



Curriculum Innovation in Practice: Strategies of Mathematics Teachers for Implementing Independent Learning in Indonesian Schools

Sitti Rahmayani^{1*}

¹STKIP Darud Da'wah wal Irsyad Pinrang, Pinrang, Indonesia

*ammyrahmi10@gmail.com

ABSTRACT

The implementation of the Independent Learning Curriculum in Indonesia presents both challenges and opportunities for teachers to create more interactive, innovative, and relevant learning experiences aligned with 21st-century needs. This study explores the managerial strategies of mathematics teachers in implementing the Independent Learning Curriculum at UPT SMA Negeri 5 Pinrang, Indonesia. Using a qualitative descriptive method, data were collected through observations, in-depth interviews with four mathematics teachers selected through purposive sampling, and document analysis. The findings reveal that teachers adopted various innovative strategies, including interactive approaches, technology integration, humor in teaching, project-based learning, and diverse assessment methods to enhance student engagement. A formative assessment approach, with constructive feedback and appreciation for students' efforts, contributed to a supportive and productive learning environment. However, teachers also faced several challenges, including resource limitations, student motivation issues, and difficulties in implementing fair assessments. This study highlights the importance of combining technology, creativity, and pedagogical strategies to enhance the effectiveness of mathematics learning. These findings contribute to discussions on curriculum reform and offer practical implications for broader adoption within Indonesia's education system.

Keywords: *Independent Learning Curriculum; Managerial Strategy; Mathematics Teacher.*

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INTRODUCTION

Education serves as a fundamental pillar of national development, equipping students with essential skills and knowledge necessary to thrive in an increasingly globalized world. In Indonesia, the government has recognized the importance of curriculum reform as a critical strategy for enhancing educational quality, as evidenced by the frequent updates and changes aimed at aligning educational practices with contemporary needs and global standards (Kusnadi, 2024; Ghani, 2024; Kurniawan, 2020). One of the most significant reforms is the Independent Learning Curriculum (Merdeka Belajar), which shifts towards a more flexible and student-centered approach

to learning. This curriculum moves away from rigid, standardized teaching methods, aiming to foster creativity, critical thinking, and independent learning among students (Hasanuddin, 2023; Handayani, 2024; Saleh, 2020). Additionally, the curriculum promotes project-based learning, which has been shown to enhance engagement and the practical application of knowledge, particularly for high school students (Syahri, 2023; Fathurrahman et al., 2022).

Despite its advantages, the implementation of the Independent Learning Curriculum poses unique challenges, especially in subjects like mathematics, which require sequential mastery of concepts. Unlike disciplines that allow for open-ended discussions, mathematics demands a structured approach, making it difficult for teachers to balance conceptual understanding with student autonomy (Purnamawati, 2024; Demir, 2024; Sugiyanto, 2021). The use of project-based learning and technology integration in mathematics aims to address this challenge by fostering engagement and interactive learning environments (Efendi, 2021; Effendi, 2024). However, limitations such as insufficient resources, assessment difficulties, varying student readiness, and time management constraints create obstacles for teachers in implementing these strategies effectively (Choppin, 2011; Mughal et al., 2021; Yang, 2024).

To ensure effective curriculum implementation, continuous support and professional development for teachers are crucial (Arviansyah & Shagena, 2022). The Indonesian Ministry of Education and Culture has introduced training programs and resources to facilitate the transition to Merdeka Belajar, aligning with Tyler's curriculum development model, which emphasizes the need for structured educational frameworks that adapt to societal and global demands (Wolf, 2007; Laskar et al., 2011). The necessity for continuous curriculum updates to reflect technological and societal shifts is further highlighted by Tatnall and Davey (2002), while Wei (2021) underscores the importance of integrating feedback to improve educational practices. By incorporating these principles, the Independent Learning Curriculum ensures a dynamic and responsive approach to education, positioning Indonesia competitively in the global education landscape (Rochmat, 2023; Prakoso et al., 2021). Furthermore, the broader goals of fostering character development and moral values remain central to national identity, reinforcing the holistic vision of education (Dewantara et al., 2019; Tiolung, 2024).

Given these challenges, understanding how mathematics teachers navigate and adapt their instructional strategies within the Independent Learning Curriculum is essential for ensuring effective curriculum implementation. As the Indonesian government continues to refine this educational reform, this study aims to explore the managerial strategies employed by mathematics teachers, providing insights into their approaches, obstacles, and potential solutions to enhance the effectiveness of independent learning in mathematics education.

METHOD

This type of research uses qualitative research. Qualitative research is a type of research based on the philosophy of postpositivism, which is used to research the conditions of natural objects where the researcher is the key instrument, and the results of qualitative research emphasize meaning rather than generalization (Sugiyono, 2018). This research was conducted at UPT SMA Negeri 5 Pinrang, which is

in Patampanua District, Pinrang Regency. In this study, the individual who plays a role is the informant, namely the figure who provides information related to the data sought by the researcher regarding the ongoing research. Meanwhile, the main subject (key informant) in this study is the mathematics teacher at UPT SMA Negeri 5 Pinrang, because the mathematics teacher is an important informant in this study. The researcher chose UPT SMA Negeri 5 Pinrang as the research location because the location is not far from the researcher's residence, and has easy licensing, and the researcher wants to know the extent of the teacher's readiness in implementing the independent learning system at UPT SMA Negeri 5 Pinrang.

The main subject key informant in this study was a mathematics teacher at UPT SMA Negeri 5 Pinrang because mathematics teachers are important informants in this study. Purposive sampling technique is a way to determine informants by selecting informants according to the criteria and needs of researchers in this study. The use of purposive sampling in this study aims to determine the managerial strategy of mathematics teachers. The subjects and objects with the number of subjects in this study are as follows.

Table 1. Subjects and Objects of research

Research Subjects	Research Object	Number of Subjects
Guru MatemMath teacheratika	UPT of State Senior High School 5 Pinrang	4 People

The targeted sampling method was used to select informants in this study. The targeted sampling approach is a way to determine informants by selecting them according to the criteria and needs in this study. The use of purposive sampling in this study aims to determine the managerial strategies of mathematics teachers. This study uses two data sources, namely:

1. Primary data is data obtained by researchers directly from teachers at UPT SMA Negeri 5 Pinrang without any intermediaries from respondents in the field and books covering teacher preparation in implementing the independent learning system at UPT SMA Negeri 5 Pinrang, Patampanua District, Pinrang Regency, South Sulawesi Province.
2. Secondary data is information that complements primary data and data obtained indirectly, namely data that already exists without the need to interact directly with respondents. This information will be obtained from the principal, administration, and so on.

Data collection techniques in this study were carried out by means of observation, interviews and documentation: in the observation stage, the researcher observed matters related to teacher readiness in implementing the independent learning system at UPT SMA Negeri 5 Pinrang. And the interview technique in this study uses an in-depth interview technique for data collection. In-depth interviews are a method of obtaining data used to obtain information by means of questions and answers while face to face between researchers and informants. This study uses structured interviews. In addition to observation and interviews, information can also be obtained through facts stored in the form of letters, diaries, photo archives, meeting results, activity journals and so on. Data in the form of documents like this can be used to dig up information that occurred in the past.

Data analysis techniques in this study are data reduction, data presentation and drawing conclusions. The data reduction stage includes summarizing data, coding, tracing, and creating clusters. The method is strict selection of data, summary or brief description and categorizing into broader patterns. The data presentation stage, namely the activity when a set of information is arranged, thus providing the possibility of drawing conclusions and acting. In the final stage is drawing conclusions, namely efforts to draw conclusions are carried out continuously while in the field. Researchers make conclusions supported by strong data evidence obtained at the data collection stage. The data will be processed into a narrative form.

The validity of the data in this study was carried out by means of credibility testing, this was done by means of observation, increasing the persistence of observation, and triangulation. In the credibility test, the researcher extended the observation by returning to the field and then confirming whether the data obtained was correct or there were still errors. And increasing the persistence of observation, namely conducting observations more carefully and continuously. Thus, the truth of the data and the sequence of problems can be obtained with certainty and systematically. The triangulation stage in this study was used to test the credibility of the data by checking the data that had been obtained from several sources and then comparing the results. In this case, the interview data sourced from the principal, teachers of UPT SMA Negeri 5 Pinrang were compared to the results of observations so that it could be known whether the data provided by the information was the same data or not as in the field. Furthermore, the data obtained was then analyzed to produce a conclusion.

RESULT

Based on the results of direct interviews conducted by researchers, where interviews have been conducted with four mathematics teachers from UPT SMA Negeri 5 Pinrang. The presentation of the data obtained from the results of the interview is as follows:

Table 2. The Last Period of Service and Education

Name	Length of Service	Educational Qualification	Additional Notes
Mr. Sy (Respondent 1)	24 years	Bachelor's degree in mathematics education	Most experienced respondent
Mr. Jf (Respondent 2)	8 years	Bachelor's Degree (currently pursuing master's degree)	Mid-career teacher shows academic progress
Mrs. Hs (Respondent 3)	11 years	Bachelor's degree in mathematics education	Strong teaching experience
Mrs. Al (Respondent 4)	9 years	Bachelor's degree in mathematics education	Initially honorary teacher, now P3K ASN

Implementation of the Independent Learning Curriculum

Mr. Sy said that currently entering the third year, UPT SMA Negeri 5 Pinrang has started implementing the Independent Learning Curriculum from 2021-2022, followed by the second year 2022-2023, and currently has entered the third year, namely 2023-2024. Mr. Jf has been implementing the Independent Learning Curriculum for three years; Mrs. Hs has implemented the concept of the Independent Learning Curriculum. And Mrs. Al revealed, in the implementation of the Independent Learning Curriculum, all teachers at UPT SMA Negeri 5 Pinrang have implemented it.

Mathematics Teacher Strategies in Attracting Students' Attention

- 1) Mr. Sy said that he uses an interactive approach in teaching mathematics. Mr. Sy often involves students in discussions, brainstorming, and math games. In addition, Mr. Sy uses technology such as interactive software to make learning more interesting. By involving students directly, they are more involved and enthusiastic about learning mathematics.
- 2) Mr. Jf tries to make mathematics material more relevant to students' daily lives (Content Relevance). Provide examples or challenges that relate to real situations. By making connections between mathematics and daily life, students find it easier to understand and are more interested in the lesson.
- 3) Mrs. Hs uses social media as a tool to motivate students. Create special groups on social platforms to discuss interesting math questions or provide short videos explaining difficult concepts. In this way, students can learn collaboratively, share ideas, and feel more connected to the subject matter. Social media helps create a dynamic learning environment.
- 4) Ms. Al believes in project-based learning. Students are given interesting and relevant math projects. For example, they may be asked to design a playground considering aspects of geometry and area calculation. In this way, students not only understand math concepts in depth but also see how they can be applied in everyday life. These projects provide students with intrinsic motivation to learn math.

The four respondents applied various approaches in teaching mathematics with the aim of increasing students' understanding and interest. Mr. Sy focused on interactivity, involving students in discussions, brainstorming, and math games with the help of technology. Mr. Jf emphasized the relevance of the content, linking math materials to students' daily lives. Mrs. Hs utilized social media to create a dynamic learning environment, while Mrs. Al adopted a project-based learning approach to provide intrinsic motivation to students. With these approaches, it is hoped that students can be more involved and enthusiastic in understanding and applying math concepts in their lives.

Mathematics Teacher Strategies in Implementing Cooperative Learning

- 1) Mr. Sy said that he often forms collaborative work groups in class. Students work together to solve complex math problems. Each member of the group has a specific role and responsibility. Mr. Sy believes that cooperative learning not only improves the understanding of math concepts, but also develops students' social skills, such as communication and teamwork.

- 2) Mr. Jf likes to organize problem-based discussions. Students are given a complex math problem, and they have to work together to find a solution. Mr. Jf acts as a facilitator who guides the discussion and makes sure every member of the group contributes. This kind of cooperative learning not only improves problem-solving skills but also stimulates students' critical thinking.
- 3) Mrs. Hs gives large math projects that require collaboration among students. For example, they may be asked to design a math exhibition to be presented at school. In this project, each student has a specific task, and they must work together to put together all the elements of the project. This kind of cooperative learning not only makes learning more fun but also improves team and leadership skills.
- 4) Ms. Al said to use the strategy of rotating groups regularly. Students do not stay in the same group all the time. Periodically change the composition of the groups so that students can interact with a variety of their classmates. This helps create an inclusive classroom environment and develops skills in working with different types of individuals.

Overall, all four respondents implemented various forms of cooperative learning in their mathematics teaching. Mr. Sy emphasized the formation of collaborative working groups with assigned roles and responsibilities, linking the improvement of mathematical concept understanding to the development of students' social skills. Mr. Jf used problem-based discussions to stimulate critical thinking and improve students' problem-solving skills. Mrs. Hs assigned large mathematics projects that required collaboration, helping to develop team and leadership skills. While Mrs. Al implemented regular group rotation to create an inclusive environment and develop skills in working with different types of individuals. Thus, these approaches aim not only to improve mathematical understanding, but also to enrich students' learning experiences through cooperation and social interaction.

Mathematics Teachers' Strategies in Utilizing Technology

- 1) Mr. Sy uses an interactive whiteboard as the center of attention in every face-to-face learning session. He utilizes specially designed math software to facilitate explanations and demonstrations of math concepts visually. Mr. Sy believes that direct interaction with this technology can help students understand concepts more deeply.
- 2) Mr. Jf said he focuses on using math software and interactive applications. Mr. Jf realizes that each student has a different level of understanding, so Mr. Jf uses computer programs that allow students to work at their own level. With this technology, Mr. Jf can provide instant feedback to students and plan lessons that suit their individual needs.
- 3) Mrs. Hs combines technology for formative assessment in her face-to-face classroom. She uses a response-based application that allows students to provide immediate feedback to math questions posed. This helps teachers gain immediate insight into student understanding and adjust instruction in real-time.
- 4) Ms. Al expressed her joy in using interactive whiteboards and the latest math software in her teaching. Ms. Al focuses on the use of math learning applications that can be accessed on students' devices. By providing students with access to learn independently through technology, Ms. Al hopes to increase their

independence in understanding math concepts and overcoming their own challenges.

Overall, all four respondents used technology in their face-to-face mathematics teaching with different approaches. Mr. Sy used interactive whiteboards and specialized math software to visualize and explain concepts in more depth, finding that direct interaction with technology can enhance student understanding. Mr. Jf focused on differentiating students' understanding levels with computer programs, providing instant feedback, and planning lessons based on individual needs. Ms. Hs integrated technology for formative assessment with response-based applications, allowing teachers to gain immediate insight into student understanding and adjust instruction in real time. Ms. Al emphasized the use of interactive whiteboards, the latest math software, and math learning applications to enhance students' independence in understanding math concepts through self-directed learning. All of these represent a variety of ways that math teachers can use technology to enhance the effectiveness of face-to-face teaching.

Humorous and Not Stiff

- 1) Mr. Sy always tries to insert humor in every lesson. For example, when explaining difficult formulas, Mr. Sy likes to insert light math jokes. Not only does it make the atmosphere more relaxed, but it also makes students more enthusiastic about following the lesson.
- 2) Mr. Jf likes to combine math games with humor. For example, Mr. Jf often makes funny math puzzles that invite laughter. Students like to find solutions while laughing, and this helps reduce the tension in learning math. Remember, math can be a fun friend.
- 3) Mrs. Hs likes to insert everyday humor into math examples. For example, when explaining geometry concepts, Mrs. Hs will give funny real-world analogies. Students like to connect with their daily lives and create humorous moments that make learning more enjoyable.
- 4) Mrs. Al likes to introduce funny fictional characters in math stories. For example, we have "Super Rumus" who always helps us solve math problems. Children love this idea and become more enthusiastic in following the lesson. Mrs. Al believes that humor makes math more friendly.

Overall, all four respondents integrated humor elements in mathematics teaching to create a more relaxed and enjoyable learning atmosphere. Mr. Sy used math jokes when explaining difficult formulas to relieve tension and increase students' enthusiasm. Mr. Jf combined math games with humor by creating funny puzzles, creating a more enjoyable and engaging learning experience. Mrs. Hs utilized everyday humor in math examples by providing funny analogies, so that students could relate more to the subject matter. Mrs. Al introduced funny fictional characters such as "Super Rumus" in math stories to increase students' enthusiasm. All of them believed that humor could make math more friendly and stimulate students' interest in the subject.

Evaluation and Feedback

- 1) Mr. Sy often uses a formative approach in evaluation. Mr. Sy gives small assignments regularly and provides direct feedback to students. In addition, Mr. Sy

encourages them to provide feedback to each other. This not only improves their understanding but also builds a supportive learning culture in the classroom.

- 2) Mr. Jf uses the concept of "positive feedback" in providing evaluations. Mr. Jf focuses on student achievement, gives praise when they successfully solve problems, and shows their progress. Mr. Jf also holds private consultation sessions to discuss problems individually, so that students can feel more comfortable and motivated to improve their performance.
- 3) Mrs. Hs often uses a peer review approach in evaluation. Students check each other's work and provide constructive feedback. This helps them see different perspectives and understand their classmates' perspectives. In addition, Mrs. Hs provides clear written feedback and provides concrete suggestions for improvement.
- 4) Ms. Al incorporates project-based assessments into the evaluation. Students are given creative projects that require the application of mathematical concepts. Ms. Al provides feedback not only on the final product of the project, but also on the thinking process and problem solving. Ms. Al believes these projects help students develop a deeper understanding of the material and improve their problem-solving skills.

The respondents above have diverse evaluative approaches in teaching mathematics. Mr. Sy applies a formative approach by giving small assignments regularly, providing direct feedback, and encouraging feedback between students to build a supportive learning culture. Mr. Jf emphasizes the concept of "positive feedback" by focusing on student achievement, giving praise, and holding one-on-one consultation sessions to improve student motivation and performance. Mrs. Hs uses peer review as an evaluation strategy with students providing constructive feedback to each other, while teachers provide clear written feedback and concrete suggestions. Mrs. Al incorporates project-based assessment, providing feedback not only on the final project results but also on the thinking process and problem solving, with the aim of developing deep understanding and improving students' problem-solving skills. With these approaches, the four respondents create a diverse and holistic evaluation environment in mathematics learning.

Providing Assessment and Appreciation to Students

- 1) Mr. Sy tends to use a variety of assessment methods, such as exams, projects, and group assignments. In addition, Mr. Sy gives appreciation to every student's effort, even if the results are not perfect. Mr. Sy believes that giving praise and appreciation can increase students' motivation to continue learning and give their best.
- 2) Mr. Jf uses a point system and constructive feedback to assess student performance. Meanwhile, to provide appreciation, Mr. Jf often holds award events in class, such as "Mathematics Student of the Month". This not only gives awards to high achievers but also encourages other students to improve their achievements.
- 3) Mrs. Hs tries to create a supportive atmosphere by providing formative assessments throughout the learning journey. Mrs. Hs provides appreciation in the form of verbal praise and recognition in front of the class. Mrs. Hs believes that recognizing each student's hard work and progress can build their self-confidence.

- 4) Mrs. Al adopts a project-based assessment approach to encourage student creativity. Students are given project assignments that require creative solutions and presentations of their ideas. Ms. Al gives assessments based on the mathematical concepts applied and gives appreciation to students with innovative ideas. This not only makes learning more interesting but also gives recognition to the uniqueness of each student.

The four respondents have different approaches in assessing and appreciating students. Mr. Sy tends to use a variety of assessment methods, such as exams, projects, and group assignments, while appreciating every student's effort, even if the results are not perfect. Mr. Jf relies on a point system and constructive feedback, accompanied by class award events to increase student motivation. Mrs. Hs focuses on creating a supportive atmosphere with formative assessment and giving appreciation through verbal praise and recognition in front of the class. Meanwhile, Mrs. Al applies a project-based assessment approach to stimulate student creativity, giving assessments based on mathematical concepts and giving appreciation for innovative ideas. Overall, these approaches reflect an effort to understand and respond to the unique needs and potential of each student. Those are the results of the interview and conclusions that can be conveyed by the author from four respondents of mathematics teachers at UPT SMA Negeri 5 Pinrang. Various strategies, obstacles and solutions are of course very useful and beneficial for mathematics teachers in implementing the independent learning curriculum.

DISCUSSION

From the results of interviews with four individuals, namely mathematics teachers at UPT SMA Negeri 5 Pinrang, it can be understood that the approach chosen by teachers in implementing the independent learning system at UPT SMA Negeri 5 Pinrang began with the preparation of their educators first. Mathematics teachers at UPT SMA Negeri 5 Pinrang admitted that they had understood the latest policy, namely the independent learning curriculum from the Minister of Education and Culture (MENDIKBUD) of the Republic of Indonesia. They also stated that this information was obtained from various media sources such as television, the internet, and other social media. The implementation of the independent learning curriculum in mathematics learning at UPT SMA Negeri 5 Pinrang began in the 2021/2022 academic year. The Independent Learning Curriculum is a personalized learning method that provides a fun learning experience. Every transformation always has an impact on the goals, and everyone involved. Therefore, everyone needs to prepare themselves to face current or future changes. In the context of Independent Learning, the readiness of an educator must be comprehensive and integrated according to the competencies possessed by a teacher.

The discourse of Freedom of Learning, which was carried out by the Minister of Education and Culture (MENDIKBUD) of the Republic of Indonesia, initially caused pros and cons in several circles, for those in the world of education who see the educational background of the Minister of Education not from among educators, the profession he was engaged in before being a minister was the owner of Gojek. Especially for religious leaders who are worried that freeing students to study independently will strengthen the currents of radicalism and liberalism in Indonesia (Hunaepi, 2023; Nggadas et al., 2022). The word independence in the concept of "Freedom of Learning" is not a threat that we need to

worry about because the freedom referred to in the word is only a race or motivation given to students to create, innovate, and be creative as well as an invitation to teachers to manage learning so that learning is more meaningful and fun (Sari, 2023; Arrahmi, 2024). The word freedom still rests on existing regulations including the Constitution (Constitution) and Pancasila, in fact the concept of Freedom of Learning was born from the thought of Ki Hajar Dewantara which aims to form a pancasila person, namely the profile of Pancasila students, namely students who believe in and fear God Almighty, and have good morals.

In the Programme for International Student Assessment (PISA) research in 2019, Indonesia occupied the 74th position out of 79 countries, indicating how bad education in Indonesia is. The application of the Independent Learning curriculum concept outlined through the Minister of Education and Culture (MENDIKBUD) of the Republic of Indonesia, Minister of Education since the end of 2019, is a new pattern of change towards an educational transformation. Freedom of Learning, which has been carried out by the Minister of Education, Mr. Nd, since 2019 is designed to overcome educational problems in education in Indonesia and lift the world of education in Indonesia from adversity, a big problem that has occurred, so far sometimes the implementation of education in education units depends on the wishes of the teacher who should be, the teacher raises the potential that exists in students. Differentiated learning is a cyclical process of finding out about students and responding to their learning based on differences. When teachers continue to learn about the diversity of their students, professional, effective, and efficient learning will be realized.

To implement the Independent Learning curriculum at UPT SMA Negeri 5 Pinrang, mathematics teachers have carried out several activities that began with small discussions with stakeholders in the school (principals and school committee administrators), and fellow mathematics teachers in Pinrang Regency regarding the implementation of the Independent Learning curriculum through Subject Teacher Deliberation (MGMP) activities with fellow mathematics teachers. then hold socialization to educators and education staff and students, then socialize the implementation of the Independent Learning curriculum to students' parents and carry out cyber socialization through the school website or other social media. The next effort is budget management related to the maximized learning process, because without the provision of a budget, all planning cannot run smoothly.

The aspects that hinder the implementation of the Independent Learning curriculum in mathematics subjects at UPT SMA Negeri 5 Pinrang are as follows:

1. Attract students' attention

Interest Gap: Students may have low interest in mathematics, find it difficult or uninteresting.

Conceptual Relevance: Difficulty in showing how mathematical concepts relate to everyday life.

2. Cooperative Learning

Student Resistance: Not all students are comfortable or motivated to work in groups.

Classroom Management: Requires group management skills to keep all students actively engaged.

3. Technology Utilization

Limited Access: Teachers may not have adequate access to technology or supporting resources.

Learning Curve: Teachers need to overcome a learning curve to integrate technology into their teaching methods.

4. Humorous and Flexible

Student Response: Not all students may respond positively to a humorous approach, especially if it does not fit with diverse humor tastes.

5. Feedback Evaluation

Limited Time: Teachers may be limited by time in providing individual feedback to each student.

Feedback Receivability: Not all students may be willing or able to accept feedback constructively.

6. Assessment in the Form of Appreciation

Continuity of Motivation: The challenge to continue to provide meaningful appreciation without seeming cliché or inauthentic.

Balance with Constructive: Teachers must find a balance between giving praise and providing constructive feedback for further progress.

Based on the research that has been carried out, several limitations were identified in its implementation. One of the main challenges is the readiness of educators or sources studied, as only a few teachers were able to provide comprehensive information regarding the Freedom to Learn curriculum. This limitation affects the depth and accuracy of the data collected, as the perspectives obtained may not fully represent the overall implementation of the policy. Additionally, since the topic raised by the author concerns a new policy issued by the Ministry of Education and Culture, the information available is still limited. Moreover, this policy is subject to ongoing revisions and changes, meaning that the data collected during the research period may no longer be relevant or may require updates in the future as the policy continues to develop. These factors highlight the dynamic nature of educational policy research, where continuous monitoring and follow-up studies are necessary to capture the evolving impact of such reforms.

CONCLUSION

Based on the results of the author's research at UPT SMA Negeri 5 Pinrang in the Managerial Strategy of Mathematics Teachers in Implementing the Independent Learning Curriculum, it can be concluded that mathematics teachers use various strategies to attract students' attention. These strategies involve interactive approaches, utilization of technology, inserting humor in learning, variations in assessment methods, and providing appreciation for student efforts and achievements. They also apply a formative approach, provide constructive feedback, and create a supportive atmosphere so that students feel motivated, enthusiastic, and more involved in learning mathematics.

REFERENCES

- Arrahmi, S. (2024). Analysis of the actualization of Ki Hajar Dewantara's teachings to foster students' writing skills in the school literacy movement program. *Pionir Jurnal Pendidikan*, 13(1). <https://doi.org/10.22373/pjp.v13i1.21134>
- Arviansyah, M. R., & Shagena, A. (2022). Efektivitas dan peran guru dalam kurikulum Merdeka Belajar. *Lentera: Jurnal Ilmiah Kependidikan*, 17(1), 40-50. <https://doi.org/10.33654/jpl.v17i1.1803>
- Choppin, J. (2011). The impact of professional noticing on teachers' adaptations of challenging tasks. *Mathematical Thinking and Learning*, 13(3), 175-197. <https://doi.org/10.1080/10986065.2010.495049>
- Demir, M. (2024). A review of literature on mathematics curricula in use at primary school level. <https://doi.org/10.21203/rs.3.rs-4407272/v1>
- Dewantara, J., Suhendar, I., Rosyid, R., & Atmaja, T. (2019). Pancasila as ideology and characteristics civic education in Indonesia. *International Journal for Educational and Vocational Studies*, 1(5). <https://doi.org/10.29103/ijevs.v1i5.1617>
- Efendi, M. M., & Putri, W. T. (2021). Optimizing student conditions in pre-implementation of project-based learning in the junior high school mathematics curriculum. *Mathematics Education Journal*, 5(2), 169-176. <https://doi.org/10.22219/mej.v5i2.18401>
- Effendi, M. (2024). Web-based window shopping: A learning model in high school's mathematics curriculum. *TEM Journal*, 13, 213-220. <https://doi.org/10.18421/tem131-22>
- Fathurrahman, F., Arifin, B., A., & Huda, M. (2022). The influence of school management on the implementation of the Merdeka Belajar curriculum. *Al-Tanzim Jurnal Manajemen Pendidikan Islam*, 6(4), 1274-1286. <https://doi.org/10.33650/al-tanzim.v6i4.3461>
- Ghani, A. (2024). Tradicals, pillars and directions for educational curriculum development in Indonesia: A literature study. *Journal of Quality Assurance in Islamic Education (JQAIE)*, 4(2), 121-132. <https://doi.org/10.47945/jqaie.v4i2.1672>
- Handayani, S. (2024). Study of "Merdeka Belajar" curriculum for cultivating student character: Evidence from Indonesia. *KNE Social Sciences*. <https://doi.org/10.18502/kss.v9i4.15086>
- Hasanuddin, H. (2023). Revolutionizing education: The Islamic perspective on Merdeka Belajar curriculum and its successful implementation at a middle school in East Kalimantan. *Al-Ishlah Jurnal Pendidikan*, 15(4), 4568-4577. <https://doi.org/10.35445/alishlah.v15i4.4341>
- Hunaepi, H. (2023). The synergies between educational philosophy streams and Ki Hajar Dewantara's ideologies in the Merdeka Belajar curriculum. *Reflection Journal*, 3(2), 49-63. <https://doi.org/10.36312/rj.v3i2.1734>
- Kusnadi, K. (2024). National politics Dr. Soetomo for education in Indonesia: An alternative to strengthen the pillars of education. *Jurnal Humanitas Katalisator Perubahan Dan Inovator Pendidikan*, 10(2), 206-219. <https://doi.org/10.29408/jhm.v10i2.25169>

- Laskar, B., Chan, W., Chin, K., Nagami, M., & Suthiwan, T. (2011). Chapter 6: Creation, maintenance, feedback, and modification: Successful EFL curriculum design at the university level. 101–118. <https://doi.org/10.1515/9781614510185.101>
- Mughal, S., Asad, M., & Adams, D. (2021). Goals of the national mathematics curriculum of Pakistan: Educators' perceptions and challenges toward achievement. *International Journal of Educational Management*, 35(1), 159–172. <https://doi.org/10.1108/ijem-04-2020-0203>
- Nggadas, D., Wadu, H., Nenabu, G., Liliweri, A., & Astawa, I. (2022). The impact of freedom to learn in Kampus Merdeka at Karyadarma University Kupang, East Nusa Tenggara. *JPP (Jurnal Pendidikan Dan Pembelajaran)*, 29(1), 39–48. <https://doi.org/10.17977/um047v29i12022p039>
- Prakoso, B., Ramdani, Z., & Rahmah, B. (2021). Teacher's perception on Merdeka Belajar policy. *Indonesian Journal of Educational Assessment*, 3(2). <https://doi.org/10.26499/ijea.v3i2.84>
- Purnamawati, Y. (2024). Optimizing mathematical proficiency: Integrating Cambridge and national curricula in mathematics education. *Math Didactic Jurnal Pendidikan Matematika*, 9(3), 552–567. <https://doi.org/10.33654/math.v9i3.2485>
- Rochmat, C. (2023). The quality of education from Islamic perspective: Analysis of the Merdeka Belajar curriculum in facing the Society 5.0 era. *Jurnal Tarbiyatuna*, 14(1), 75–93. <https://doi.org/10.31603/tarbiyatuna.v14i1.8633>
- Sari, M. (2023). Reflection on the ethics of educator accountants in the concept of life philosophy of Ki Hajar Dewantara. *Scaffolding Jurnal Pendidikan Islam Dan Multikulturalisme*, 5(2), 81–94. <https://doi.org/10.37680/scaffolding.v5i2.2749>
- Syahri, M. (2023). Evaluation survey of physical education learning in the Merdeka Belajar curriculum. *Jumora Jurnal Moderasi Olahraga*, 3(2), 120–136. <https://doi.org/10.53863/mor.v3i2.916>
- Tatnall, A., & Davey, B. (2002). Understanding the process of information systems and ICT curriculum development. 275–282. https://doi.org/10.1007/978-0-387-35609-9_23
- Tiolung, V. (2024). The implementation of the Merdeka curriculum in shaping the character of grade five students at GMIM 140 Pineleng elementary school. *International Journal of Research Publication and Reviews*, 5(5), 8952–8957. <https://doi.org/10.55248/gengpi.5.0524.1347>
- Wei, R. (2021). The dynamic models in school-based curriculum development and college English reform in Mainland China. *Teacher Education and Curriculum Studies*, 6(2), 61. <https://doi.org/10.11648/j.tecs.20210602.13>
- Wolf, P. (2007). A model for facilitating curriculum development in higher education: A faculty-driven, data-informed, and educational developer-supported approach. *New Directions for Teaching and Learning*, 2007(112), 15–20. <https://doi.org/10.1002/tl.294>
- Yang, J. (2024). Developing hidden talent: An exploratory study of advanced math curriculum implementation and its effects on young mathematically promising English learners. *Journal for the Education of the Gifted*, 47(4), 410–434. <https://doi.org/10.1177/01623532241277850>