

EVALUATION OF THE IMPLEMENTATION OF THE INDEPENDENT CURRICULUM IN MATHEMATICS LEARNING AT SMA NEGERI 5 MEDAN CITY

Anggi Anastasia Kinanti

Universitas Islam Sumatera Utara, Indonesia

Zuraidah Adlina

Universitas Islam Sumatera Utara, Indonesia

Abstract This study aims to evaluate the implementation of the Independent Curriculum in Mathematics learning at SMA Negeri 5 Medan City. Using a descriptive qualitative approach, data was collected through interviews, observations, questionnaires, and documentation studies. The subjects of the study include Mathematics teachers, students, principals, and parents of students. The results of the study show that teachers' understanding of the principles of the Independent Curriculum is quite good, but the implementation of project-based learning and technology integration still faces obstacles, especially limited facilities and preparation time. The majority of students feel that the learning methods in the Independent Curriculum are more interesting and relevant to real life, although some of them have difficulty adjusting. School management support has been provided through training and the provision of facilities, but budget constraints hinder the optimization of curriculum implementation. These findings support a theory of constructivism and active learning that emphasizes the importance of hands-on experience and student participation. The main recommendations are to increase teacher training, strengthen student guidance, and procure technology facilities. With these steps, it is hoped that the implementation of the Independent Curriculum can improve the quality of Mathematics learning as a whole. This research contributes to the development of the implementation strategy of the Independent Curriculum, especially in the subject of Mathematics.

Keywords: Independent Curriculum, Mathematics learning, implementation evaluation.

Sitasi: Kinanti, A.A., Adlina, Z. 2024. Evaluation of the Implementation of the Independent Curriculum in Mathematics Learning at SMA Negeri 5 Medan City. *MES (Journal of Mathematics Education and Science)*, 10(1): 277-283.

Submit:	Revise:	Accepted:	Publish:
18 September 2024	13 Oktober 2024	26 Oktober 2024	31 Oktober 2024

INTRODUCTION

Education is the main foundation in creating a generation that is qualified, characterful, and competitive (SUTARJO, 2023). In Indonesia, the development of the education system continues to change in line with the needs of the times. One of the latest breakthroughs in Indonesia's education system is the introduction of the Independent Curriculum, which is designed to provide a wider space for learners and educators to develop meaningful and relevant learning (Mulyasa, 2021). This curriculum is expected to answer the challenges of globalization by prioritizing aspects of independence, creativity, and critical thinking skills.

The implementation of the Independent Curriculum at various levels of education, including the high school level, is the main concern of the government and stakeholders (Wardana et al., 2023). SMA Negeri 5 Medan City, as one of the leading schools in North Sumatra, has also implemented this curriculum in various subjects, including Mathematics.

Mathematics subjects have a strategic role in building logic, analysis, and problem-solving skills that are fundamental needs in various fields of science and technology (Latifah & Afriansyah, 2021).

However, curriculum changes do not always go smoothly. The process of implementing the Independent Curriculum requires mature readiness from various aspects, ranging from teacher competence, learning resources, to the evaluation system (Anggraini et al., 2022). On the other hand, the success of the implementation of this curriculum is greatly influenced by the local context, the characteristics of students, and the learning strategies applied. Therefore, the evaluation of the implementation of the Independent Curriculum, especially in Mathematics learning at SMA Negeri 5 Medan City, is an important need to ensure the achievement of the expected educational goals.

Evaluation of curriculum implementation is an effort to identify the extent to which the curriculum can be implemented according to the plan and how it affects learning. In the context of the Independent Curriculum, the focus of evaluation lies in the application of the principles of independent learning, such as student-centered learning, flexibility in learning, and strengthening the Pancasila student profile strengthening project (Wahyudi & Ariyani, 2023). This evaluation also aims to find the challenges faced and solutions that can be taken to improve the effectiveness of curriculum implementation.

SMA Negeri 5 Kota Medan has an interesting background to be used as an object of research, considering that this school is known to have a good academic reputation and adequate infrastructure support. In addition, the diversity of students' social and cultural backgrounds in this school provides challenges as well as opportunities in the implementation of the Independent Curriculum. Therefore, this research is not only relevant in the local context, but it can also provide a useful picture for other schools facing similar conditions.

Mathematics learning at SMA Negeri 5 Kota Medan in the context of the Independent Curriculum requires special attention because this subject is often considered difficult by most students. In the Independent Curriculum, Mathematics learning is designed to be more contextual, relevant, and interactive so that students can understand concepts in depth and apply them in daily life. However, has this approach been effectively implemented in schools? What is the role of teachers in supporting meaningful learning? Do students feel helped by the strategies implemented? These questions are at the heart of the evaluation.

This study also aims to identify the extent to which teachers are able to adapt learning approaches in the Independent Curriculum. Pedagogic competence and teacher professionalism are key factors in the successful implementation of the curriculum. At SMA Negeri 5 Medan City, how do Mathematics teachers utilize existing resources to create innovative and fun learning for students? Is the training provided enough to equip teachers with the necessary skills?

In addition, the assessment of students is also an important part of this evaluation. The Independent Curriculum encourages the strengthening of formative assessments that function to provide feedback for the learning process. This evaluation will see if the assessment is in accordance with curriculum principles, such as assessing students' higher-order thinking skills, cooperation, and creativity.

Infrastructure support and school management also cannot be ignored in the evaluation of the implementation of the Independent Curriculum. The existence of adequate learning facilities, the use of technology in learning, and policy support from school leaders are important elements in creating a conducive learning environment (Mardizal & Jalinus, 2023). At SMA Negeri 5 Medan City, to what extent do these factors support the implementation of the Independent Curriculum?

The research will also include the views of students and parents as part of the implementation evaluation. The student's perspective is important to understand the extent to which they feel helped by the applied learning approach. Meanwhile, parental involvement in supporting learning at home is also an integral part of the success of this curriculum.

In terms of theory, this research refers to the principles of educational evaluation, constructivist learning theory, and competency-based curriculum approach. This evaluation is not only descriptive, but also analytical with the aim of providing applicable recommendations for improving the quality of Mathematics learning at SMA Negeri 5 Medan City.

In the end, this research is expected to provide a comprehensive overview of the implementation of the Independent Curriculum in Mathematics learning at SMA Negeri 5 Medan City. The findings of this study are expected to be valuable inputs for teachers, schools, the government, and other stakeholders to continue to improve the implementation of this curriculum.

By conducting a thorough evaluation, it is hoped that effective strategies can be found that can help teachers and students in carrying out learning in accordance with the vision of the Independent Curriculum. Through this effort, education in Indonesia, especially in the city of Medan, can be more advanced and ready to face global challenges.

METHOD

This study uses a qualitative approach with a descriptive design to evaluate the implementation of the Independent Curriculum in Mathematics learning at SMA Negeri 5 Medan City (Sutopo, 2002). This approach was chosen because it was able to dig into in-depth information about the process, challenges, and results of the implementation of the Independent Curriculum in a specific context. Here are the details of the research methods used:

1. Research Location

The research was carried out at SMA Negeri 5 Medan City. The selection of this location is based on the school's status as one of the leading educational institutions that has implemented the Independent Curriculum.

2. Research Subject

Research subjects include:

- Mathematics Teacher: A teacher who teaches Mathematics at SMA Negeri 5 Medan City and is directly involved in the implementation of the Independent Curriculum.
- Students: Class X students who take part in Mathematics learning in the context of the Independent Curriculum.
- Principal and Vice Principal: The school management plays a role in planning and supervising the implementation of the curriculum.
- Student Parents: Parent representatives who can provide views on home learning support.

3. Data Source

The data used in this study consisted of:

- Primary Data: Data obtained directly from interviews, observations, and questionnaires.
- Secondary Data: Data sourced from school documents, such as Learning Implementation Plans (RPP), learning modules, evaluation reports, and school policies related to the Independent Curriculum (Sugiyono, 2010).

4. Data Collection Techniques

Some of the techniques used to collect data are (Jogiyanto Hartono, 2018):

- a. In-depth Interview

Interviews were conducted with teachers, students, principals, and parents to understand their views, experiences, and challenges faced in the implementation of the Independent Curriculum.

b. Observation

Observations are made during the mathematics learning process to see how learning methods, media, and strategies are applied in accordance with the principles of the Independent Curriculum. These observations also include interactions between teachers and students as well as the overall classroom dynamics.

c. Questionnaire

The questionnaire was distributed to students to evaluate their perception of Mathematics learning in the Independent Curriculum. The questionnaire uses the Likert scale to measure student satisfaction, understanding, and engagement.

d. Documentation Studies

Documentation is carried out by collecting data from official school documents, such as syllabus, lesson plans, student assessment results, and curriculum evaluation reports.

5. Research Instruments

The research instruments used include:

- Interview Guide: A list of questions designed to dig up information from teachers, students, principals, and parents.
- Observation Checklist: An observation sheet used to record the learning process in the classroom.
- Student Questionnaire: A questionnaire consisting of closed-ended and open-ended questions for students.

6. Data Analysis Techniques

The data was analyzed using a qualitative descriptive approach through the following stages (Jogiyanto Hartono, 2018):

- Data Reduction: Data obtained from the field is summarized, selected, and focused on important aspects relevant to the research objectives.
- Data Presentation: Data is presented in the form of narratives, tables, or diagrams for easy interpretation.
- Drawing Conclusions: Conclusions are made based on the findings that have been analyzed to answer the research question.

7. Data Validity and Reliability

To ensure the validity and reliability of the data, the following techniques are used:

- Source Triangulation: Comparing data from various sources, such as interviews, observations, and documentation.
- Member Check: Asks respondents to confirm the results of the interview and analyze the data to match reality.
- Peer Debriefing: Discussions with peers or experts to test the accuracy of data interpretation.

RESULTS AND DISCUSSION

Independent Curriculum Implementation Profile

The results of observations and interviews show that the majority of Mathematics teachers have understood the main principles of the Independent Curriculum, such as project-based learning, formative assessment, and flexibility in the preparation of lesson plans.

However, the application of these principles still faces obstacles, especially in the technical aspects and student readiness.

Table 1. Implementation of the Independent Curriculum

Aspects	Implementation Achievements	Information
Teacher Understanding	85%	Teachers understand the concept of the Independent Curriculum, but need advanced training.
Project Implementation	70%	The project has been implemented, but it still lacks the local context.
Student Engagement	65%	Students are actively involved, but there are still those who find it difficult to understand the material.
Use of Technology	60%	Technology is used, but it is limited to simple mediums such as presentations.

Teachers' Perception of the Independent Curriculum

Interviews with Mathematics teachers showed that the Independent Curriculum provides flexibility in teaching, but requires more creativity and preparation time. Teachers also expressed the need for intensive training for mastery of technology-based learning strategies.

Table 2. Teachers' Perception of the Independent Curriculum

Statement	Agree	Disagree
Independent Curriculum facilitates learning	75%	25%
Requires more preparation time	90%	10%
Requires additional training	85%	15%

Most of the Mathematics teachers at SMA Negeri 5 Medan City have understood the principles of the Independent Curriculum, but its implementation still requires advanced training. This is in line with the opinion (Mulyasa, 2022) who emphasized that the success of curriculum implementation is highly dependent on the competence of teachers. The lack of intensive training in the use of technology and project-based learning strategies is a major obstacle. Other research by (Azri & Raniyah, 2024) It also revealed that teachers often face difficulties when asked to integrate technology into learning, especially in areas with limited facilities.

In pedagogical theory, teachers play the role of facilitators and innovators in the learning process. However, the results of the study show that teachers tend to stick to traditional learning patterns when faced with time and resource limitations (Hidayat, 2016). Therefore, support in the form of more specific and continuous training is an important solution to improve the quality of their teaching.

Students' Perception of Mathematics Learning

Based on the results of the student questionnaire, most students feel that learning Mathematics in the Independent Curriculum is more interesting because it involves projects and real-life contexts. However, some students find it difficult to follow learning because of the significant change in method compared to the previous curriculum.

Table 3. Student Perception and Participation

Aspects	Strongly Agree	Agree	Neutral	Disagree
More engaging learning	40%	45%	10%	5%
Projects help understand the material	35%	50%	10%	5%
Difficulty following new learning methods	20%	30%	30%	20%

The majority of students feel that learning Mathematics in the Independent Curriculum is more interesting because it is project-based and relevant to daily life. However, there are still students who find it difficult to follow this new method. These results support the theory of active learning, where students become central to the learning process and are empowered to participate actively (Bonwell & Eison, 1991).

However, this obstacle to student participation also indicates that not all students are able to adjust to changes in learning approaches. Research by (Hendrik & Widianingsih, 2009) mentioned that the success of the project-based approach is greatly influenced by the initial skill level and motivation of students. Therefore, additional strategies such as individualized tutoring or remedial programs are needed to help students who are falling behind.

Challenges Faced

From the results of interviews and observations, some of the main challenges in the implementation of the Independent Curriculum are:

- **Teacher Readiness:** Not all teachers have enough skills to integrate technology and project-based learning.
- **Student Readiness:** Some students, especially those with weak academic backgrounds, have difficulty keeping up with changes in learning approaches.
- **Limited Facilities:** Some facilities such as Mathematics laboratories or technological devices are still not optimal.
- **Implementation time:** Project implementation requires a longer time allocation, which can sometimes be difficult to integrate into a schedule.

School management support in the form of teacher training and the provision of facilities has helped the implementation of the Independent Curriculum at SMA Negeri 5 Medan City. However, budget limitations are a challenge in improving the quality of training facilities and programs. This is in line with research (Haerul, n.d.) which shows that the success of the new curriculum requires synergy between school management and adequate budget allocation.

In addition, school management needs to be more flexible in arranging schedules to support the implementation of projects that require a longer time. According to (Fullan, 2007), the success of educational change is greatly influenced by adaptive leadership and being able to encourage collaboration at all school levels.

CONCLUSION

Based on the results of research and discussion, the implementation of the Independent Curriculum in Mathematics learning at SMA Negeri 5 Medan City has gone quite well, although there are still challenges that need to be overcome to achieve optimal results. In general, the Independent Curriculum has a positive impact on learning by encouraging a more flexible, interactive, and relevant approach to real life. Teachers and students have begun to adjust to these curriculum principles, although their level of readiness still varies. Mathematics teachers at SMA Negeri 5 Kota Medan have a good understanding of the Independent Curriculum, but need additional training, especially in the application of technology and project-based learning. Students generally feel more motivated because of the contextual approach to learning, although some of them face difficulties in adjusting to new methods. The use of technology in Mathematics learning is still not optimal due to the limitations of teachers' facilities and skills. In addition, support from school management, although it has been given, still needs to be improved, especially in the procurement of supporting facilities and the allocation of adequate time for learning projects. This conclusion is in line with the theory of constructivism and active learning which is the basis of the Independent Curriculum, where

learning is directed to empower students as active subjects in the learning process. However, the successful implementation of this curriculum requires comprehensive support from teachers, students, school management, and supportive education policies. As a step forward, intensive training for teachers, strengthening student mentoring programs, providing more adequate learning technology, and flexibility in time and resource management are needed. With this effort, it is hoped that Mathematics learning under the Independent Curriculum will not only improve student learning outcomes, but also provide a more meaningful and relevant learning experience.

BIBLIOGRAPHY

- Anggraini, D. L., Yulianti, M., Nurfaizah, S., & Pandiangan, A. P. B. (2022). Peran guru dalam mengembangkan kurikulum merdeka. *Jurnal Ilmu Pendidikan Dan Sosial*, 1(3), 290–298.
- Azri, A., & Raniyah, Q. (2024). PERAN TEKNOLOGI DAN PELATIHAN GURU DALAM MENINGKATKAN KUALITAS PENDIDIKAN. *Jurnal Pendidikan Sosial Dan Humaniora*, 3(4), 4859–4884.
- Bonwell, C. C., & Eison, J. A. (1991). *Active learning: Creating excitement in the classroom. 1991 ASHE-ERIC higher education reports*. ERIC.
- Fullan, M. (2007). *Leading in a culture of change*. John Wiley & Sons.
- Haerul, R. (n.d.). *Evaluasi Implementasi Kurikulum Merdeka Belajar di Sekolah Dasar Kota Makassar*.
- Hendrik, & Widianingsih. (2009). *Keefektifan Pembelajaran Berbasis Proyek Berbantuan LKS dalam Pencapaian Hasil Belajar Materi Pokok Segiempat Pada Peserta Didik dalam Kelas VII SMP N 2 Warung asem Kabupaten Batang*. FMIPA Universitas Negeri Semarang.
- Hidayat, U. S. (2016). *Model-Model Pembelajaran Efektif*. Bina Mulia Publishing.
- Jogiyanto Hartono, M. (2018). *Metoda pengumpulan dan teknik analisis data*. Penerbit Andi.
- Latifah, T., & Afriansyah, E. A. (2021). Kesulitan dalam kemampuan pemecahan masalah matematis siswa pada materi statistika. *Journal of Authentic Research on Mathematics Education (JARME)*, 3(2), 134–150.
- Mardizal, J., & Jalinus, N. (2023). *Manajemen dan Kepemimpinan Kepala Sekolah Kejuruan*. Jonni Mardizal.
- Mulyasa, H. E. (2021). *Menjadi guru penggerak merdeka belajar*. Bumi Aksara.
- Mulyasa, H. E. (2022). *Manajemen dan kepemimpinan kepala sekolah*. Bumi Aksara.
- Sugiyono, D. (2010). *Memahami penelitian kualitatif*.
- SUTARJO, S. (2023). Mengoptimalkan Pendidikan Karakter Siswa Sebagai Fondasi Kebangkitan Generasi Emas 2045. *Jurnal Keguruan Dan Ilmu Pendidikan (JKIP)*, 1(4), 257–262.
- Sutopo, H. B. (2002). *Metodologi penelitian kualitatif*. Surakarta: sebelas maret university press.
- Wahyudi, W., & Ariyani, C. D. (2023). Implementasi Kurikulum Merdeka Belajar pada Pembelajaran Sejarah Kebudayaan Islam di Madrasah Tsanawiyah. *Jurnal Basicedu*, 7(6), 3692–3701.
- Wardana, M. A. W., Indra, D. P., & Ulya, C. (2023). Problematika Penerapan Kurikulum Merdeka pada Pembelajaran Bahasa Indonesia di SMP Surakarta. *PTK: Jurnal Tindakan Kelas*, 4(1), 95–114.