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IMPLEMENTATION OF INDEPENDENT CURRICULUM IN LEARNING MATHEMATICS AT MAN 1 PROBOLINGGO CITY

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Abstrack

This study is aimed at reviewing the Independent Curriculum's implementation in teaching mathematics at MAN 1 in Probolinggo City, focusing specifically on the planning and implementation phases, including the factors that support and inhibit. This study used a qualitative descriptive method, with key informants including mathematics teachers, students of the madrasah, the Deputy Principal for Curriculum, and the Principal of the Madrasah. Data collection methods included in-depth interviews with participants, direct observations of classes, and analyzing relevant documents such as the Learning Modules and Learning Objective Flow. It was found that in planning, teachers align learning outcomes with differentiated modules and adaptable learning outcomes. Additionally, learning activities are enacted in various ways including differences in teaching methods, technology and media use, formative evaluation, and PSPPS integration. The key enabling factors are commitment from the teachers, support from the madrasah, understanding of the key challenges, lack of resources, and uneven understanding of the curriculum. This study describes the adaptability of madrasahs towards the new curriculum while providing insights for the improvement of future implementations.

INTRODUCTION

At the national scale, the context for the development of the Independent Curriculum emerges with the Institute for the Study of Education Policy (2025) associated with the challenges and intricacies of the Indonesian system of education and its requirements. The evaluative research shows that the preceding curriculum (2013

Curriculum) suffers from challenges like high learning overload, minimal student driven opportunities for self-actualization, and the getting out of proportion of the value-added of graduates concerning the society's and the 4.0 workforce's expectations (Rahmatullah & Jumadi, 2020). In addition, the online world, in the scope of the COVID-19 pandemic, created a demand for more agile responsiveness in the education system. Therefore, the Independent Curriculum is a further response from the government for a "simple" curriculum that gives more freedom to schools to create appropriate and contextually relevant education that shapes the Pancasila Graduate Profile as Independently and creatively motivated and a critical thinker (Tunas & Pangkey, 2024).

This study outlines the application of Independent Curriculum on the learning of mathematics at MAN 1 Probolinggo City with regard to three important components: Outline, Execution, and Supporting and Inhibiting Factors. In the Outline phase, the school participates by formulating Learning Outcomes and Learning Methods in the ATP and Teaching Modules for the Mathematics Learners Section. This is with the implementation of learning strategies like differentiated learning and learner-centred approaches. In the Execution phase, it elaborates on the implementation of the teaching methods and strategies, the student-teacher interaction, the use of instructional media as well as the use of summative and formative assessments (Abduh et al., 2025). In the last part of this work, the author focused on exploring the factors that work positively towards the implementation, including the school principal's active support and the availability of relevant instructional workshops, alongside the identification of potential problems like limited time and available teaching facilities, aiming at constructing a balanced view on the curriculum change experience (M. Baru, 2024).

This study describes in depth the planning and implementation of learning, in this case, mathematics, pedagogy under the Independent Curriculum at MAN 1 Probolinggo City. The scope of the study includes the teachers' creativity in writing teaching modules, formulating differentiated assessment, and the teaching techniques used during lessons (Marzoan, 2023). Moreover, this study also seeks to understand the factors as to why the new curriculum was implemented, looking at broader aspects of the systemic policy support of the institution, the preparedness of the teachers, and the existence of supporting facilities and infrastructure. This is to say, the outcomes of the research are anticipated to add to the discourse in the educational field on curriculum implementation as well as provide manageable practical interventions that are responsive to the needs of MAN 1 Probolinggo City and other madrasahs towards more effective execution of the Independent Curriculum, in mathematics teaching, aligned with the overarching educational objectives of the nation (Nuryami, 2024).

The Independent Curriculum is a flexible educational framework that prioritizes relevance and student agency (Nurhayati, Khairunnisa, Suryani Tarigan, 2025). Essentially, the Independent Curriculum encourages schools to develop the unique talents and interests of each student without being constrained by a rigid syllabus (Bakat & Jombang, 2024). Its core principles include differentiated learning that tailors instruction to each student's needs, project-based learning that fosters the values of the Pancasila Student Profile, and flexibility for schools to design operational curricula tailored to their context. The core elements of this framework include: Learning Outcomes, which define essential competencies; Learning Objective Sequences, which logically sequence these objectives; and Teaching Modules, which provide guidance

while empowering educators to create meaningful and relevant learning experiences for their students.

The Independent Curriculum centers on education's appropriateness and learner autonomy, wishing for more relevance in schooling (Nurhayati, Khairunnisa, Suryani Tarigan, 2025). “Schooled” as a term has a more pronounced effect on a child’s education in where it captures the traditional sense of schooling without accommodating the child’s true interests and talents: a focus on rote learning as inflexible as syllabuses (Bakat & Jombang, 2024). Under this instructional strategy, differentiated learning intended for distinct, self-paced instructional approaches to each child, project-based learning that fosters Pancasila Student Profile traits, and operational curricula developed by Pancasila-dedicated education institutions, which allows in a great deal of contextual customization are the principles of the Independent Curriculum. The components in the framework form the core outline under which: Learning Outcomes for defining essential competencies, Learning Objective Sequences for sequencing the objectives prioritizing logic, and Teaching Modules that guide and simultaneously grant freedom to educators to design outstanding activities anchored to their students.

Curriculum implementation goes beyond simply having a written plan; it involves putting an organized curriculum into practice so that learners engage with it in the classroom and other learning contexts (Kurniawan Ferry, 2023). It covers a sequence of related activities such as teacher workshops, improvement of infrastructure, and the development of relevant teaching aids. Different implementation strategies, including fidelity and adaptation, are either anchored in adherence to the original design or allow some flexibility to better align with the particular interests of communities or cultures (Purwoko, 2025). The interrelated factors within implementation effectiveness are strategically within the control of the instructors; knowledge and skills, motivation; supportive policies and adequate infrastructure with consistent oversight from school authorities; accessible teaching resources such as textbooks and digital media technologies; and motivated students and parents. This combination of factors with the consistent engagement of the students and their guardians ultimately dictate the degree to which the curriculum is intended to be integrated within routine educational activities (Laila, 2024).

LITERATURE REVIEW

It is essential to look at previous studies and create a summary to provide a good basis for this investigation. Considerable efforts have been made to look at the application of the Independent Curriculum at some grade levels and subjects and some studied the effect of the earlier curriculum on learning of mathematics (Nasrullah & Ismail, 2024). Out of these, some studied the response of teachers to the curriculum reform and the impact of some pedagogical approaches on the achievement of pupils, while others studied the Independent Curriculum and its impact on educational outcomes. What remains unexamined, however, is the more sophisticated no-shift analysis focused on the implementation of Independent Curriculum policy in the teaching of mathematics in Islamic senior high schools (Madrasah Aliyah)—especially in MAN 1 Probolinggo City (Nafisa, 2024). The purpose of this investigation is to provide such a focused and contextually grounded analysis to explain the ways in which curriculum adaptation is contested in subjects more in some taught at an institution with more distinctive features.

In MAN 1 Probolinggo City, the case study on the implementation of the Independent Curriculum may be focused on the teaching of mathematics. Literature reviews have focused on identifying matters such as, the preparedness of the teachers, the supporting provided by the school principal, the appropriate teaching resources, as well as the participation of the learners in the lessons shed some light on the defined issues (Tuerah & Tuerah, 2023). In the case of Probolinggo City, understanding how the mathematics educators rationally decided on the instructional materials to develop learning, the innovative activities to be implemented, and the assessments to be conducted in the spirit of the Independent Curriculum will reveal the extent of the implementation dynamics (Azmita, 2023). Finally, to determine the overall impact of the Independent Curriculum towards improving learners' interest and achievement in mathematics, it is equally important to investigate learners' reactions towards the lessons designed using the new approach.

RESEARCH METHODS

This research uses a qualitative design with a descriptive orientation. This approach enhances how the Independent Curriculum integrates with the complex environment of teaching mathematics at MAN 1 Probolinggo City. With this design, the research team collected three types of data: life stories, situational observations, and relevant documents outlining the institution. Together, these materials reveal the meanings and assessments of the participants themselves. The descriptive aspect of this research then focuses attention to systematic and vivid descriptions of three interrelated dimensions: developing instructional design—preparatory plans, translating those plans into action—field practices, and contextual factors that either support or inhibit the process. The goal is to provide a thorough representation of the issue at hand without formulating or testing hypotheses or looking for statistical relationships.

This research was carried out in MAN 1 Probolinggo City, which is a senior high school in Probolinggo. The researcher picked this school because it is one of the few Islamic senior high schools (Madrasah Aliyah) that implements the Independent Curriculum. The researcher was able to do data collection in about three days which includes analysis and report writing. This short timeframe was purposeful in order to conduct an in-depth and thorough study on the planning, execution, and contextual factors in mathematics learning, and the teaching of mathematics within the Independent Curriculum.

To gather comprehensive information, this study involved several groups of informants. The mathematics teachers from MAN 1 Probolinggo City, and who participated in the implementation of the Independent Curriculum were the primary informants. Their perspectives were captured through interviews and classroom observations regarding the adaptation of the curriculum, the challenges encountered, and the strategies employed. Moreover, students were also consulted as key informants concerning the Independent Curriculum and provided direct information on their experiences. Their feedback included the degree to which their motivation and understanding of mathematics were impacted by the new learningermed through their understanding of learning by undergoing an understanding of the Mathematical concepts and the Curriculum in general.

This study's data collection incorporated interviews, participant observation, and document analysis as three interrelated approaches. The interviews were conducted with

both teachers and students, seeking to understand their perceptions, experiences and views on planning and implementing the Independent Curriculum. At the same time, participant observation was taking place within the mathematics classes, which gave the researchers opportunity to see the actual teacher-student interactions, the teaching methods used, and the implementation of differentiation. The last approach of document analysis provided the researchers with a range of written and visual materials that include teaching modules, RPPs, CPs, ATPs, samples of student work, and curriculum related meeting minutes which helped corroborate the qualitative data obtained from interviews and observations.

In this case study, the author's strategy of choice was qualitative data analysis. The analysis process begins with data reduction. In this step, the researcher curates materials that include the interviews, observations, and documents collected, in this case retaining and eliminating those that suit the study's objectives. After reduction, in the second stage, the participants are tasked with systematic data organization. In this step, the remaining data is arranged in a coherent display, and the emerging patterns are revealing themselves. In this stage, the researcher undertakes a systematic process of framing the observations and interpretations made and linking the data to the defined research questions within a defined theoretical framework, explaining the importance of data, and revealing the data that has deeply been covered.

In this case study, we have gathered the data in such a way as to use as much of the triangulation techniques as possible to ensure data credibility and validity of the study. Source triangulation as a type of triangulation involves the verification of the statements given by the individual stakeholders, in this case, the mathematics teachers, the students, the Deputy Head of Curriculum, and the Principal, to see if there is a consensus of some sort. In addition, technical triangulation is accomplished through the use of interviews, classroom observing, and analyzing documents, thus, the phenomena can be seen from various angles, thus, the findings are more credible. Lastly, time triangulation is accomplished by repeatedly conducting the same observations and interviews at different times within the academic calendar, thus, the researcher is able to test the consistency of the data over time. This way, the data is not just a capture of a single moment in time, thus, the overall accuracy of the research conclusions are enhanced.

RESULTS AND DISCUSSION

MAN 1 Probolinggo City is striving to be the best Islamic state school in Probolinggo City, East Java, as it undertakes the blending of general and religious studies. Like other state Islamic schools, it is supervised by the Ministry of Religious Affairs which seeks to ensure that the school produces morally and INTEGRATED Islamic educated leaders who are active and accomplished in many areas. Because of the improvement in the school facilities and the teaching staff, this madrasah is increasingly becoming the pride of the families in Probolinggo City and the neighboring towns. Given its extensive experience and its proactive approach with regard to educational policy changes, it is among the first schools to be given the opportunity to test the Integrated Curriculum and, in addition, how it is absorbed in the life of the school and the school culture.

During the early phase of the Independent Curriculum implementation, the mathematics faculty at MAN 1 Probolinggo City focused on reviewing the Learning

Outcomes (CP) that had already been developed. These outcomes were then formulated into coherent and sequential Learning Objective Pathways (ATP). This process required them to sharpen learning and key competencies and be able to think in sequence about the learning skill development ladder. With the ATP in hand, they developed Learning Modules which are the blueprints of integrated education containing objectives, lessons, activities, and assessment rubrics. From the beginning, the designed framework has focused on differentiated learning. Teachers consciously design Modules taking into account the varied characteristics of the students including their learning style, interest, and knowledge background. This conscientious effort ensures that the assignments and resources provided can be tailored to the students or small groups making the learning process more efficient and effective for each individual.

At MAN 1 Probolinggo City, the use of the Independent Curriculum in mathematics has transformed the subject by incorporating project-based learning alongside collaborative discursive modules that engage students' interests. Moreover, a vibrant ecosystem of interaction exists in the daily lessons. Thoughtful tasks are inquiring, so the students are engaged in discussion, curiosity is amped, and deeper investigation is performed. Students express and articulate their ideas, critique and accept assumptions, build with ideas, and inject various elements into their debates. Various abstract concepts, the intuition of mathematics, the logic of mathematics is made manipulable by diverse learning tools, and tablet-based platforms. Evaluation is multidimensional, incorporating routine classroom observation, curated portfolios, and presentation performances, alongside some traditional testing, to ensure that each student’s progression is mapped as growth in multidimensional terms, not reductionist. Moreover, the projects are intentionally incorporated into the Pancasila Student Profile Strengthening Project, asking students to put into action the ideals of solidarity and analytical assuming rigorous and creative mathematics in the act of prototyping, modeling, and deep reflection on real-world mathematics. This is in accord with the research group's documentation findings as follows:

Figure 1. Documentation of Scientific Research at MAN I Probolinggo City

The CV's for interviews pertaining to the implementation of Independent Curriculum for the subject of Mathematics at MAN 1 Probolinggo City shows useful modifications and a lot of challenges. Teachers of Mathematics stated that the ircurriculum did allow for more student-driven content tailoring as they integrated more collaborative, project-based, and multi-modal teaching for every learner. Still, these teachers also pointed out issues such as scant time for comprehensive professional training, irregular availability of teaching materials, and the ever-present challenges of changing teachers and students over to an autonomy and student-centered model. Regardless, the school strives for further refinement and identifies pathways that enhance the realization of set curriculum and educational outcomes.

An examination of how the Independent Curriculum is applied in the case of mathematics teaching at MAN 1 Probolinggo City should look at factors that both enable and constrain its implementation within the school and from the larger context. Among the supporting internal factors, it is worth mentioning the motivation and commitment of the mathematics teachers, inter–subject collaborative teaching, the principal's active cooperation, and the good availability of classrooms and other teaching and learning facilities. Externally, active attended training and supervision from the Ministry of Religion, as well as support from the community, also support this initiative. Internal issues, on the other hand, low-rounded understanding of the philosophy of the Independent Curriculum, document overload, and resistance to change from the old ways of doing things form the other part of the puzzle. Externally, the need to address the disparity of access to current digital materials and freely available text books electronically. A well-rounded understanding of these issues is required to fully understand the development of the curriculum in schools.

Critical reflection on the results of this study was performed to determine the relationships to the key theories described in the literature review, curriculum implementation theory and constructivist learning theory in mathematics, to enrich the theoretical framework. Earlier these findings were juxtaposed to other studies to enable verification of the results' reliability as well as to discover the distinguishing traits that surfaced within the particular context of MAN 1 Probolinggo City as a senior high school. From this interplay of analysis, the study expounds the practical and theoretical implications, in the articulation of the mathematics teaching in madrasahs under the Independent Curriculum, the impacts and the innovations for the future designed curriculum and educational policy are provided.

CONCLUSION

The findings indicate that the implementation of the Independent Curriculum of Mathematics at MAN 1 Probolinggo City is advancing both in planning and in teaching. In the planning phase, teachers attempted to convert Learning Outcomes (CP) to Learning Objective Sequences (ATP) and Teaching Modules in the early stages of differentiated instruction. Experimentation with teaching, teaching aids, and formative assessment has been more integrated, albeit not yet standardized. While the principal and teaching dedication provide strong support, major challenges from lack of uniform understanding of the curriculum and scarce teaching resources remain. Overall, the progress indicates that the schools still lack support to fully harness the Independent Curriculum in the madrasah context.

This research has generated a few recommendations. First, MAN 1 Probolinggo City needs to enhance its mentoring and peer teaching practices for mathematics educators so that they can deepen their understanding and application of differentiated learning. Second, mathematics teachers should participate more actively in training sessions and professional learning communities, including these forums to share and refine taught practices and teaching modules. The Ministry of Religion is called to increase its provision of diverse and easy to use digital materials, while monitoring the Independent Curriculum to ensure it is responsive to the actual classroom teaching dynamics. Finally, more criticism should be undertaken that involves other madrassas or schools, or that focuses on how differentiated learning is implemented affects the motivation and the learning of students in measurable terms, in order to provide a more comprehensive view of its impact.

BIBLIOGRAPHY

Abduh, M., Syarifuddin, S., & Isaeni, N. (2025). Evaluasi Formatif Penerapan Model E-Pembelajaran Program Pembatik Level 4. *Jurnal Didaktika Pendidikan Dasar*, *9*(1), 23–50. https://doi.org/10.26811/didaktika.v9i1.1410

Azmita, E. (2023). *Teachers' understanding of Merdeka Curriculum for learning and teaching English at junior high school at Rejang Lebong*. 1–107. https://e-theses.iaincurup.ac.id/5473/1/ELZI AZMITA %2819551022%29.pdf?

Bakat, P., & Jombang, S. (2024). *Sosietas : Jurnal Pendidikan Sosiologi Peran Guru Merancang Pembelajaran Diferensiasi Pada Pengembangan Bakat dan Minat Siswa di SMAN 1 Jombang*. *14*(2), 155–168.

Kurniawan Ferry. (2023). Implementasi Kurikulum Merdeka Pada Pembelajaran Pendidikan Agama Islam Dalam Mengembangkan Kreativitas Peserta Didik Di Sdit Annida' Kota Lubuklinggau. *Thesis IAIN Curup*, *22*(03), 79–85.

Laila, M. (2024). *Analisis Manajemen Kurikulum Sebagai Upaya Pendidikan Karakter Di Sekolah Dasar Islam Terpadu Arrahmah Depok*. *Table 10*, 4–6.

M. Baru, M. B. (2024). Kepemimpinan Transformasional Kepala Sekolah dalam Implementasi Kurikulum Merdeka di SMA Deli Murni Bandar Baru. *Jurnal Ilmu Manajemen Dan Pendidikan*, *4*(1), 27–34.

Marzoan. (2023). Penerapan Pembelajaran Berdiferensiasi Di Sekolah Dasar. *Renjana Pendidikan Dasar*, *3*(2), 113–122.

Nafisa, S. (2024). Penerapan Kurikulum Merdeka Dalam Mengatasi Krisis Pembelajaran (Learning Loss) Pada Mata Pelajaran Pendidikan Agama Islam Kelas X di SMA Negeri Jenggawah Jember. *IJIT: Indonesian Journal of Islamic Teaching*, *6*(2), 135–151. https://doi.org/10.35719/ijit.v6i2.2132

Nasrullah, N., & Ismail, M. (2024). Analisis Implementasi Kurikulum Merdeka Belajar Pada Pembelajaran Matematika Di Madrasah Aliyah. *Al-Irsyad Journal of Mathematics Education*, *3*(2), 74–85. https://doi.org/10.58917/ijme.v3i2.116

Nurhayati, Khairunnisa, Suryani Tarigan, M. L. (2025). Implementasi dan Tantangan Kurikulum Merdeka di SMA: Strategi Pengajaran Berpusat pada Siswa untuk Pembelajaran yang Lebih Fleksibel dan Kreatif Nurhayati, Khairunnisa, Suryani Tarigan, Mariani Lubis. *Jurnal Pendidikan*, *13*(01), 69–79.

Nuryami, N. (2024). Numeracy literacy of junior high school students in implementing the Merdeka mathematics learning curriculum. *Alifmatika: Jurnal Pendidikan Dan Pembelajaran Matematika*, *6*(1), 63–77.

https://doi.org/10.35316/alifmatika.2024.v6i1.63-77
Purwoko. (2025). *IMPLEMENTASI MODEL PEMBELAJARAN E-LEARNING DI PROVINSI KALIMANTAN TIMUR DALAM MENINGKATKAN*. *8*(1), 422–433.
Rahmatullah, R., & Jumadi, J. (2020). Evaluasi Keterlaksanaan Kurikulum 2013 Pada Sekolah Menengah Atas Di Kota Mataram. *Jurnal Pendidikan Dan Kebudayaan*, *5*(2), 210–221. https://doi.org/10.24832/jpnk.v5i2.1697
Tuerah, M. S. R., & Tuerah, J. M. (2023). Kurikulum Merdeka dalam Perspektif Kajian Teori: Analisis Kebijakan. *Jurnal Ilmiah Wahana Pendidikan, Oktober*, *9*(19), 982. https://doi.org/10.5281/zenodo.10047903
Tunas, K. O., & Pangkey, R. D. H. (2024). Kurikulum Merdeka: Meningkatkan Kualitas Pembelajaran dengan Kebebasan dan Fleksibilitas. *Journal on Education*, *6*(4), 22031–22040. https://doi.org/10.31004/joe.v6i4.6324