science or math learning, students can be given real problems that require them to think critically and solve problems using more abstract theories or concepts (Agustyaningrum et al., 2022; Korompis, 2023).

4. Conclusions

On the basis of the results and discussion that have been presented, this study concludes several things. The implementation of an independent learning curriculum still has many challenges in the field; for example, higher learning demands for teachers and students are, on average, constrained by the readiness of teachers and students to spread and accept new learning methods, as well as adequate support and support facilities. These challenges then affect the implementation of the independent learning curriculum itself. Some schools have felt a positive impact, but some of them are

still below the average level of success in implementation. The positive impacts of the independent learning curriculum include creating freedom for teachers in designing and compiling learning materials according to students' needs and context. Teachers, as agents of change, are also required to be able to understand the characteristics and background of students well. Moreover, in practice in the field, both schools and teacher educators hope that the existence of an independent learning curriculum can also balance various kinds of lessons/clusters of knowledge. Creating a learning environment that is more flexible, provides freedom, and equips students to be able to manage the natural and social environment simultaneously, which means that they can have a greater impact on society.

For this reason, this study then summarizes several strategies that can accelerate curriculum development and its implementation in the world of education. Some strategies that can be developed include conducting regular evaluations to identify potential improvements and adjustments that need to be made, participating in training/workshop activities, and looking for references from various sources, independent teaching platforms, social media, and other sources. In addition, schools and teachers can prepare and meet the needs of facilities and infrastructure to support the learning process. In addition, outreach is held with student guardians/parents either through parent meetings or WhatsApp groups or through the use of digital platforms. The results of this study also show that there are still many strategies that need development to be able to create a learning atmosphere that suits educational conditions in Indonesia. This study highlights the importance of support from central and regional governments, connections between schools and teacher councils and parental involvement in implementing the Merdeka Belajar curriculum.

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Ethical considerations

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee.

Conflict of Interest

The authors declare no conflicts of interest.

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