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ENHANCING TEACHER COMPETENCE FOR QUALITY IMPLEMENTATION OF THE MERDEKA CURRICULUM: A PHENOMENOLOGICAL STUDY IN JAKARTA

ABTSRAK

Educational innovation in Indonesia has progressed in response to societal demands, with the curriculum evolving to reflect these changes. The Merdeka Curriculum, implemented over the past three years, highlighted this dynamic shift, impacting teachers, students, school management, and infrastructure. This study uses a phenomenological qualitative approach based on Miles and Huberman's framework to evaluate the impact of the Merdeka Curriculum on teacher competence in DKI Jakarta. The research involved teachers and educational stakeholders from the DKI Jakarta Provincial Educational Office, particularly in public schools. A phenomenological approach was chosen to accurately and deeply analyze participants' experiences, focusing on "intentionality" – the relationship between consciousness and the objects of concern in the study. Data were collected through participant observation, in-depth interviews, and documentation studies across 26 public high schools affiliated with the first wave of driving schools. The study applied Interpretative Phenomenology Analysis (IPA) and NVivo software to explore how participants interpret their personal and social realities. Findings provide a comprehensive understanding of the Merdeka Curriculum's impact on teacher competence, particularly in fostering 21st century professionalism in teaching. This research offers valuable insights for evaluating educational policies, with the primary output being a policy brief for the DKI Jakarta.

Keywords: 21st-Century Skills, Educational Policy Evaluation, Merdeka Curriculum, Phenomenological Approach, Teacher Competence

Introduction

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LITERATURE REVIEW

State of the Art and Novelty

As a new policy, research related to Merdeka Belajar and Merdeka Curriculum is one of the interesting topics to research. Based on the narrative conducted using bibliometric analysis, in general, it explains that the relationship between the curriculum and increasing teacher competence is based on the results of the search using Publish Or Perish using the google scholar database, a total of more than 500 publications were obtained, with visualization as below.

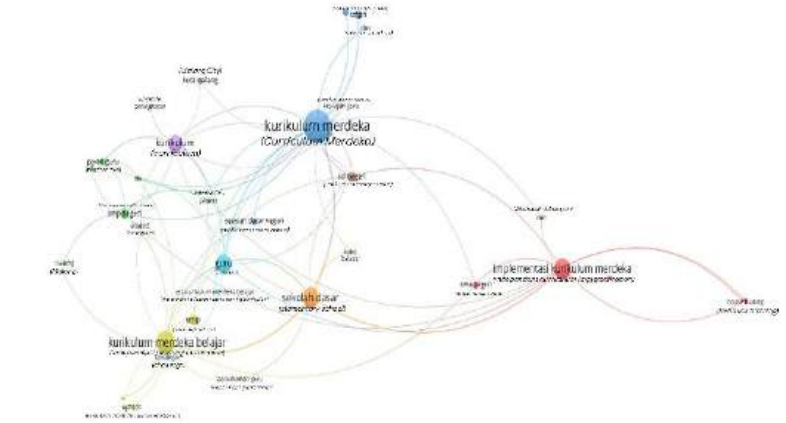

Figure 1. Independent Curriculum Research Mapping

Based on Figure 1 above, it can be observed that the direction of research on the Merdeka Curriculum is more on the application of this Merdeka learning curriculum, such as curriculum implementation, teacher roles, teacher understanding. In addition, based on the bibliometric mapping above through VOSViwer, research on the Merdeka curriculum is mostly carried out in elementary schools. When viewed based on data from SCOPUS, because the target output of this research is articles published in SCOPUS indexed journals, there are still few publications on the Merdeka curriculum, with only 13 documents found with the following trends

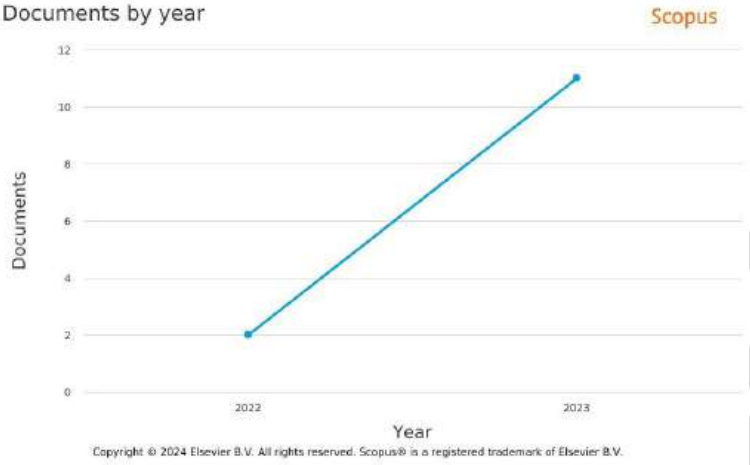

Figure 2. Publication trends on the topic of Merdeka Belajar in SCOPUS

Based on the Bibliometric analysis above, researchers see that research and outcomes regarding the Merdeka Curriculum and teacher competencies are still missing in-depth research. Therefore, this research proposal is proposed with the following novelty: 1) seeing the impact of implementing the Merdeka Curriculum in terms of the quality of competence felt directly by the teachers themselves, 2) conducted at the Public School level, 3) conducted within the DKI Jakarta Provincial Government Education Office, as the first province to implement the Merdeka Curriculum, 4) using a phenomenological approach with Smith and Osborn's Interpretative Phenomenology (AFI) analysis assisted by N Vivo, so that researchers are encouraged to realize this research as a novelty related to the implementation of the Merdeka Curriculum.

Merdeka Curriculum

The independent curriculum is a diverse intracurricular learning curriculum that optimizes content so that learners feel comfortable and have enough time to explore their competencies. Teachers also have flexible time to choose from learning tools and media that suit the interests and learning needs of students. The independent curriculum is an effort by the Ministry of Education and Culture to overcome the learning crisis that has been in a vacuum, in the sense that learning is carried out through online media. This crisis is reflected in the poor learning outcomes of students, especially in basic reading literacy. (Wulandari et al., 2020b, 2020a)..

The concept of independent learning has also long been initiated by Ki Hadjar Dewantara, where teachers not only educate, but also act as facilitators. In the independent curriculum, teacher competence is not only measured by curriculum demands, but on how to create a comfortable atmosphere in learning, so that students will be interested and enthusiastic in the learning process. The same concept is also applied to the independent curriculum. This curriculum prioritizes the potential and interests of students, the task of the teacher is only as a facilitator or learning partner for students. (Kristiantari, 2021; Taridala et al., 2023)..

Non Peer Review

Merdeka Curriculum is an innovative curriculum introduced in Indonesia to improve the quality and relevance of education. It provides autonomy to educational institutions to tailor their programs to local needs1. The objectives of Merdeka Curriculum include improving the quality of education, fostering character development, and preparing students for the challenges of the 21st century.(Ockta & Mardesia, 2023; Wardani et al., 2023). The Merdeka curriculum differs from the traditional curriculum in several ways (Rohman & Wajdi, 2023; Wardani et al., 2023; Wulansari, 2022). It emphasizes the principles of freedom, autonomy in learning, multilingualism, and responsiveness to student needs 1. Unlike the traditional curriculum, Merdeka Curriculum focuses on character education and the Pancasila Student Profile Program, which aims to instill ethical values and prepare students for the future 4. In addition, Merdeka Curriculum encourages a learner-centered approach, encouraging students to actively seek knowledge and engage in projects related to everyday problems.

It enables educational institutions to design programs that are responsive to the diverse needs of students, resulting in more inclusive and relevant education. It also fosters innovation and creativity, as it encourages students to transform their experiences into knowledge. In addition, Merdeka Curriculum aims to prepare students for the challenges of the 21st century, providing them with the skills necessary to succeed in a rapidly changing world.

Merdeka Curriculum is an innovative curriculum in Indonesia that aims to improve the quality and relevance of education. It differs from the traditional curriculum by emphasizing freedom, autonomy, and responsiveness to student needs. The implementation of Merdeka Curriculum provides benefits such as inclusive education, fostering innovation, and preparing students for the future.

Teacher Competence

Competence is a combination of knowledge, skills, values and attitudes that are reflected in habits of thought and action. McAshan (1981, in Mulyasa, 2003: 79) suggests that competence is knowledge, skills, and abilities mastered by someone who has become part of him so that he can perform cognitive, affective, and psychomotor behaviors as well as possible. In line with this further Finch and Crunkilton (1979, in Mulyasa 2003: 81) define competence as mastery of a task, skills, attitudes, and appreciation needed to support success. This shows that competence includes the tasks, skills, attitudes, and appreciation needed to support success.

Competence, namely a set of knowledge, skills and behaviors that must be owned, lived and mastered by teachers in carrying out professional duties. While the competence of educators according to PP No. 19 of 2005 includes: pedagogic competence, personality competence, social competence and social competence. Competent teachers at least have the ability to inspire creativity, critical thinking, collaboration skills, communication, so that students are ready for the future. The goal of teaching in the 21st century is the ability of learners to acquire knowledge in their own way to generate new ideas in the life of modern society, able to solve problems with a cultural approach, talent, innovative, creative, skilled, critical thinking with technological support. (Nessipbayeva, 2012).. Teacher competence is one way to see the expected quality of teachers. Education reforms carried out in several countries are oriented towards strengthening teacher competencies related to their professional duties, themselves and society (Novib, 2012). (Novib, 2012). 21st century education, places the teacher as a teacher as well as an educator, guide, trainer, and curriculum developer who can integrate and create learning conditions that are conducive, fun, interesting, provide a sense of security, provide space for students to think actively, creatively and innovatively in exploring and collaborating their abilities through various media and learning

Not Peer Reviewed

resources.

The presence of the Merdeka Curriculum has completely changed the learning paradigm from the conventional learning patterns that have been applied for a very long time in the education system in Indonesia. Teacher competence is very important in changing the learning paradigm of the conventional model to a constructivism learning model that provides very wide space for students. The main duties and functions of teachers, in accordance with Government Regulation No. 19 of 2005, are packaged in four things as described above. Curriculum implementation and development is an important part of the four competencies that teachers must have. Thus, how the ability of teachers to develop and implement the curriculum is an important part of improving the quality of the four competencies that must be possessed by teachers in Indonesia.

Research Methods

This study employed a qualitative research methodology with a phenomenological approach to examine the relationship and impact of implementing the Merdeka Curriculum on teacher competencies. A qualitative design with a phenomenological approach was chosen because it allows for an in-depth understanding of complex social phenomena, such as teacher behavior in implementing the Merdeka curriculum and the positive impacts that can affect teacher competence. This design is very suitable for exploring how the Merdeka curriculum program affects teacher competence, provides valuable experiences, and changes how teachers teach classroom lessons, which quantitative methods may not fully explore. The phenomenological approach is ideal for this study because it investigates a particular theme. This approach also allows for examining multiple data sources - such as interviews, observations, and document analysis - to provide a comprehensive view of the program and its impact on teacher competence.

Participants

The research was conducted in public schools located around 10 provinces Indonesia including primary schools, junior high schools, senior high schools, and vocational schools, have implemented the Merdeka Curriculum in their learning processes. To ensure equal representation from each type of school and category of teachers, this study established two primary criteria for selecting the research population: (1) schools must have implemented the Independent Curriculum for at least one year, and (2) schools must have at least five driving teachers to support the implementation of the Independent Curriculum in the learning process. Based on these criteria, 26 schools were selected, comprising five primary schools, eight junior high schools, seven senior high schools, and six vocational schools. The researchers selected five teachers from each school for in-depth interviews. This study employs a stratified random sampling technique to ensure diversity and balanced representation. Teachers are grouped according to their school levels, such as primary, junior high, senior high, and vocational schools. This technique is combined with simple random sampling to provide equal opportunities for each respondent to participate in the study.

Data Collection

The research data collection was carried out using three methods, namely in-depth interviews, observations and field notes, to ensure the triangulation of data sources obtained can be accounted for in terms of validity and reliability. Data collection was carried out from 10 provinces spread across Indonesia. The determined schools had two criteria: implementing the Merdeka curriculum for at least one year and having a driving teacher. The research subjects were required to participate in the driving teacher training to understand the Merdeka curriculum that the Ministry of Education and Culture had set.

Interviews were conducted with 52 teachers who had registered voluntarily to share their experiences implementing the Merdeka curriculum. They were selected using purposive sampling

NOT PEER REVIEW

to ensure relevance to the research questions. The participants, aged between 24 and 50 years, represented a variety of educational backgrounds and teaching experiences. Interviews were conducted offline, with a schedule determined by each participant for comfort and privacy. Each interview lasted between 30 and 60 minutes, allowing for in-depth exploration of the participants' experiences. The interview protocol, developed based on existing educational frameworks, included open-ended questions to obtain detailed responses on their reasons for choosing the Merdeka curriculum implementation program, the challenges faced, and its impact on teacher competency. In-depth interviews were selected to obtain nuanced insights into participants' thoughts and experiences, allowing for a comprehensive understanding of the motivations behind teachers' implementation of the Merdeka curriculum and the positive impacts on aspects of teacher competency.

Observations were conducted at schools by capturing the dynamics of teacher interactions and active student involvement during the learning process. These observations were conducted for two weeks, focusing on the four-teacher competencies studied: social competence, competence, and competence. Participants in this interview process were teachers from schools that had met previously established criteria. The selected teachers also had excellent communication skills, making it easier for researchers to obtain comprehensive information. Observations complemented interviews by providing real-time data on how the program. We examined various documents for document analysis, such as lesson plans, student worksheets, and student responses related to implementing the Merdeka curriculum. These documents were obtained directly from participants and each school. Document analysis provides additional data, offers insights into teacher competencies' significant impact, and helps triangulate information obtained from interviews and observations.

Data Analysis

Analysis data was employed in two phases. The initial phase involved thematic analysis, adhering to the framework of Miles and Huberman. This commenced with data reduction, encompassing the transcription of interview data and identifying predetermined themes aligned with the four-teacher competencies: social, pedagogical, personal, and professional competence, all influenced by implementing the Merdeka Curriculum. Subsequently, data visualization was employed to visually organize themes and subthemes, enhancing the clarity and comprehensibility of the findings. This process culminated in verification and conclusion drawing, where themes were synthesized to ascertain the impact of Merdeka Curriculum implementation on teacher competencies within the school learning environment.

The second phase utilized the capabilities of NVivo software for in-depth data coding. Interview data was meticulously imported into NVivo, enabling researchers to conduct more nuanced coding procedures. The data was categorized into predetermined themes and subthemes corresponding to the four-teacher competence such as social, pedagogical, personal, and professional competence. This cross-data coding facilitated a more refined analysis by enabling the identification of recurrent word patterns, thereby providing deeper insights into the collected data. The identification of words with similar characteristics strengthened the thematic framework and offered a more nuanced perspective on how implementing the Merdeka Curriculum impacts teacher competencies.

FINDINGS AND DISCUSSION

4.1 Findings

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4.1.1 Social Competence

1. Communication Skills

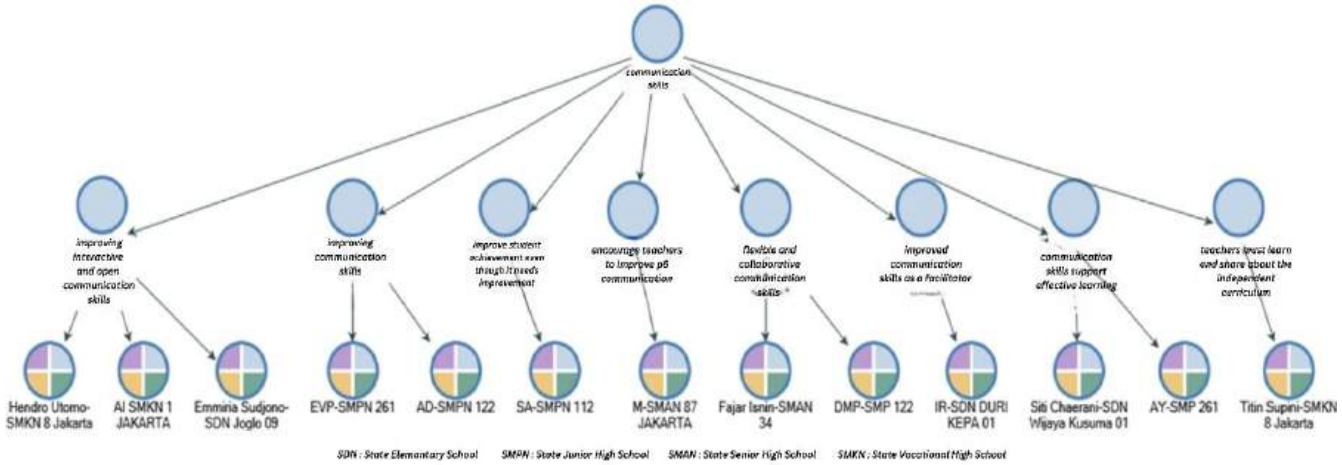

Figure 4.1 visualization of the *project map of* the impact of the independent curriculum on communication skills

Figure 4.1 displays the results of data analysis regarding the impact of the Merdeka Curriculum on improving teachers' social competence in communication, which has been processed using *NVIVO 12 Pro software*. Improved communication skills are shown as the main findings with various other specific findings that emerged as a result of the research. These findings include improved student achievement, adjustments in the implementation of the Merdeka Curriculum (Kurmer), encouragement for teachers to improve communication patterns, especially in implementing P5, and flexibility in communication in collaboration. Teachers are also expected to be effective facilitators in the learning process, with communication skills that support the achievement of educational goals. These results indicate that the Merdeka Curriculum brings positive changes in teachers' communication skills, both in directing students and collaborating with other parties, although adjustments are needed in wider application .

For Peer R

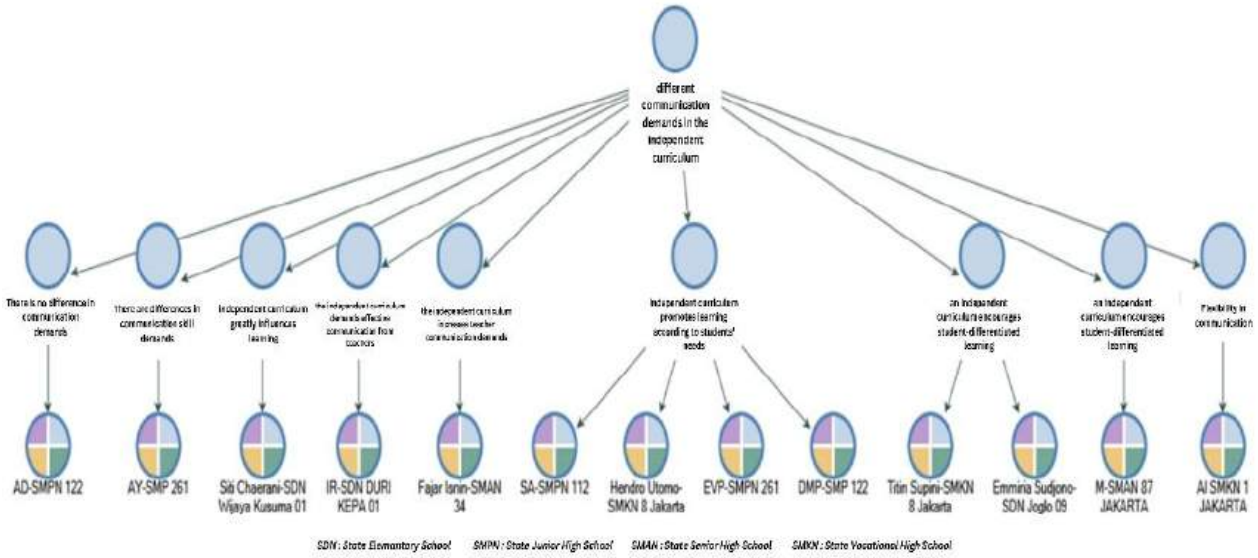

Figure 4.2 Visualization of the *project map of* different communication demands in the independent curriculum

Figure 4.2 is the results of data analysis regarding differences in communication demands in the Merdeka Curriculum, which have been processed using *NVIVO 12 Pro software*. The research findings show that the Merdeka Curriculum presents different communication demands compared to the previous curriculum. Some respondents, such as AD from SMPN 122, revealed that there were no significant differences regarding communication demands. However, other respondents such as AY from SMPN 261 and Siti Chaerani from SDN Wijaya Kusuma 01 highlighted a significant difference in communication demands, with Merdeka Curriculum affecting overall learning and demanding more effective communication from teachers (IR from SDN Duri Kepa 01) .

Here are some interview excerpts to reinforce the research findings:

In addition, the findings from Fajar Isnin (SMAN 34) and SA (SMPN 112) confirm that the Merdeka Curriculum increases the demands on teachers' communication skills, which must be more flexible and focused on student needs. This is also supported by Hendo Utomo (SMKN 8 Jakarta), who pointed out that the Merdeka Curriculum encourages learning that suits students' needs. Other findings from EVP (SMPN 261) and DMP (SMPN 122) emphasize that differentiated learning is now prioritized, so teachers must be more responsive in communication.

Furthermore, Titin Supini (SMKN 8 Jakarta) and Emmiria Sudjono (SDN Joglo 09) highlighted the importance of teachers building two-way communication with students, while M from SMAN 87 Jakarta and AI from SMKN 1 Jakarta emphasized the need for flexibility in communication to meet the demands of more effective learning in the Merdeka Curriculum. Overall, this study reveals that the Merdeka Curriculum brings significant changes in the demands of teacher communication, which must be more flexible, effective, and based on student needs .

The following are some excerpts from the researcher's interview with the interviewee:

2. Adaptability

Kurikulum

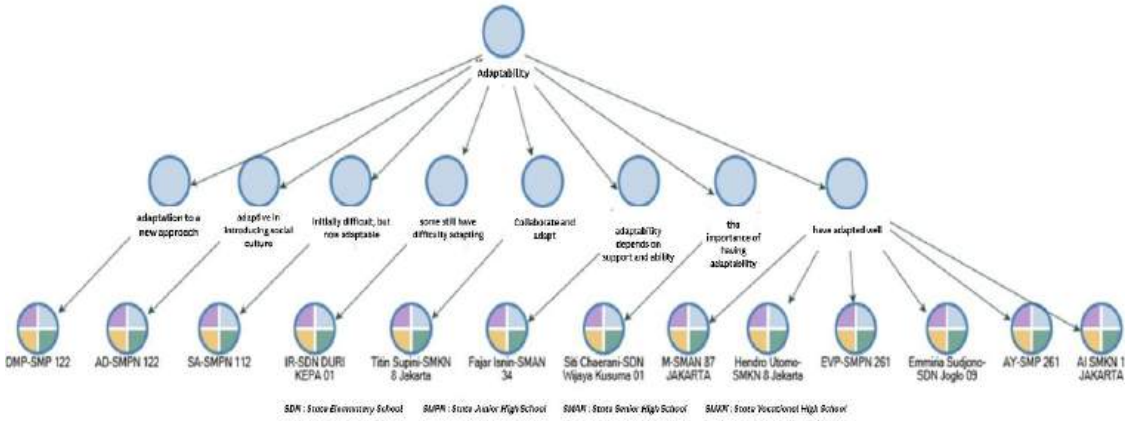

Figure 4.3 Visualization of the *project map of* adaptability in implementing an independent curriculum

Figure 4.3 displays the results of data analysis related to adaptability in implementing the Merdeka Curriculum, which is processed using NVIVO 12 Pro software. This study found that teachers' adaptability to the Merdeka Curriculum shows variations. Some teachers, such as DMP (SMPN 122), said that they had successfully adapted to the new approach presented by this curriculum. Meanwhile, AD (SMPN 122) and SA (SMPN 112) revealed that their adaptation also involves understanding the socio-cultural aspects of students, which is the key to success in the teaching and learning process.

Some teachers, such as IR (SDN Duri Kepa 01), stated that although it was difficult at first, they have now been able to adapt to the changes that the Merdeka Curriculum presents. However, there are also findings from Titin Supini (SMKN 8 Jakarta) and Fajar Isnin (SMAN 34) which show that some teachers still have difficulties in adjusting to the new demands. This indicates that the adaptation process does not run uniformly in all places.

In addition, the importance of support and willingness to collaborate in the adaptation process was also raised by respondents such as Siti Chaerani (SDN Wijaya Kusuma 01) and M (SMAN 87 Jakarta), who emphasized that adaptability is strongly influenced by a supportive work environment as well as an individual's willingness to continue learning. Teachers such as Hendo Utomo (SMKN 8 Jakarta) and EVP (SMPN 261) stated that they have been able to adapt well, while other interviewees such as Emmiria Sudjono (SDN Joglo 09) and AI (SMKN 1 Jakarta) also highlighted the importance of having adaptability in dealing with curriculum changes .

3. Inclusive Behavior

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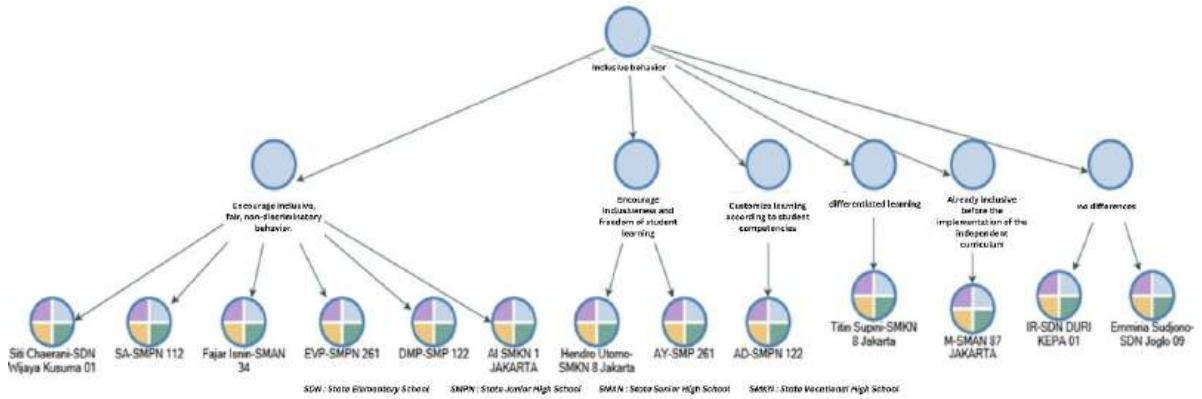

Figure 4.4 Visualization of the *project map for* inclusive behavior in implementing the independent curriculum

Figure 4.4 is the results of research analysis regarding differences in inclusive and non-discriminatory behavior carried out by teachers in implementing the Merdeka Curriculum, which was processed using NVIVO 12 Pro software. The research findings show that the Merdeka Curriculum encourages inclusive, fair, and non-discriminatory behavior in the educational environment. Teachers such as Siti Chaerani (SDN Wijaya Kusuma 01), SA (SMPN 112), and Fajar Isnin (SMAN 34) confirmed that the Merdeka Curriculum motivates them to behave more inclusively and fairly towards all students, without discrimination.

Furthermore, Hendo Utomo (SMKN 8 Jakarta) and AI (SMKN 1 Jakarta) pointed out that Merdeka Curriculum encourages inclusiveness and greater learning freedom for students, where learning is tailored to each individual's competencies and needs, as stated by AY (SMPN 261) and AD (SMPN 122). Titin Supini (SMKN 8 Jakarta) highlighted that differentiated learning is an important element in implementing the Merdeka Curriculum, where teachers pay more attention to diverse learning needs.

Meanwhile, M (SMAN 87 Jakarta) revealed that inclusive behavior had been implemented even before the implementation of Merdeka Curriculum, and IR (SDN Duri Kepa 01) and Emmiria Sudjono (SDN Joglo 09) stated that there was no significant difference in inclusive behavior since the implementation of Merdeka Curriculum .

4.1.2 Pedagogical Competence

1. Learner Development

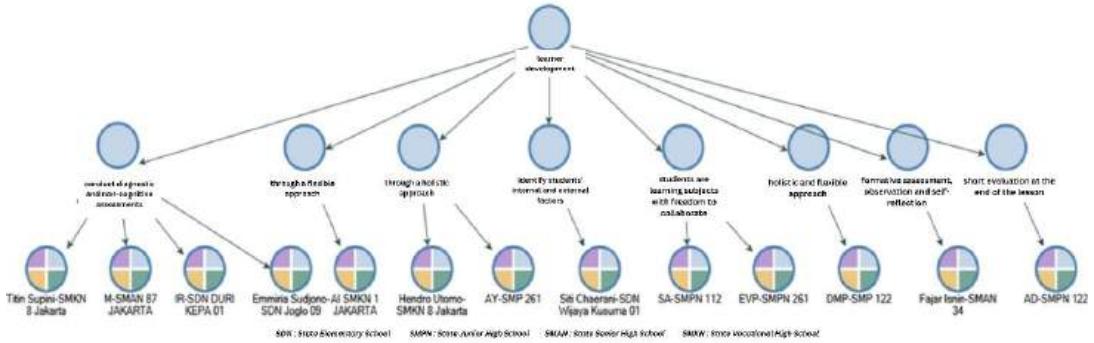

Figure 4.5 Visualization of the learner development *project map*

Figure 4.5 displays the results of research findings regarding learner development in the Merdeka Curriculum, which have been processed using NVIVO 12 Pro software. These findings

show that learner development in the Merdeka Curriculum is carried out through various approaches. Teachers such as Titin Supini (SMKN 8 Jakarta) and M (SMAN 87 Jakarta) emphasize the importance of conducting diagnostic and non-cognitive assessments to understand the overall development of learners. In addition, Emmiria Sudjono (SDN Joglo 09) and AI (SMKN 1 Jakarta) highlighted the need for a flexible approach to learning to adapt to the needs of individual students.

A holistic approach in understanding students, as stated by Hendo Utomo (SMKN 8 Jakarta), is also key in developing learners, where academic and non-academic aspects are equally considered. Teachers like AY (SMPN 261) also realize the importance of knowing students' internal and external factors to provide more appropriate support in learning.

Students are considered as learning subjects with freedom to collaborate, as reported by SA (SMPN 112), where students are given more space to determine how they learn. In addition, the holistic and flexible approach to learning, reported by EVP (SMPN 261) and DMP (SMPN 122), emphasizes the importance of adapting learning methods to increase student engagement. Formative assessment, observation and self-reflection are integral to the learning process according to Fajar Isnin (SMAN 34), while AD (SMPN 122) mentioned a short evaluation at the end of the lesson as an effective way to understand students' achievements and progress. .

2. Learning Implementation

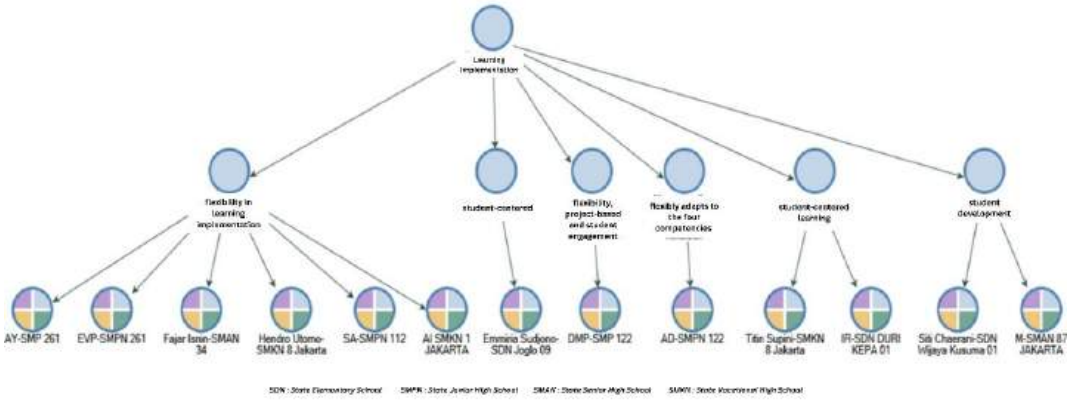

Figure 4. 6 Visualization of the independent curriculum learning implementation *project map*

Figure 4.6 shows the results of research findings regarding the implementation of learning in the Merdeka Curriculum, which have been processed using NVIVO 12 Pro software. These findings indicate that the implementation of learning in the Merdeka Curriculum is characterized by higher flexibility compared to the previous curriculum. Teachers such as AY (SMPN 261), EVP (SMPN 261), and Fajar Isnin (SMAN 34) highlighted that flexibility in learning allows adjusting materials according to student needs and the learning context. In addition, Hendo Utomo (SMKN 8 Jakarta) and SA (SMPN 112) revealed that learning is more student-centered, where they are given more freedom to determine how to learn according to their interests and abilities.

Project-based approaches and active student engagement in learning are also an important focus in Merdeka Curriculum, as shared by AI (SMKN 1 Jakarta) and Emmiria Sudjono (SDN Joglo 09). Teachers such as DMP (SMPN 122) and AD (SMPN 122) emphasized the importance of adjusting learning on the four competencies-spiritual, social, knowledge, and skills-flexibly, taking into account time and students' learning needs.

Titin Supini (SMKN 8 Jakarta) and IR (SDN Duri Kepa 01) highlighted that learning in the Merdeka Curriculum is adapted according to students' individual needs, allowing for a more personalized approach. Finally, the development of student competencies is the main goal of this

learning implementation, as expressed by Siti Chaerani (SDN Wijaya Kusuma 01) and M (SMAN 87 Jakarta) .

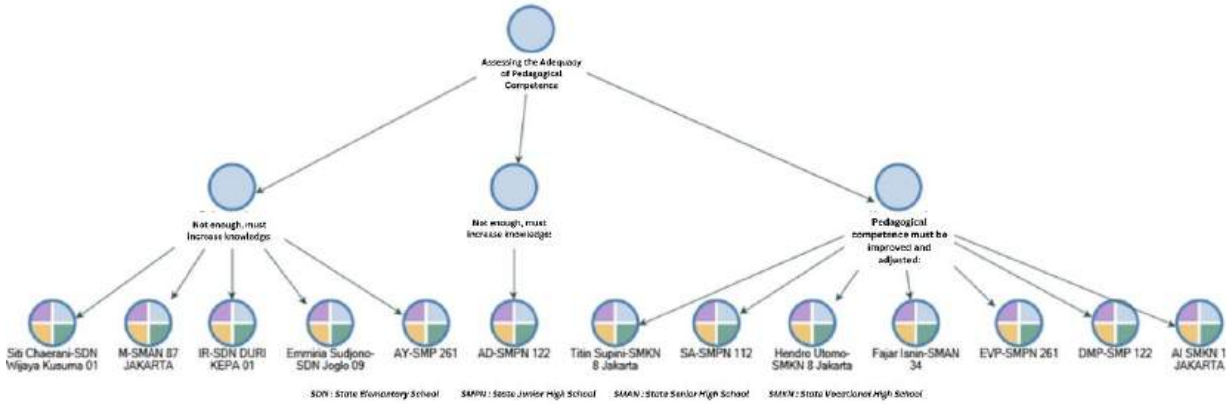

Figure 4.7 Visualization of the *project map* assessing the adequacy of pedagogical competence in the independent curriculum

Figure 4.7 displays the results of research analysis regarding the assessment of the adequacy of teachers' pedagogical competence in implementing the Merdeka Curriculum (Kurmer), which was processed using NVIVO 12 Pro software. The findings of this study identified three main findings. First, the pedagogical competence that teachers currently have is considered insufficient, mainly because they still have to expand their knowledge and skills, as expressed by Siti Chaerani (SDN Wijaya Kusuma 01), M (SMAN 87 Jakarta), and IR (SDN Duri Kepa 01).

The second finding shows that pedagogical competence is severely limited when the number of students in a class exceeds a reasonable capacity, as stated by AY (SMPN 261) and AD (SMPN 122). This situation requires strategies such as class division or additional accompanying teachers to manage students effectively.

The third finding emphasizes the importance of improving and adjusting pedagogical competencies to suit the demands of Merdeka Curriculum. Teachers such as Titin Supini (SMKN 8 Jakarta), Fajar Isnin (SMAN 34), and Hendo Utomo (SMKN 8 Jakarta) stated that integrating technology and adjusting learning methods are necessary to meet the needs of more flexible and project-based learning .

3. Learning Evaluation

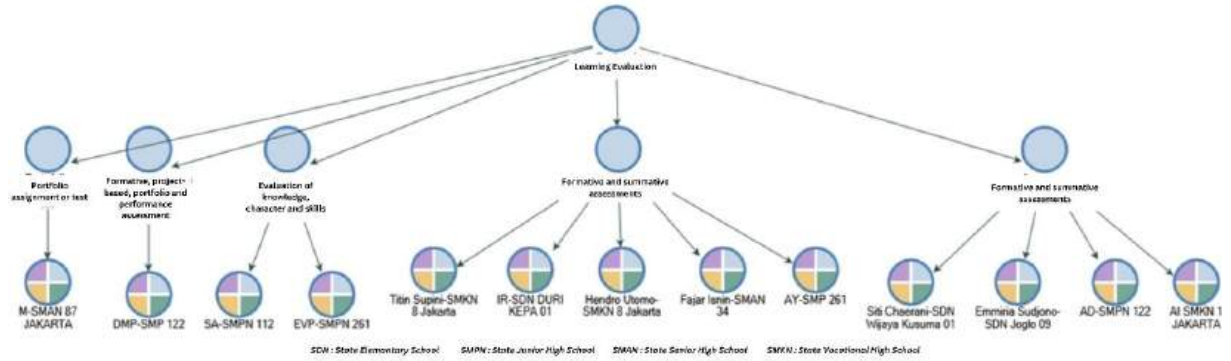

Figure 4.8 Visualization of the learning evaluation *project map* in the independent curriculum

Figure 4.8 shows the results of research findings regarding learning evaluation in the Merdeka Curriculum, which have been processed using NVIVO 12 Pro software. This research identifies that learning evaluation in the Merdeka Curriculum is carried out through various approaches that are more flexible and diverse than the previous curriculum. Portfolio-based evaluation, assignments, and tests are one of the main methods, as is done at SMAN 87 Jakarta. In addition, project-based formative evaluation, portfolios, and performance assessments are also used to assess students' overall skills, as revealed by DMP (SMPN 122) and SA (SMPN 112).

Evaluation in the Merdeka Curriculum emphasizes holistic assessment that includes knowledge, character, and skills, as described by EVP (SMPN 261). Formative and summative assessments are also important elements in evaluation, as conveyed by Titin Supini (SMKN 8 Jakarta), IR (SDN Duri Kepa 01), and Hendo Utomo (SMKN 8 Jakarta), with a focus on continuous monitoring of student development.

In addition, the research also identified the importance of diagnostic, formative, and summative assessments in providing a complete picture of student achievement, as expressed by Siti Chaerani (SDN Wijaya Kusuma 01), Emmiria Sudjono (SDN Joglo 09), and AD (SMPN 122) .

4.1.3 Personality Competence

1. Norms and Rules

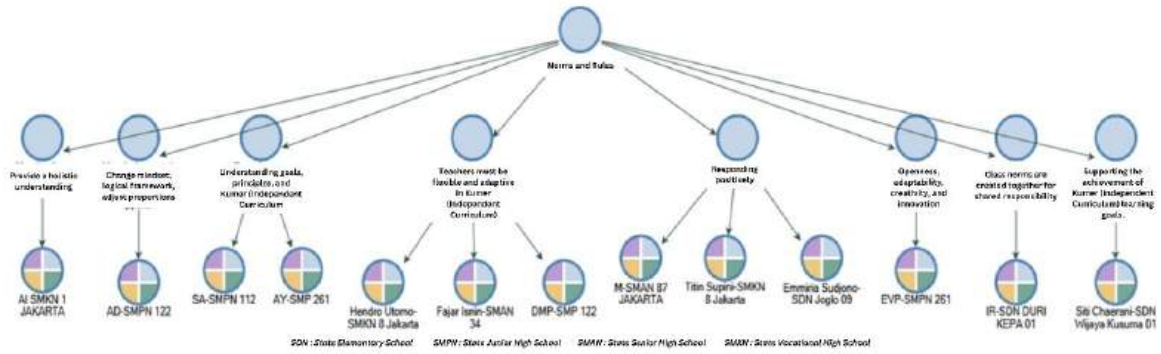

Figure 4.9 Visualization of the *project map* addressing norms and rules in the independent curriculum

The results of research findings that discuss personality competence related to norms and rules in learning are processed using NVIVO 12 Pro software. These findings show that norms and rules play an important role in creating a learning environment that supports the achievement of Merdeka Curriculum (Kurmer) goals.

AI from SMKN 1 Jakarta highlighted the importance of providing students with a holistic understanding of the rules, while AD from SMPN 122 underlined the need for mental changes and logical adjustments in applying rules and learning proportions. Understanding the principles and objectives of Merdeka Curriculum, as expressed by SA from SMPN 112 and AY from SMPN 261, is an important foundation in adjusting classroom norms.

Teachers must be flexible and adaptive in implementing Merdeka Curriculum, as stated by Hendo Utomo from SMKN 8 Jakarta and Fajar Isnin from SMAN 34, so that norms and rules can be effective. DMP from SMPN 122 added that a positive attitude in addressing the rules will increase their effectiveness, as also expressed by M from SMAN 87 Jakarta and Titin Supini from SMKN 8 Jakarta.

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Openness, adaptation, creativity and innovation in managing classroom norms made with students, as explained by Emmiria Sudjono from SDN Joglo 09 and EVP from SMPN 261, will encourage a sense of shared responsibility. In addition, clear and consistent norms support the achievement of learning objectives, as expressed by IR from SDN Duri Kepa 01 and Siti Chaerani from SDN Wijaya Kusuma 01 .

2. Attitude

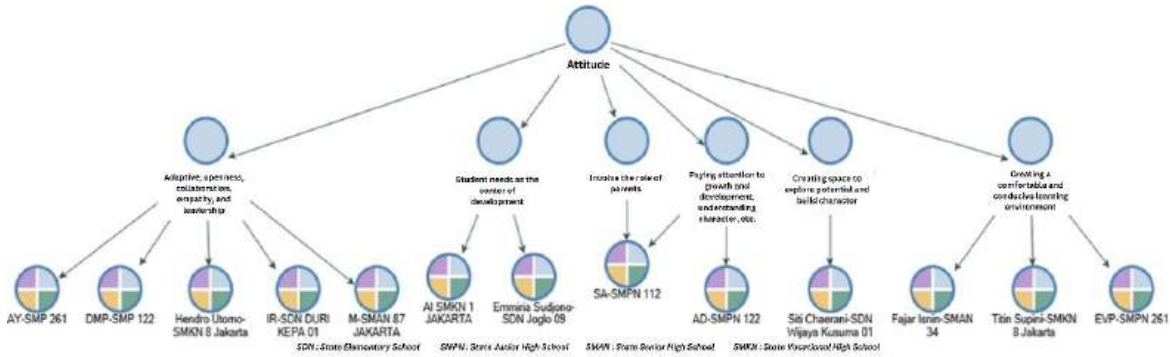

Figure 4.10 Visualization of the *project map of* attitudes that teachers must show in implementing the independent curriculum

The findings identify several important aspects related to teacher attitudes that are needed to support effective learning in Merdeka Curriculum. First, teachers must be adaptive, have openness, collaboration, empathy, and leadership skills, as stated by AY (SMPN 261), DMP (SMPN 122), Hendo Utomo (SMKN 8 Jakarta), and IR (SDN Duri Kepa 01). These attitudes are important to support dynamic learning that focuses on students' needs.

In addition, the needs of students as the center of development must be considered, as expressed by AI (SMKN 1 Jakarta) and Emmiria Sudjono (SDN Joglo 09), who emphasized that learning must be directed to meet the needs and potential of each student.

The role of parents is also considered important in the learning process, by actively involving them, as explained by SA (SMPN 112). Teachers should also pay attention to students' growth and development, understand their characters, and support their overall development, as stated by AD (SMPN 122).

In addition, teachers need to create learning spaces that allow students to explore their potential and build character, as explained by Siti Chaerani (SDN Wijaya Kusuma 01), and create a comfortable and conducive learning environment to support the learning process, as expressed by Fajar Isnin (SMAN 34), Titin Supini (SMKN 8 Jakarta), and EVP (SMPN 261).

3. Work Ethic

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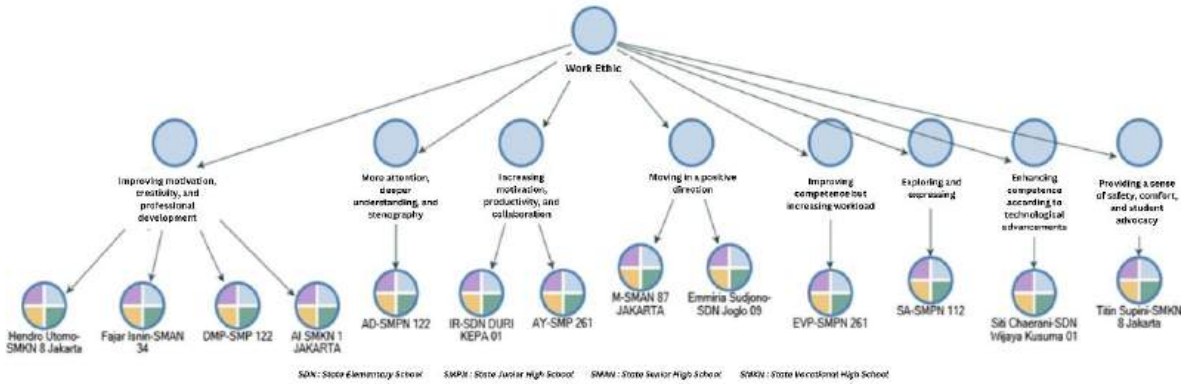

Figure 4. 11 Visualization of the *project map of* the impact of implementing the independent curriculum on work ethic

This finding shows that the implementation of Merdeka Curriculum has a significant impact on increasing teacher motivation, creativity, and professional development. Hendo Utomo (SMKN 8 Jakarta), Fajar Isnin (SMAN 34), and DMP (SMPN 122) reported that Merdeka Curriculum encouraged teachers to be more creative and involved in professional development.

Teachers also pay more attention to understanding students' needs and deepening skills such as stenography to take notes more effectively, as AI (SMKN 1 Jakarta) and AD (SMPN 122) shared. Improved motivation, productivity and collaboration were also reflected in the findings of IR (SDN Duri Kepa 01) and AY (SMPN 261), who indicated that Merdeka Curriculum promotes better cooperation among teachers and students.

Positive impacts were also seen in the improvement of work ethic, with many teachers reporting positive changes in their approach to teaching, as expressed by M (SMAN 87 Jakarta) and Emmiria Sudjono (SDN Joglo 09). However, some teachers such as EVP (SMPN 261) revealed that the increase in teacher competencies also increased their workload.

Teachers such as SA (SMPN 112) and Siti Chaerani (SDN Wijaya Kusuma 01) also noted that the Merdeka Curriculum provides opportunities to explore and express technological developments and adjust competencies according to the times. In addition, the Merdeka Curriculum also encourages teachers to create a safe and comfortable learning environment, which favors students, as stated by Titin Supini (SMKN 8 Jakarta).

4.1.4 Professional Competence

1. Material Mastery

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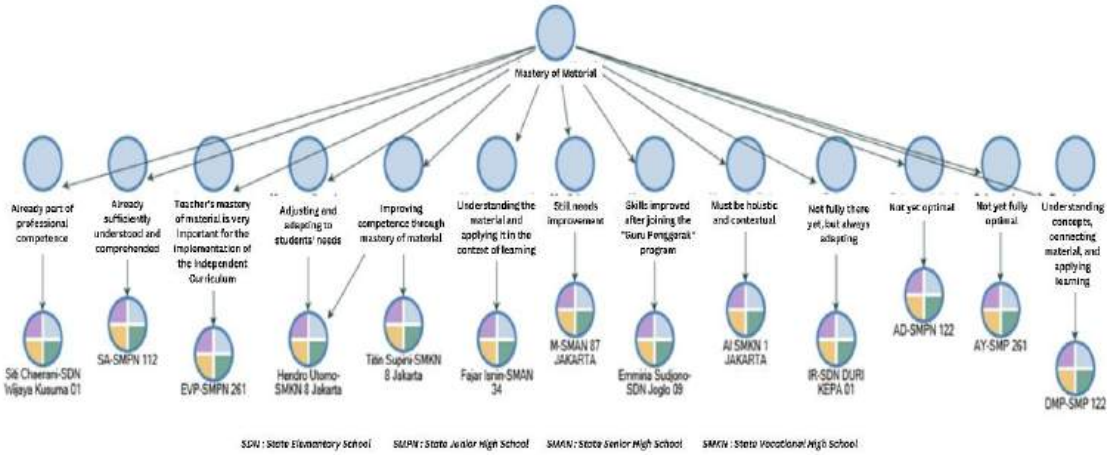

Figure 4.12 Visualization of the *project map for* improving professional competence with mastery of materials in the independent curriculum

The results of the research findings shown in Figure 4.12 regarding professional competence, especially in mastering the material in the Merdeka Curriculum, which is processed using NVIVO 12 Pro software. This finding shows that teachers' mastery of teaching materials is one of the key elements in the successful implementation of the Merdeka Curriculum.

Siti Chaerani (SDN Wijaya Kusuma 01) emphasized that mastery of the material is part of the teacher's professional competence. SA (SMPN 112) and EVP (SMPN 261) emphasized that sufficient and in-depth understanding of the material is essential for implementing Merdeka Curriculum effectively. Hendo Utomo (SMKN 8 Jakarta) added that it is important for teachers to adjust and adapt materials according to student needs.

Teachers also need to continuously improve their competence in mastering the material, as expressed by Titin Supini (SMKN 8 Jakarta) and Fajar Isnin (SMAN 34), who highlighted the importance of understanding the context of learning. However, some teachers, such as M (SMAN 87 Jakarta), admitted that mastery of the material still needs to be improved, especially in the application of contextual and holistic learning, as expressed by AI (SMKN 1 Jakarta).

Although some teachers, such as Emmiria Sudjono (SDN Joglo 09) and IR (SDN Duri Kepa 01), have shown improved competence, some teachers feel that they are still in the process of adapting to Merdeka Curriculum materials. AD (SMPN 122) and AY (SMPN 261) emphasized that their mastery of the material has not been fully maximized, although there are efforts to continue to improve.

DMP (SMPN 122) emphasizes that understanding concepts, connecting materials, and applying learning are key elements in the Merdeka Curriculum, which requires continuous improvement and adjustment from teachers .

2. Use of Technology

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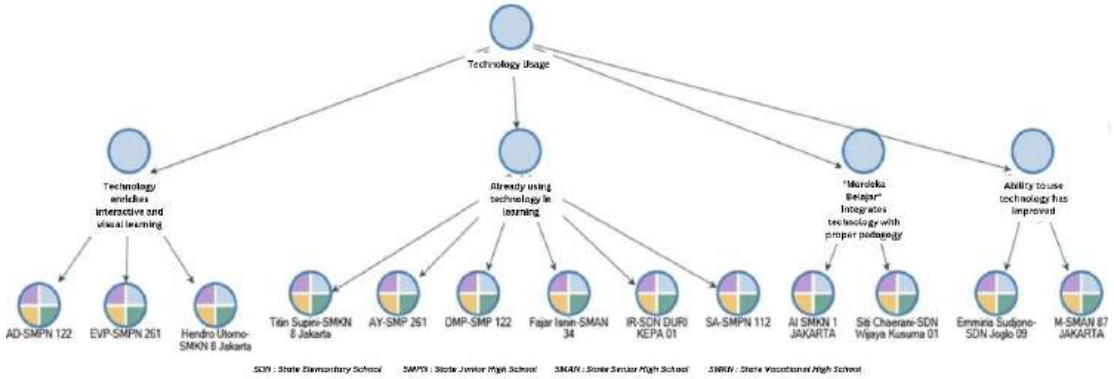

Figure 4.13 Visualization of the *project map of* the use of technology in the independent curriculum

Figure 4.13 shows the results of research findings regarding professional competence in the use of technology processed using NVIVO 12 Pro software. These findings highlight that technology plays an important role in enriching learning, especially in the Merdeka Curriculum. AD (SMPN 122), EVP (SMPN 261), and Hendo Utomo (SMKN 8 Jakarta) said that technology has helped create more interactive and visual learning, which makes it easier for students to understand the material.

Most teachers, such as Titin Supini (SMKN 8 Jakarta), AY (SMPN 261) and DMP (SMPN 122), have utilized technology in their learning, with various platforms and tools used to support the teaching-learning process. These teachers also reported that Merdeka Curriculum encourages them to combine technology with appropriate pedagogical approaches, as expressed by AI (SMKN 1 Jakarta) and Siti Chaerani (SDN Wijaya Kusuma 01). This enables learning that is more holistic and relevant to students' needs.

The ability to use technology was also reported to be increasing among teachers, as revealed by Emmiria Sudjono (SDN Joglo 09) and M (SMAN 87 Jakarta). These teachers are increasingly proficient in utilizing various digital tools to support project-based learning, collaboration and formative assessment.

3. Self-Development

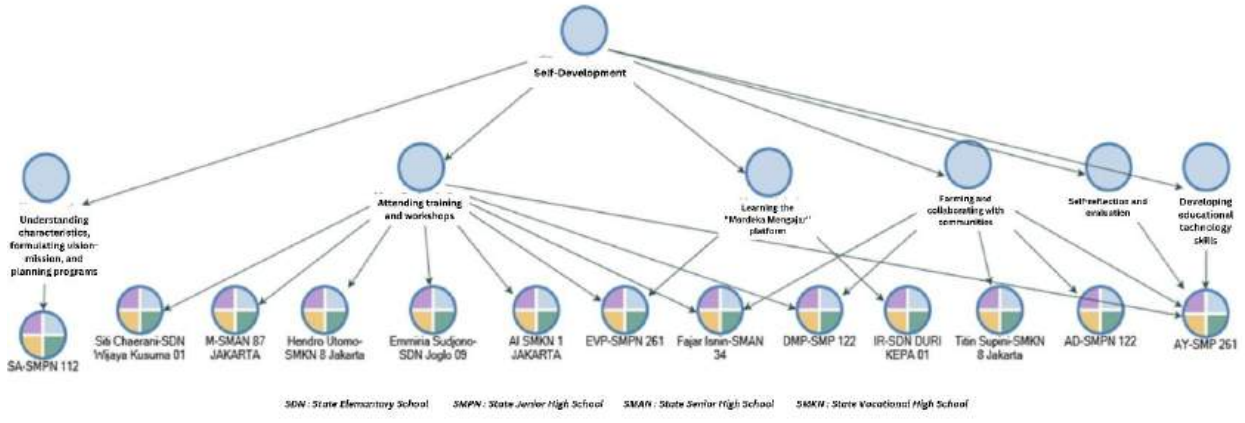

Figure 4.14 Visualization of the self-development *project map* in improving the professional competence of the independent curriculum

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The results of research findings regarding professional competence that discuss teacher self-development in the context of the Merdeka Curriculum, which are processed using NVIVO 12 Pro software. These findings highlight that self-development is an important aspect in improving teachers' abilities and effectiveness in implementing the Merdeka Curriculum.

SA (SMPN 112) and Siti Chaerani (SDN Wijaya Kusuma 01) stressed the importance of understanding the characteristics of the education unit, developing a vision-mission and planning appropriate learning programs. Teachers such as M (SMAN 87 Jakarta), Hendo Utomo (SMKN 8 Jakarta) and Emmiria Sudjono (SDN Joglo 09) actively participate in training and workshops to improve their professional competencies.

In addition to formal training, teachers also learn the "Merdeka Mengajar" platform to better understand and apply Merdeka Curriculum concepts in the teaching and learning process. Teachers such as Fajar Isnin (SMAN 34) and EVP (SMPN 261) are involved in using this platform to support classroom learning. Collaborating with professional communities is also considered important by teachers such as IR (SDN Duri Kepa 01) and Titin Supini (SMKN 8 Jakarta), who indicated that this collaboration helps enrich learning insights and practices. In addition, periodic self-reflection and evaluation, as expressed by AD (SMPN 122), enables teachers to continuously improve the quality of their teaching.

4.2 Discussion

4.2.1 Social Competence

The findings of this study highlight significant improvements in teachers' communication and adaptation skills under the Merdeka Curriculum. Teachers exhibited increased flexibility in communication during collaboration, enhanced facilitation abilities, and a more effective response to the diverse needs of students. The Merdeka Curriculum fosters an inclusive, equitable, and non-discriminatory learning environment, tailoring education to the individual competencies of each student. However, the adaptation process among teachers remains enven, with some facing notable challenges. These findings echo boarder concerns in curriculum implementation, as teachers' preparedness and ability to adapt to systemic changes vary widely (Sagala, 2022). While the Merdeka Curriculum has led to positive changes in teachers' social competencies – especially in communication, adaptation, dan inclusive behavior – future adjustments are necessary in certain areas.

The practical implications of these findings are significant for policymakers and educators. For policymakers, the research emphasizes the importance of targeted professional development programs and continuous support to ensure that teachers can effectively navigate these changes. While the Merdeka Curriculum offers a promising framework for inclusive education, the uneven pace at which teachers adapt suggests the need for more robust, localized support structures (Mahmud, 2023). For educators, fostering an inclusive learning environment goes beyond implementing new teaching strategies; it involves mastering social competencies such as conflict management, team collaboration, and a deep understanding of student diversity. These skills are essential in creating a dynamic, responsive classroom that aligns with the goal of the Merdeka Curriculum.

Comparative studies from other global contexts offer additional perspective on these challenges. For example, in the United States and the United Kingdom has shown similar struggles in implementing inclusive curricula, particularly concerning the professional development of teachers and the integration of new technologies (Walukow et al, 2022). In both contexts, a key challenge has been the alignment of curriculum changes with teachers' pre-existing skills and the

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varying levels of institutional support available. While the Merdeka Curriculum has its own unique cultural and educational context, the global trend highlighted that substantial teacher training and systemics support are critical in ensuring the success of inclusive education reforms.

Furthermore, the research findings also emphasize the importance of teachers' ability to build strong networks within the educational ecosystem. Teachers in this study demonstrated improved social interaction skills with students, colleagues, and parents, contributing to a more inclusive and supportive environment. This aligns with research by alfath (2022), who argue that teachers' social competence – including the ability to communicate effectively and manage conflict – plays a pivotal role in creating a collaborative and inclusive classroom. Globally, studies on teachers' social competence, such as those by Aditya (2023) and sibagariang et al (2021) underline that effective communication and teamwork are essential for fostering a harmonious learning environment. Teachers must act not only as instructors but also as facilitators of collaboration within the broader school community.

Considering these challenges and opportunities, while the Merdeka Curriculum has made notable strides in improving teachers' social competencies, further investments in professional development are crucial. Teachers need ongoing training to adapt to evolving pedagogical practices, manage new technologies, and respond to the diverse needs of students. This is particularly pertinent in a global context where educational reforms often encounter resistance due to inadequate training or the lack of support for teachers (Hidayah, 2022). Policymakers must prioritize the creation of support systems that equip educators to navigate these changes, ensuring that goals of the Merdeka Curriculum are met and that inclusive, equitable education becomes a reality for all students.

4.2.2 Pedagogical Competence

The implementation of the Merdeka Curriculum poses a number of challenges that can impact its effectiveness. A major concern is the large class size, which hinders teachers' ability to provide individualized attention and tailor learning experiences to the diverse needs of students. This is a common issue not only in Indonesia but also in many other countries with limited resources, such as India and Brazil, where class size often exceeds 40 students. Additionally, while the Merdeka Curriculum encourages a shift toward technology integration and student-centered learning, teachers often lack the necessary training and resources to make these transitions successfully. As highlighted by Nasution (2022), short online training programs are insufficient in helping teachers adapt to these new methods, leaving many without the technological proficiency needed for effective implementation. Furthermore, the resource constraints, such as insufficient teaching assistants and teaching tools, add to the difficulties teachers face in adapting their methods to large, diverse classrooms. Mahmud et al. (2023) also point out that these resource limitations prevent teachers from fully engaging with every student, reducing the overall effectiveness of the curriculum.

The findings from the research offer several practical implications for policymakers and educators to improve the implementation of the Merdeka Curriculum. First, there is a clear need for policymakers to invest in continuous, accessible teacher training programs that focus on both pedagogical innovation and technological integration. Equipping instructors with the necessary resources to effectively engage students, primarily through project-based learning and technology-enhanced methods, can facilitate the successful realization of the curriculum's student-centered approach. Additionally, to address the challenge of large class sizes, class division strategies and the use of teaching assistants are practical solutions that could significantly enhance the quality of

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instruction. Policymakers should prioritize these strategies and allocate resources to ensure that teachers are supported in managing large classrooms. Another key implication is the shift toward holistic students' assessments, which track not only academic progress but also socio-emotional development. Educators' assessment frameworks incorporate a broader range of evaluative methods, such as portfolios, and performance assessment, to reflect the diverse aspects of students' growth.

A comprehensive, global viewpoint indicates that the issues and solutions associated with implementing the Merdeka Curriculum are not exclusive to Indonesia. The prevalence of big class sizes is a significant concern in nations with constrained educational resources, such as India and Brazil. Mahmud et al. (2023) contend that overcoming this obstacle necessitates systematic support via resource allocation and the employment of teaching assistants, tactics that have been effectively executed in other nations confronting analogous issues. The global trend of integrating technology in education is apparent in numerous nations; nevertheless, its effectiveness is largely contingent upon the training and preparedness of educators. Finland has made substantial expenditures in digital tools and teacher professional development to facilitate efficient technology integration. This comparative analysis indicates that although the Merdeka Curriculum's emphasis on technology and student-centered learning corresponds with international best practices, local teacher readiness, and infrastructure enhancements are essential for its complete efficacy.

Additionally, the worldwide transition towards comprehensive evaluations, particularly those emphasizing socio-emotional development, reinforces the trajectory of the Merdeka Curriculum. Countries such as Finland and Singapore have consistently adopted comprehensive evaluation models that monitor academic and character development, a practice that corresponds with the Pancasila Student Profile in Indonesia. Such programs' efficacy relies on adapting global techniques to local contexts, guaranteeing that the curriculum is culturally pertinent and viable within current resource limitations

4.2.3 Personality Competence

The research findings demonstrate that the effectiveness of teachers' personality competence within the Merdeka Curriculum is largely based on the rigorous application of norms and regulations in learning. Clearly defined and consistently enforced norms foster a conducive learning environment, which is vital for achieving the goals of the Merdeka Curriculum. Teachers must demonstrate adaptability, flexibility, and a positive attitude in applying these rules, ensuring students understand and implement them effectively. To address diverse student needs, norms should be applied holistically and collaboratively, actively involving students in the learning process. Creativity and innovation on the part of teachers in managing classroom norms are essential, enabling students to develop a sense of shared responsibility in their education. Parental involvement and a safe and supportive learning environment are critical factors for success. Implementing the Merdeka Curriculum has positively influenced teacher motivation and professionalism, encouraging greater creativity and collaboration in nurturing students' potential. However, the increased workload for teachers highlights a significant challenge in implementation. Addressing this requires targeted efforts to enhance teachers' pedagogical and personality competencies to sustain the curriculum's focus on holistic student development.

From a global perspective, the challenges faced in implementing the Merdeka Curriculum align with similar reforms worldwide, where teachers are expected to balance traditional practices with progressive educational demands. For instance, curriculum reforms in Finland and Singapore also highlight the importance of teacher adaptability and student-centered learning, suggesting the

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necessity for ongoing professional development and institutional support. Policymakers should consider these international benchmarks to provide actionable strategies that alleviate teacher burdens while enhancing curriculum implementation.

The practical implications of these findings are profound for both policymakers and educators. Policymakers must address systemic challenges such as teacher workload by offering targeted training programs and additional resources to streamline curriculum demands. Integrating technology and collaborative teaching methods could further support teachers in managing classroom norms effectively. Educators, on the other hand, should focus on fostering professional learning communities where best practices and innovative strategies are shared. Such collaborative efforts would enhance teacher competencies and contribute to a sustainable implementation of the Merdeka Curriculum.

This study reinforces existing theories on the critical role of teacher personality competence in fostering conducive learning environments. Previous research by Illahi (2020) and Mulyasa (2013) highlighted the importance of stable, authoritative, and responsible teacher personalities in shaping student character. Similarly, Sagala (2022) emphasized the need for consistency and flexibility in applying norms and rules, aligning with the adaptive and creative roles required of teachers under the Merdeka Curriculum. Furthermore, findings from Sulastri et al. (2023) underscore the significance of collaborative approaches that actively engage students in learning, echoing the global shift toward participatory education. The role of teachers in building harmonious relationships with parents and the community, as noted by Ramlino and Niron (2020), further complements the findings of this study. Lastly, Purwati and Sukirman's (2024) assertion that teacher professionalism and integrity drive holistic student development parallels the positive outcomes observed under the Merdeka Curriculum.

By situating these findings within a broader context, the study provides valuable insights for both national and international education stakeholders. Comparative analyses highlight that while the Merdeka Curriculum faces unique challenges, its emphasis on teacher creativity, collaboration, and adaptability reflects global trends in curriculum reform. Addressing these challenges requires systemic interventions that empower educators and prioritize student-centered learning as a shared responsibility among all stakeholders.

4.2.4 Professional Competence

The results indicate that educators' professional proficiency in comprehending the Merdeka Curriculum is crucial to achieving learning success. A comprehensive and contextual understanding of the curriculum allows educators to effectively customize education to address varied student requirements. This corresponds with the notion articulated by Sulastri et al. (2023), which emphasizes the imperative for educators to have extensive topic knowledge to provide content in an engaging and pertinent manner. Nonetheless, obstacles remain in execution since not all educators have equitable access to professional development opportunities or the essential skills required to implement such methodologies consistently. Rectifying inequities in teacher preparation and resource distribution is essential for surmounting these challenges.

A crucial element of this study is the focus on incorporating technology in the educational process, a fundamental principle of the Merdeka Curriculum. The research indicates that digitally proficient teachers improve instructional effectiveness and student involvement. However, it also identifies obstacles, including unequal access to technology, insufficient digital literacy among confident educators, and infrastructural limitations, especially in rural regions. The findings align

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with Sijabat et al. (2022), who assert that technological competency is essential for contemporary education, although successful integration frequently necessitates systemic support, including infrastructure investment and continuous training.

The study emphasizes the significance of ongoing professional growth for educators, primarily via formal training, reflective practices, and cooperation. The "Merdeka Mengajar" platform and professional networks are valuable resources, yet their adoption is impeded by obstacles such as time limitations, insufficient institutional support, and differing levels of teacher motivation. Mauizdati (2020) asserts that training must be accessible and customized to bridge these implementation gaps.

The findings reflect issues encountered in analogous educational transformations globally. Comparative analyses with nations employing competency-based curricula, such as Finland and Singapore, indicate that professional development is most efficacious when integrated within a supportive policy framework that promotes collaboration, offers mentorship opportunities, and guarantees equitable resource distribution. Policymakers should consider adopting exemplary approaches from these contexts, including incentivizing professional development and incorporating feedback systems to enhance teacher training programs perpetually.

The ramifications for policymakers and educators are evident: comprehensive investment is essential to improve teacher competencies and guarantee equal execution of the Merdeka Curriculum. Policymakers must prioritize funding for teacher training, especially in technology integration, while tackling infrastructural and equity concerns that impede widespread access. Moreover, educators should promote and participate in opportunities for professional growth, utilizing platforms such as "Merdeka Mengajar" to modify teaching methodologies to contemporary requirements.

This study confirms that proficiency in teaching materials, adept utilization of technology, and dedication to lifelong learning constitute the foundations of teachers' professional competency. Purwati and Sukirman (2024) believe that these aspects not only elevate the quality of instruction but also augment the curriculum's relevance to students' demands in an increasingly globalized and technology-driven world. Confronting the problems and utilizing the practical ramifications of these results will significantly enhance the effective execution of the Merdeka Curriculum, aligning it with international educational progress.

CONCLUSIONS

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This research highlights the transforming influence of the Merdeka Curriculum on multiple dimensions of teacher abilities, encompassing social, educational, personality, and professional elements. Teachers exhibited notable improvements in social competency, especially in communication and adaptability abilities. The results highlight enhanced collaboration, inclusive practices, and attentiveness to varied student requirements, promoting a more dynamic and fair educational setting. Nevertheless, although numerous educators effectively transitioned, specific individuals continue encountering difficulties, emphasizing the need for sustained assistance and adjustment measures.

The pedagogical competency within the Merdeka Curriculum signifies a transition to a more student-centric and adaptable learning methodology. Educators must employ diagnostic and non-cognitive evaluations to understand students while prioritizing project-based and active engagement methodologies. Notwithstanding advancements, obstacles, including substantial class numbers and proficiency in technology, remain, signifying a necessity for class segmentation

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tactics, supplementary instructional support, and ongoing professional development to enhance educational results.

The continuous application of norms and rules enhances personality competence, promoting an effective learning environment. Educators are anticipated to exhibit adaptability, innovation, and an optimistic disposition, facilitating students' active involvement in cultivating a collaborative classroom environment. Parental engagement and a secure, nurturing atmosphere are essential to fulfilling the curriculum's objectives. The heightened workload for educators underscores the necessity of combining duties with chances for professional development.

Professional competence pertains to educators' proficiency in instructional content and the incorporation of technology. Despite observable advancements, the need for more comprehensive and contextualized learning remains challenging. Self-development activities, encompassing formal training, collaborative practices, and using technological platforms such as "Merdeka Mengajar," are crucial for improving teaching quality. Regular reflection and assessment enhance professional development, ensuring teachers stay aligned with the curriculum's goals.

Numerous constraints arose during the investigation. The heterogeneity in teachers' adaptation processes to curricular changes suggests that the findings may not comprehensively reflect all circumstances, especially in areas with constrained resources or restricted access to training. Secondly, although the research addresses technological integration, the degree of its influence on varied classroom environments remains little examined. The results are derived from particular case studies, which may restrict their applicability across other educational systems or cultural situations.

Future research may examine the influence of technology integration on student learning outcomes and teacher competence within the Merdeka Curriculum. Research may examine how digital technologies, including interactive platforms and AI-driven evaluations, improve engagement and understanding in various educational settings. Furthermore, assessing the efficacy of professional development programs in enhancing teachers' pedagogical and professional competencies is crucial. This entails assessing the enduring effects of training on classroom management, new pedagogical techniques, and comprehensive learning strategies. Investigating the significance of bidirectional communication between educators and learners and interprofessional collaboration among teachers, administrators, and parents can yield critical insights for fostering a more supportive and effective educational environment. These fields of study will enhance the execution of the Merdeka Curriculum and facilitate the ongoing advancement of Indonesia's educational system.

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Walukow, M. R., Tambingon, H. N., & Rotty, V. N. J. (2022). Paradigm Shift of Informatics Learning in School. *Journal of Education and Counseling*, 4(5), 5411-5420.

For Peer Review

Bukti Konfirmasi Review dan Hasil Review Pertama

tanggal 17 Desember 2024

Khoerul Umam <khoerul.umam@uhamka.ac.id>

249821763 (Cogent Education) A revise decision has been made on your submission

1 message

Cogent Education <em@editorialmanager.com> Tue, Dec 17, 2024 at 1:47 PM
Reply-To: Cogent Education <oaed-peerreview@journals.tandf.co.uk>
To: Khoerul Umam <khoerul.umam@uhamka.ac.id>

CC: "Erna Kusumawati" ernaku1903@gmail.com, "Suswandari Suswandari" suswandari@uhamka.ac.id, "Mohd Isha Bin Awang" isha@uum.my.edu

Ref: COGENTEDU-2024-2543
249821763
EVALUATING THE IMPACT OF THE MERDEKA CURRICULUM ON TEACHER COMPETENCE: A PHENOMENOLOGICAL STUDY IN JAKARTA SCHOOLS
Cogent Education

Dear Khoerul Umam,

Your manuscript entitled "EVALUATING THE IMPACT OF THE MERDEKA CURRICULUM ON TEACHER COMPETENCE: A PHENOMENOLOGICAL STUDY IN JAKARTA SCHOOLS", which you submitted to Cogent Education, has now been reviewed.

The reviews, included at the bottom of the letter, indicate that your manuscript could be suitable for publication following revision. We hope that you will consider these suggestions, and revise your manuscript.

Please submit your revision by Jan 16, 2025, if you need additional time then please contact the Editorial Office.

To submit your revised manuscript please go to https://rp.cogentoa.com/dashboard/ and log in. You will see an option to Revise alongside your submission record.

If you are unsure how to submit your revision, please contact us on OAED-peerreview@journals.tandf.co.uk

You also have the option of including the following with your revised submission:

* public interest statement - a description of your paper of NO MORE THAN 150 words suitable for a non-specialist reader, highlighting/explaining anything which will be of interest to the general public

* about the author - a short summary of NO MORE THAN 150 WORDS, detailing either your own or your group's key research activities, including a note on how the research reported in this paper relates to wider projects or issues.

* photo of the author(s), including details of who is in the photograph - please note that we can only publish one photo

If you require advice on language editing for your manuscript or assistance with arranging translation, please do consider using the Taylor & Francis Editing Services (www.tandfeditingservices.com).

Please ensure that you clearly highlight changes made to your manuscript, as well as submitting a thorough response to reviewers.

We look forward to receiving your revised article.

Best wishes,

Sedat Gumus, Ph.D
Editor
Cogent Education

Comments from the Editors and Reviewers:

Title, Abstract and Introduction – overall evaluation
Reviewer 1: Sound with minor or moderate revisions

Methodology / Materials and Methods – overall evaluation
Reviewer 1: Sound with minor or moderate revisions

Objective / Hypothesis – overall evaluation
Reviewer 1: Sound with minor or moderate revisions

Figures and Tables – overall evaluation
Reviewer 1: Sound

Results / Data Analysis – overall evaluation
Reviewer 1: Sound with minor or moderate revisions

Interpretation / Discussion – overall evaluation
Reviewer 1: Sound

Conclusions – overall evaluation
Reviewer 1: Sound

References – overall evaluation
Reviewer 1: Sound with minor or moderate revisions

Compliance with Ethical Standards – overall evaluation
Reviewer 1: Sound with minor or moderate revisions

Writing – overall evaluation
Reviewer 1: Sound with minor or moderate revisions

Supplemental Information and Data – overall evaluation
Reviewer 1: Not applicable

Comments to the author
Reviewer 1: This is well-developed research with a clear idea and a strong foundation in the literature. By addressing the suggested improvements, the research can be even more focused and impactful.
Areas for Improvement:

- Objectives and Hypothesis: The research would benefit from a more explicit statement of the research objectives and hypothesis. What specific aspects of teacher competence are you aiming to understand? Do you have a hypothesis about how the Merdeka Curriculum might be impacting these competencies?
- Sampling Details: While the research site is defined as DKI Jakarta schools, details on the sampling frame (e.g., specific school types, grade levels) and participant selection criteria could be strengthened.
- Focus on 21st Century Skills: The introduction mentions the importance of 21st century skills, but the literature review and methodology sections could be strengthened by specifying which 21st century skills will be explored in relation to teacher competence.
- The figures themselves lack detailed descriptions or captions. It's difficult to understand the specific nodes and connections within each figure without further explanation.
- The presentation could be improved by using more concise and visually appealing graphics.
- The interpretation could be more critical and nuanced. For example, while the research highlights positive impacts, it could delve deeper into the challenges and limitations faced by teachers in adapting to the curriculum.
- The discussion could be more in-depth and explore the broader implications of the findings for educational policy and practice in Indonesia.
- It could also discuss the findings in relation to other educational reforms and compare the experiences of teachers in Jakarta to those in other regions.
- Most of the references were not documented.
- In page 9, some references were wrongly attached.
- The title of the references section was "Literature" which should be changed to "References".
- The writing is generally clear and concise, although some sections could be more concise and easier to follow. Some sentences are overly long and complex, which can make the text difficult to understand.
- Consider including a brief limitations section acknowledging potential limitations of the study, such as sample size or generalizability.
- The conclusion could benefit from a stronger overall statement about the impact of the Merdeka Curriculum on teacher competence.

Title, Abstract and Introduction – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

Methodology / Materials and Methods – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

Objective / Hypothesis – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

Figures and Tables – overall evaluation
Reviewer 2: Sound

Results / Data Analysis – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

Interpretation / Discussion – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

Conclusions – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

References – overall evaluation
Reviewer 2: Sound

Compliance with Ethical Standards – overall evaluation
Reviewer 2: Sound

Writing – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

Supplemental Information and Data – overall evaluation
Reviewer 2: Sound with minor or moderate revisions

Comments to the author
Reviewer 2: While appreciating the esteemed author, I would like to express my comments as follows. I hope that applying these comments will help improve the article and its publication in this journal.

1. Language and Grammar: Proofread the article carefully and use tools like Grammarly to ensure linguistic accuracy.
2. Complex Sentences: Some sentences are overly long and difficult to follow. Break long sentences into shorter, simpler ones for better readability.
3. The sections on the objective, research innovation, and problem statement should all be included in the introduction.
4. The literature review should be strengthened. Here are some similar studies in other countries that are relevant to your research topic. These studies can be used for comparison:

1. Phenomenon-Based Learning in Finland
2. Inclusive Learning Approaches in India
3. Blended Learning Teacher Development in China
4. Project-Based Learning in the United States
5. Teacher Education in Rural Areas of South Africa
6. 21st-Century Student Profiles in Canada

5. While the article focuses on Jakarta, it lacks comparative insights from other regions of Indonesia or other countries implementing similar reforms. Integrate comparative analyses to provide broader perspectives and contextualize the findings globally.
6. The discussion of challenges faced during the curriculum implementation, such as resource disparities, is limited. Elaborate on the challenges to provide a balanced view of the implementation's successes and shortcomings.
7. The practical implications of the findings for policymakers and educators are not sufficiently emphasized. Include a dedicated section discussing actionable recommendations for improving teacher competence under the Merdeka Curriculum.
8. The sampling criteria are briefly mentioned but lack detailed justification. Clarify how the selected sample represents the broader population of teachers in Jakarta.

In compliance with data protection regulations, you may request that we remove your personal registration details at any time. (Use the following URL: https://www.editorialmanager.com/cogentedu/login.asp?a=r). Please contact the publication office if you have any questions.

Bukti konfirmasi submit revisi Pertama, respon kepada reviewer, dan artikel yang diresubmit

26 Februari 2025

Gmail erna kusumawati <ernakusumawati@unsub.ac.id>

Revised submission received for Cogent Education (Submission ID: 249821763.R1)

1 message

OAED-peerreview@journals.tandf.co.uk <OAED-peerreview@journals.tandf.co.uk> Wed, Feb 26, 2025 at 5:03 PM
To: ernakusumawati@unsub.ac.id

Taylor & Francis
Taylor & Francis Group

Dear Erna Kusumawati,

A manuscript revision has been submitted on your behalf.

Submission ID	**249821763**
Manuscript Title	**Strengthening Teacher Competence for Leading and Sustaining the Implementation of the Merdeka Curriculum**
Journal	**Cogent Education**

You have been identified as the main contact for this submission and will receive further updates from the Editorial Office. If you are requested to make a further revision to your manuscript, the person who made the original submission will need to action this request.

If you are not aware of the submission and would like to find out more please contact journalshelpdesk@taylorandfrancis.com.

Kind Regards,
Cogent Education Editorial Office

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Authors Comments upon Reviewers Comments

Reviewer Comment:	Authors Response:
Objectives and Hypothesis The research would benefit from a more explicit statement of the research objectives and hypothesis. What specific aspects of teacher competence are you aiming to understand? Do you have a hypothesis about how the Merdeka Curriculum might be impacting these competencies?	Thank you for this valuable suggestion. We have clarified the research objectives in the revised version, specifying that we aim to explore teacher competencies in areas such as pedagogical adaptability, content knowledge, and assessment practices. Our hypothesis posits that the implementation of the Merdeka Curriculum has a positive impact on teachers' ability to integrate innovative teaching methods, develop 21st-century skills in students, and enhance student engagement. These areas are explicitly discussed in the revised objectives section.
Objective, Research Innovation, and Problem Statement The sections on the objective, research innovation, and problem statement should all be included in the introduction.	We have revised the introduction section to include clear statements on the research objectives, innovation, and problem statement, ensuring that they are all cohesively presented in the opening section.
Sampling Details Reviewer Comment: While the research site is defined as DKI Jakarta schools, details on the sampling frame (e.g., specific school types, grade levels) and participant selection criteria could be strengthened.	We appreciate the suggestion. In the revised manuscript, we have added a detailed demographic table that outlines the specific types of schools (public and private) and grade levels included in our sample. The participant selection criteria have also been expanded to explain how we ensured the sample reflects a range of teaching contexts and experiences across Indonesia.
Sampling Criteria Justification Reviewer Comment: The sampling criteria are briefly mentioned but lack detailed justification. Clarify how the selected sample represents the broader population of teachers in Jakarta.	We have provided a more detailed justification for the sampling criteria in the revised manuscript. The sample was selected to ensure diversity in terms of school types, teacher experience, and grade levels, ensuring it represents a broad cross-section of teachers in Indonesia.
Literature Review Reviewer Comment: The literature review should be strengthened. Consider incorporating studies from other countries for comparison.	We have strengthened the literature review by incorporating studies from other countries, including those on phenomenon-based learning in Finland, inclusive learning in India, and project-based learning in the United States. These studies help contextualize our

	research findings in a broader international framework.
Focus on 21st Century Skills The introduction mentions the importance of 21st-century skills, but the literature review and methodology sections could be strengthened by specifying which 21st-century skills will be explored in relation to teacher competence.	Thank you for highlighting this. We have now specified the 21st-century skills we are focusing on, including critical thinking, digital literacy, collaboration, and problem-solving. These skills are explicitly linked to teacher competencies in the revised literature review and methodology sections.
Critical Interpretation The interpretation could be more critical and nuanced. For example, while the research highlights positive impacts, it could delve deeper into the challenges and limitations faced by teachers in adapting to the curriculum.	Thank you for this suggestion. We have revised the interpretation section to provide a more balanced view of the challenges and limitations teachers face in adapting to the Merdeka Curriculum. These include issues such as inadequate training, resource disparities, and the complexities of shifting from a traditional to an independent learning model. We also highlight the importance of ongoing support and professional development for teachers to address these challenges.
Figures and Graphics Reviewer Comment: The figures themselves lack detailed descriptions or captions. It's difficult to understand the specific nodes and connections within each figure without further explanation. The presentation could be improved by using more concise and visually appealing graphics.	We have revised the figures by adding detailed captions to provide clearer explanations of the nodes and connections. Additionally, we have improved the visual design of the figures, making them more concise and visually engaging to ensure better readability and understanding.
Discussion Section Reviewer Comment: The discussion could be more in-depth and explore the broader implications of the findings for educational policy and practice in Indonesia. It could also discuss the findings in relation to other educational reforms and compare the experiences of teachers in Jakarta to those in other regions.	We appreciate this valuable suggestion. In the revised version, we have expanded the discussion to include the broader implications of our findings for educational policy and practice in Indonesia. We also compare our findings with similar educational reforms in other countries, such as Finland and China, to contextualize the Merdeka Curriculum's impact within a global framework.
References Section Reviewer Comment: Most of the references were not documented, and in page 9, some references were wrongly attached. The title of	We have thoroughly revised the reference section to ensure that all references are properly documented. The incorrect references on page 9 have been corrected,

the references section was "Literature" which should be changed to "References."	and we have renamed the section from "Literature" to "References" as suggested.
Comparative Insights Reviewer Comment: While the article focuses on Jakarta, it lacks comparative insights from other regions of Indonesia or other countries implementing similar reforms.	In response to this comment, we have added a comparative analysis section that compares Jakarta's experience with other regions in Indonesia and other countries that have implemented similar curriculum reforms. This global perspective enriches our findings and provides a more comprehensive view of the impact of the Merdeka Curriculum.
Clarity and Readability Reviewer Comment: Some sentences are overly long and complex, which can make the text difficult to understand. Consider breaking long sentences into shorter, simpler ones for better readability.	We have carefully proofread the manuscript to improve clarity and readability. Several long sentences have been broken down into shorter, more manageable ones to enhance the flow and ease of understanding.
Limitations Section Reviewer Comment: Consider including a brief limitations section acknowledging potential limitations of the study, such as sample size or generalizability.	We have added a limitations section to the revised manuscript, where we acknowledge the limitations of the study, including the relatively small sample size and the challenges of generalizing the findings to a broader population of teachers across Indonesia.
Conclusion Reviewer Comment: The conclusion could benefit from a stronger overall statement about the impact of the Merdeka Curriculum on teacher competence.	In response to your suggestion, we have revised the conclusion to provide a stronger and more concise statement about the impact of the Merdeka Curriculum on teacher competence, emphasizing the curriculum's potential to foster greater creativity and adaptability in teaching practices.
Language and Grammar Reviewer Comment: Proofread the article carefully and use tools like Grammarly to ensure linguistic accuracy.	We have proofread the manuscript thoroughly and used Grammarly to ensure linguistic accuracy. We believe the language quality has been significantly improved in this revised version.
Practical Implications Reviewer Comment: The practical implications of the findings for policymakers and educators are not sufficiently emphasized. Include a dedicated section discussing actionable recommendations for improving teacher competence under the Merdeka Curriculum.	We have added a dedicated section that discusses the practical implications of our findings for policymakers and educators. We provide actionable recommendations, such as the need for continuous professional development programs and support mechanisms for teachers adapting to the Merdeka Curriculum.

Challenges During Curriculum Implementation The discussion of challenges faced during the curriculum implementation, such as resource disparities, is limited. Elaborate on the challenges to provide a balanced view of the implementation's successes and shortcomings.	We have expanded the discussion of challenges faced by teachers during the curriculum implementation. This includes resource disparities, lack of teacher training, and resistance to change. By highlighting these challenges, we provide a more balanced view of the curriculum's impact.

Strengthening Teacher Competence for Leading and Sustaining the Implementation of the Merdeka Curriculum

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Abstract

The Merdeka Curriculum, implemented over the past three years, has highlighted a dynamic shift, impacting both teachers and students. This study employs a phenomenological qualitative approach, based on Miles and Huberman's framework, to evaluate the impact of the Merdeka Curriculum on teacher competence in Indonesia. The research involved teachers and educational stakeholders, particularly in public schools. Data were collected through participant observation, in-depth interviews, and documentation studies across 56 public high schools affiliated with the first wave of driving schools. The study applied Interpretative Phenomenological Analysis (IPA) and NVivo software to explore how participants interpret their personal and social realities. The findings provide a comprehensive understanding of the Merdeka Curriculum's impact on teacher competence, especially in fostering 21st-century professionalism in teaching. This research offers valuable insights for evaluating educational policies, with the primary output being a policy brief for the Indonesian government.

Keywords: 21st-Century Skills, Educational Policy Evaluation, Merdeka Curriculum, Phenomenological Approach, Teacher Competence

Introduction

The substantial size of the workforce in Indonesia presents both a significant challenge and a considerable opportunity for fostering economic growth. However, a scarcity of skilled graduates is the primary cause of limited job absorption (Nugroho et al., 2018; Yeoh et al., 2017). This issue arises from the disparity between the knowledge and skills in the education sector and those

required by the business sector. A comprehensive strategy that incorporates relevant knowledge and abilities is critical for preparing a higher-quality and more sustainable education system.

The biggest challenge in the current Indonesian education system is preparing skilled teachers to provide high-quality learning. Teachers, as professionals, are equipped with four competencies: social competency, pedagogical competency, personal competency, and professional competency (Nguyen et al., 2022; Siri et al., 2020). Through pedagogical and professional competencies, teachers can identify the skills that are urgently needed by students today, such as literacy, collaboration, creative thinking, and critical thinking—skills that support each other in improving the quality of students' abilities and workforce readiness. The personal abilities of teachers can motivate students to continue learning and developing with the times (König et al., 2020; Moser Opitz et al., 2020; Tran & O'Connor, 2024).

The facts on the ground that separate knowledge and skills have prompted the Indonesian government to innovate in order to close the gap. Several countries, including Germany, Finland, China, and Japan, have aligned learning with work-related skills (Farah & Ridge, 2009; Sakaue et al., 2024; Wermke et al., 2024; Zhao & Lee, 2024). The German curriculum prepares students with both learning and skills simultaneously, with the hope of integrating knowledge and skills so that students can adapt quickly (Szakács-Behling, 2022). Finland also provides many opportunities for students to continue growing by reducing the study load, with the hope of enabling students to further explore knowledge through their environment and life experiences (Wermke et al., 2015). The Japanese curriculum prepares students to instill competencies essential for realising a sustainable society by connecting global issues faced in everyday life with their solutions (Kondo et al., 2024; Sakaue et al., 2024; Urushibara-Miyachi et al., 2024). The United Arab Emirates is also transforming its curriculum by concentrating on improving students' abilities in various areas, enabling them to develop their full potential through integration with the business world (Farah & Ridge, 2009).

The Indonesian government has attempted to bring knowledge and skills closer together by launching the Merdeka Curriculum. This curriculum is designed to integrate skills and knowledge with the aim of ensuring that Indonesian students are prepared to competently compete in the world of work, both nationally and internationally (Choppin et al., 2022). In its implementation, the Merdeka Curriculum also prepares teachers by focusing on four competencies, offering several teacher competency improvement programmes. The purpose of this

study is to evaluate the extent of the impacts—both positive and negative—on the development of teacher competencies.

Merdeka Curriculum

Indonesia has implemented the Merdeka Curriculum as part of the government's transformation efforts to increase interest in reading, literacy, numeracy, and character development in students based on Pancasila values (Chen et al., 2021; Emawati et al., 2024). The Merdeka Curriculum focuses on the integration of knowledge with students' skills, with the aim that students can acquire better knowledge and skills. Additionally, the Merdeka Curriculum emphasises the importance of teacher professionalism in school implementation. In the implementation of the Merdeka Curriculum, teachers are provided with broad opportunities to use various sources of knowledge, not only textbooks but also information obtained through digital platforms and other related references (Wiryawan & Nurdin, 2024). The professional and personal competencies of teachers are greatly tested when obtaining additional information beyond textbooks, as teachers are required to read, search for, and find supplementary knowledge and information relevant to the lesson material to be taught (Hadi et al., 2023; Lemmrich & Ehmke, 2024; Susanto et al., 2022).

The Merdeka Curriculum is not only oriented towards achieving knowledge but also provides opportunities for students to develop their character in accordance with the concept of Pancasila. Student skills in problem-solving and collaboration are important elements in developing student character. Teachers who possess strong social and personal competencies will know how to take steps to develop student character (Cross, 1994). The important role of teachers in the implementation of the Merdeka Curriculum is supported by the government through various teacher competency development programmes, providing ample time for development. The impact of competency development among teachers in various regions of Indonesia is crucial to evaluate, as it contributes to the history of Indonesian curriculum development. This study will focus on the impact of the implementation of the Merdeka Curriculum on teacher competencies, including personal competency, pedagogical competency, social competency, and professional competency.

Teacher Competence

Teacher competence in providing education plays a crucial role (Lemmrich & Ehmke,

2024; Nurpitriyani et al., 2022). In the implementation of the Merdeka Curriculum, teachers, acting as facilitators, apply pedagogical competence. The teacher's ability to manage the learning process in accordance with the established scenario is an essential element. The teacher's personal and social competencies in classroom learning significantly influence the way teachers interact with students and colleagues (Ahmed et al., 2010; Tran & O'Connor, 2024). Teacher competence is described as a personal interpretation that can provide a positive example (Yang et al., 2021). The teacher's ability to maintain morals and provide a positive example significantly influences the formation of student character based on Pancasila values. The teacher's social competence is manifested in various actions that are directly experienced by students through coaching and social activities both inside and outside the classroom.

This study aims to measure the extent to which the implementation of the Merdeka Curriculum impacts the four teacher competencies. After the implementation of the Merdeka Curriculum, to what extent does the evaluation of the curriculum influence the improvement of teacher competence? If these competencies increase, the response from students and parents will lead to recognition, which may manifest in various forms of awards for schools and teachers. Over time, the enhancement of these teacher competencies has garnered attention from the government and school leaders. To what extent can schools provide recognition for this achievement? This positive effort needs to be sustained. What steps are schools taking to assess, maintain, and develop teacher competencies?

Research Methods

This study employed a qualitative research methodology with a phenomenological approach to examine the relationship and impact of implementing the Merdeka Curriculum on teacher competencies. A qualitative design with a phenomenological approach was chosen because it allows for an in-depth understanding of complex social phenomena, such as teacher behaviour in implementing the Merdeka Curriculum and the positive impacts that can influence teacher competence. This design is well-suited for exploring how the Merdeka Curriculum program affects teacher competence, provides valuable experiences, and changes the way teachers teach classroom lessons—an aspect that quantitative methods may not fully capture. The phenomenological approach is ideal for this study because it investigates a specific theme. This approach also allows

for the examination of multiple data sources—such as interviews, observations, and document analysis—to provide a comprehensive view of the program and its impact on teacher competence.

Participants

The research was conducted in public schools across 10 provinces in Indonesia, including primary schools, junior high schools, senior high schools, and vocational schools, all of which have implemented the Merdeka Curriculum in their learning processes. To ensure equal representation from each type of school and category of teachers, this study established two primary criteria for selecting the research population: (1) schools must have implemented the Merdeka Curriculum for at least one year, and (2) schools must have at least five driving teachers to support the implementation of the Merdeka Curriculum in the learning process. Based on these criteria, 26 schools were selected, comprising five primary schools, eight junior high schools, seven senior high schools, and six vocational schools. The researchers selected five teachers from each school for in-depth interviews. This study employs a stratified random sampling technique to ensure diversity and balanced representation. Teachers are grouped according to their school levels—primary, junior high, senior high, and vocational schools. This technique is combined with simple random sampling to provide equal opportunities for each respondent to participate in the study.

Data Collection

The research data collection was conducted using three methods: in-depth interviews, observations, and field notes, to ensure the triangulation of data sources and the validity and reliability of the findings. Data collection took place across 10 provinces in Indonesia. The selected schools met two criteria: implementing the Merdeka Curriculum for at least one year and having a driving teacher. The research subjects were required to participate in the driving teacher training to understand the Merdeka Curriculum as set by the Ministry of Education and Culture.

Interviews were conducted with 52 teachers who voluntarily registered to share their experiences implementing the Merdeka Curriculum. They were selected using purposive sampling to ensure relevance to the research questions. The participants, aged between 24 and 50 years, represented a variety of educational backgrounds and teaching experiences. Interviews were conducted offline, with schedules arranged according to each participant's preference for comfort and privacy. Each interview lasted between 30 and 60 minutes, allowing for in-depth exploration of the participants' experiences. The interview protocol, developed based on existing educational frameworks,

included open-ended questions to obtain detailed responses on participants' reasons for choosing the Merdeka Curriculum implementation program, the challenges faced, and its impact on teacher competency. In-depth interviews were selected to gain nuanced insights into participants' thoughts and experiences, enabling a comprehensive understanding of the motivations behind teachers' implementation of the Merdeka Curriculum and the positive impacts on various aspects of teacher competency.

Observations were conducted at schools to capture the dynamics of teacher interactions and active student involvement during the learning process. These observations took place over two weeks, focusing on the four teacher competencies being studied: social competence, pedagogical competence, personal competence, and professional competence. Participants in this process were teachers from schools that had met the previously established criteria. The selected teachers also possessed strong communication skills, making it easier for researchers to obtain comprehensive information. Observations complemented the interviews by providing real-time data on how the program was implemented. Various documents were examined for document analysis, such as lesson plans, student worksheets, and student responses related to the implementation of the Merdeka Curriculum. These documents were obtained directly from participants and each school. Document analysis provided additional data, offering insights into the significant impact of teacher competencies and helping to triangulate information obtained from the interviews and observations.

Data Analysis

Data analysis was conducted in two phases. The initial phase involved thematic analysis, following the framework of Miles and Huberman (1994). This phase began with data reduction, which included transcribing interview data and identifying predetermined themes aligned with the four teacher competencies: social, pedagogical, personal, and professional competence, all influenced by the implementation of the Merdeka Curriculum. Subsequently, data visualization was used to organise themes and subthemes visually, enhancing the clarity and comprehensibility of the findings. This process culminated in verification and conclusion drawing, where themes were synthesised to determine the impact of Merdeka Curriculum implementation on teacher competencies within the school learning environment.

The second phase utilised the capabilities of NVivo software for in-depth data coding. Interview data was meticulously imported into NVivo, enabling researchers to conduct more nuanced coding procedures. The data was categorised into predetermined themes and subthemes corresponding to the four teacher competencies: social, pedagogical, personal, and professional competence. This cross-data coding facilitated a more refined analysis by enabling the identification of recurrent word patterns, providing deeper insights into the collected data. The identification of words with similar characteristics strengthened the thematic framework and offered a more nuanced perspective on how the implementation of the Merdeka Curriculum impacts teacher competencies.

FINDINGS AND DISCUSSION

4.1 Findings

4.1.1 Social Competence

1. Communication Skills

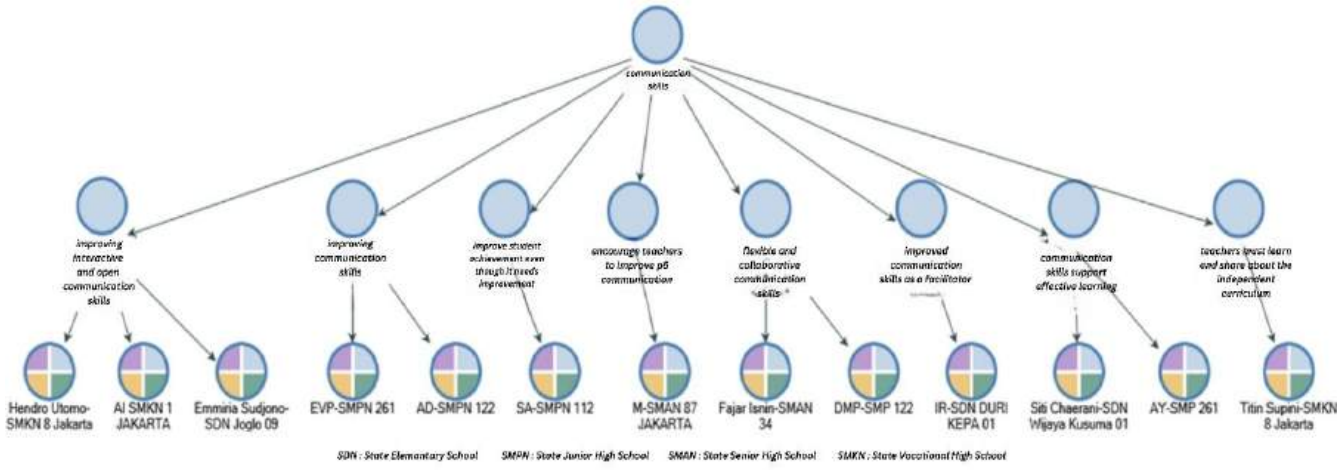

Figure 4.1: The Impact of the Merdeka Curriculum on Teachers' Communication Skills (Project Maps)

Figure 4.1 displays the results of data analysis regarding the impact of the Merdeka Curriculum on improving teachers' social competence in communication. Improved communication skills are highlighted as the main finding, with several specific findings emerging

from the research. These findings include enhanced student achievement, adjustments in the implementation of the Merdeka Curriculum, encouragement for teachers to improve communication patterns—particularly in implementing P5—and greater flexibility in communication during collaboration. Teachers are also expected to be effective facilitators in the learning process, with communication skills that support the achievement of educational goals. These results indicate that the Merdeka Curriculum brings positive changes to teachers' communication skills, both in guiding students and collaborating with other parties, although further adjustments are needed for broader application.

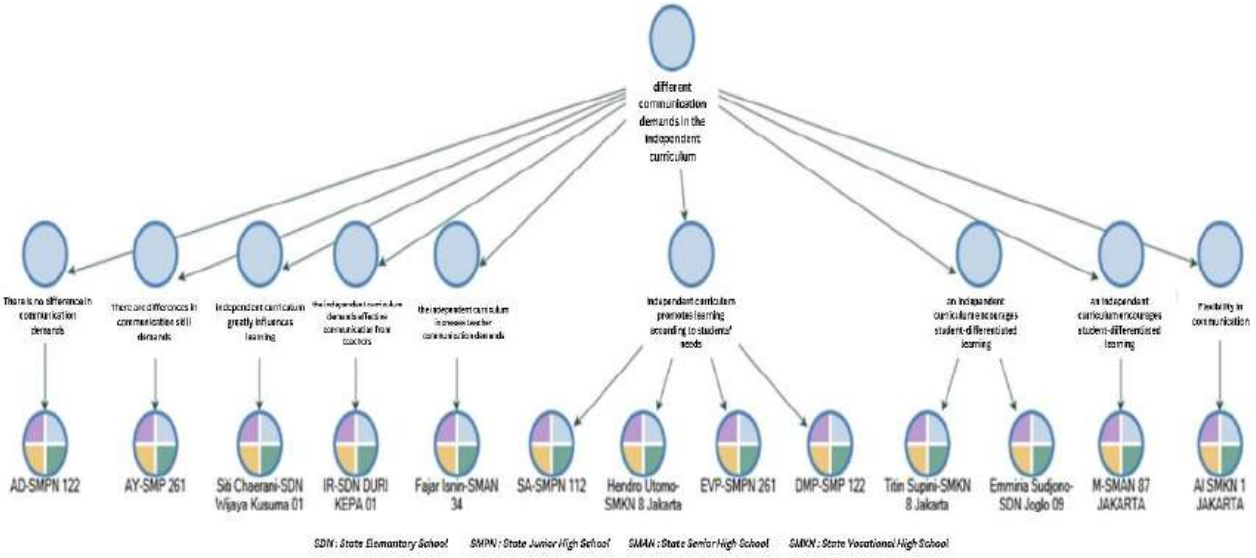

Figure 4.2: Different Communication Demands in the Merdeka Curriculum (VPM)

Figure 4.2 presents the results of data analysis regarding differences in communication demands in the Merdeka Curriculum. The research findings indicate that the Merdeka Curriculum introduces different communication demands compared to the previous curriculum. Some respondents, such as AD, reported no significant differences in communication demands. However, other respondents, including AY and SC, emphasized a significant change in communication demands, with the Merdeka Curriculum impacting overall learning and requiring more effective communication from IR.

The following interview excerpts further support the research findings:

FI and SA noted that the Merdeka Curriculum increases the demands on teachers' communication skills, requiring them to be more flexible and focused on meeting student needs.

This view is also supported by HU, who emphasized that the Merdeka Curriculum promotes learning that caters to students' individual needs. Additionally, EVP and DMP highlighted that differentiated learning is now prioritized, necessitating more responsive communication from teachers.

Furthermore, TS and ES emphasized the importance of teachers fostering two-way communication with students, while M and AI stressed the need for flexibility in communication to meet the demands of more effective learning under the Merdeka Curriculum. Overall, the study reveals that the Merdeka Curriculum introduces significant changes to the demands placed on teacher communication, which must now be more flexible, effective, and tailored to student needs.

The following excerpts are from the researcher's interview with the participant:

2. Adaptability

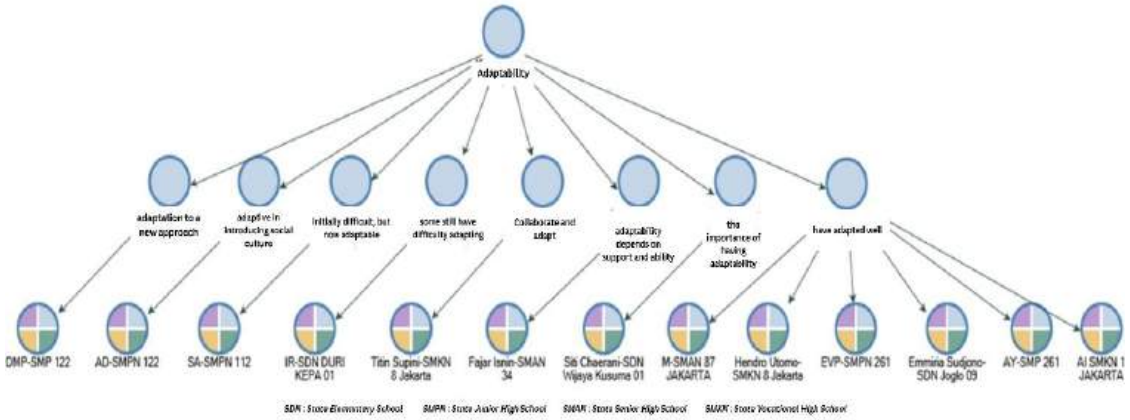

Figure 4.3: VPM Adaptability in Implementing the Merdeka Curriculum

Figure 4.3 displays the results of data analysis related to adaptability in implementing the Merdeka Curriculum. The study found that teachers' adaptability to the Merdeka Curriculum varies. Some teachers, such as DMP, reported having successfully adapted to the new approach introduced by the curriculum. Meanwhile, AD and SA noted that their adaptation process also involved understanding the socio-cultural aspects of students, which they identified as key to success in the teaching and learning process.

Some teachers, such as IR, stated that although adapting to the changes introduced by the Merdeka Curriculum was initially challenging, they have now successfully adjusted. However,

findings from TS and FI indicate that some teachers continue to face difficulties in meeting the new demands. This suggests that the adaptation process is not uniform across all settings.

Additionally, the importance of support and collaboration in the adaptation process was emphasized by respondents such as SC and M, who noted that adaptability is strongly influenced by a supportive work environment and an individual's willingness to continue learning. Teachers like HU and EVP stated that they have successfully adapted, while other interviewees, such as ES and AI, highlighted the significance of being adaptable when facing curriculum changes.

3. Inclusive Behavior

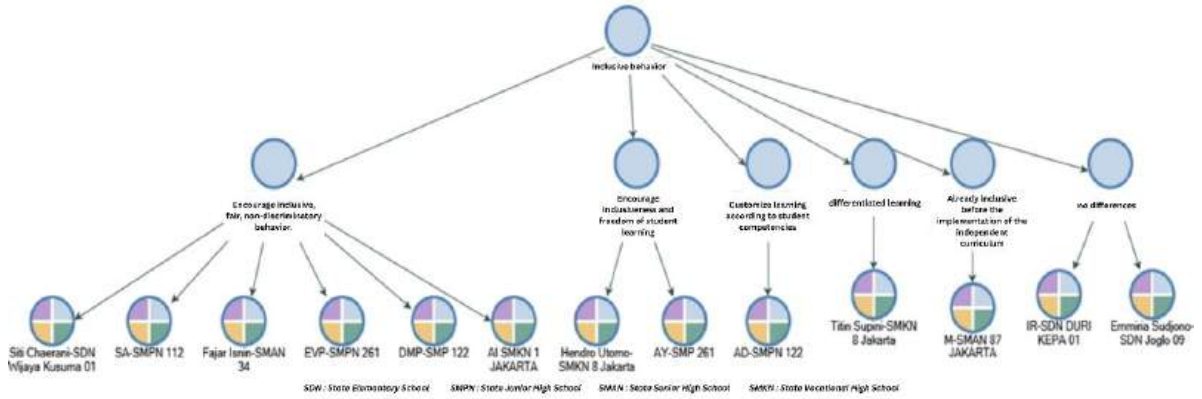

Figure 4.4: VPM for Inclusive Behavior in Implementing the Merdeka Curriculum

Figure 4.4 presents the results of the research analysis regarding differences in inclusive and non-discriminatory behavior exhibited by teachers in implementing the Merdeka Curriculum. The findings show that the Merdeka Curriculum fosters inclusive, fair, and non-discriminatory behavior within the educational environment. Teachers such as SC, SA, and FI confirmed that the curriculum motivates them to adopt more inclusive and equitable practices, ensuring no discrimination toward students.

Furthermore, HU and AI pointed out that the Merdeka Curriculum encourages inclusiveness and greater learning freedom for students, with learning tailored to each individual's competencies and needs, as noted by AY and AD. TS highlighted that differentiated learning is a crucial component of the Merdeka Curriculum, where teachers give greater attention to diverse learning needs. Meanwhile, M revealed that inclusive behavior had been practiced even before the

implementation of the Merdeka Curriculum, and IR and ES stated that there was no significant change in inclusive behavior since its implementation.

4.1.2 Pedagogical Competence

1. Learner Development

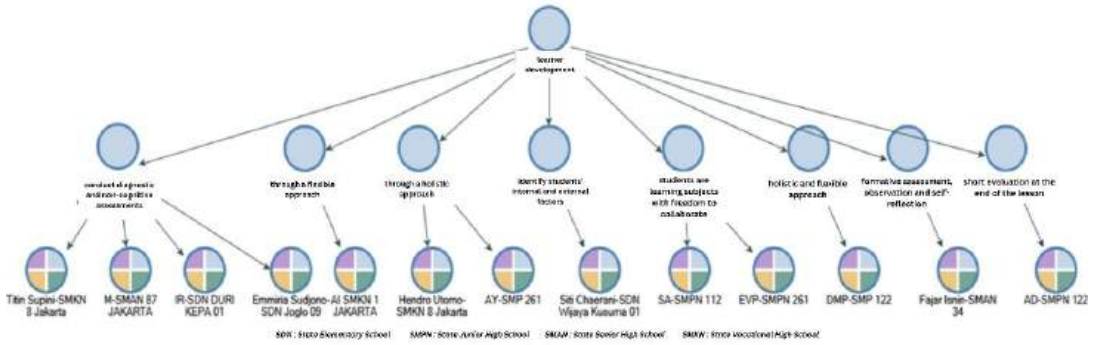

Figure 4.5: VPM for the Impact of the Merdeka Curriculum on Learner Development

Figure 4.5 displays the research findings related to learner development in the Merdeka Curriculum. The results show that learner development within this curriculum is approached through various strategies. Teachers such as TS and M emphasize the importance of conducting diagnostic and non-cognitive assessments to understand students' overall development. Additionally, ES and AI stress the need for a flexible learning approach to meet the individual needs of students.

A holistic approach to understanding students, as emphasized by HU, is crucial for developing learners, where both academic and non-academic aspects are equally considered. Teachers like AY also recognize the importance of understanding students' internal and external factors to provide more tailored support in learning.

Students are seen as active participants in the learning process with the freedom to collaborate, as reported by SA, where they are given more autonomy in determining how they learn. Additionally, the holistic and flexible approach to learning, highlighted by EVP and DMP,

underscores the importance of adapting teaching methods to enhance student engagement. According to FI, formative assessments, observations, and self-reflection are integral to the learning process, while AD suggested that short evaluations at the end of lessons are an effective way to assess students' achievements and progress.

2. Learning Implementation

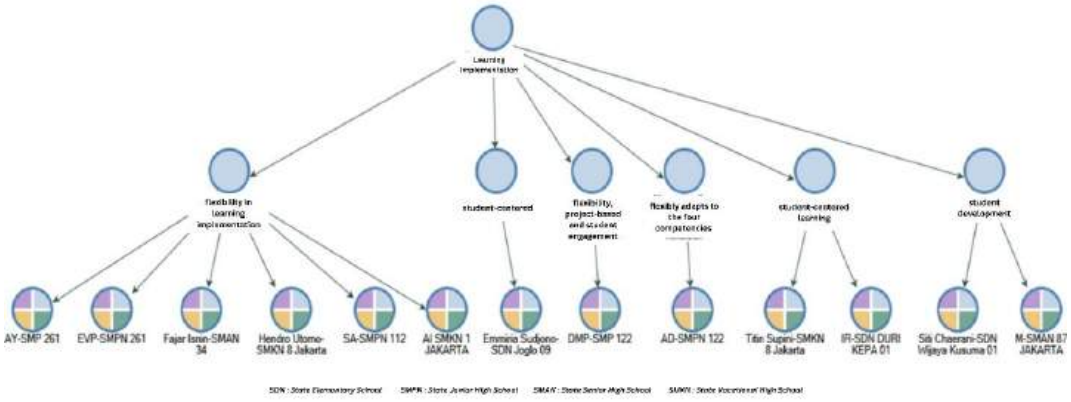

Figure 4.6: VPM for the Implementation of Merdeka Curriculum Learning

Figure 4.6 presents the results of the research findings regarding the implementation of learning in the Merdeka Curriculum. These findings indicate that the Merdeka Curriculum offers greater flexibility compared to the previous curriculum. Teachers such as AY, EVP, and FI emphasized that this flexibility allows for the adjustment of materials based on students' needs and the learning context. Additionally, HU and SA revealed that learning is more student-centered, with students given greater autonomy to determine how they learn based on their interests and abilities.

Project-based approaches and active student engagement in learning are also key focuses of the Merdeka Curriculum, as shared by AI and ES. Teachers such as DMP and AD emphasized the importance of adjusting learning to the four competencies—spiritual, social, knowledge, and skills—flexibly, considering time and students' learning needs. TS and IR highlighted that learning in the Merdeka Curriculum is tailored to students' individual needs, enabling a more personalized

approach. Finally, the development of student competencies is the primary goal of this learning implementation, as expressed by SC and M.

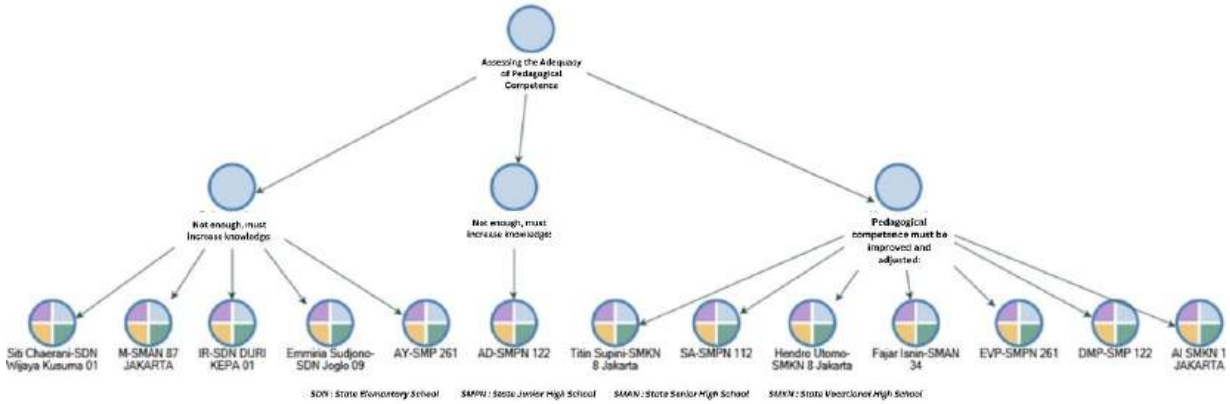

Figure 4.7: VPM in Assessing Pedagogical Competence Adequacy in the Merdeka Curriculum

Figure 4.7 presents the results of the research analysis regarding the assessment of the adequacy of teachers' pedagogical competence in implementing the Merdeka Curriculum. The findings of this study reveal three key insights.

First, the pedagogical competence that teachers currently possess is considered insufficient, primarily because they need to expand their knowledge and skills, as noted by SC, M, and IR.

The second finding indicates that pedagogical competence is severely limited when the number of students in a class exceeds a reasonable capacity, as stated by AY and AD. This situation necessitates strategies such as class division or additional supporting teachers to manage students effectively.

The third finding highlights the importance of improving and adjusting pedagogical competencies to meet the demands of the Merdeka Curriculum. Teachers such as TS, FI, and HU emphasized that integrating technology and adapting teaching methods are essential to accommodate the needs of more flexible and project-based learning.

3. Learning Evaluation

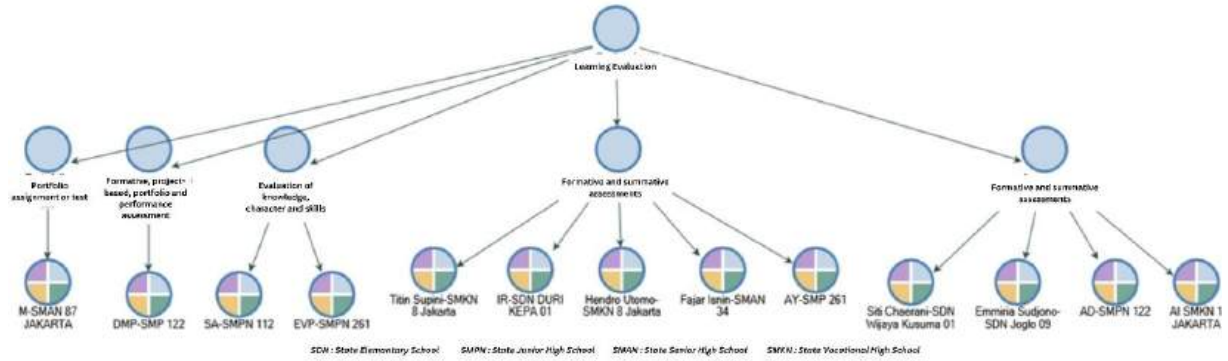

Figure 4.8: VPM for Learning Evaluation in the Merdeka Curriculum

Figure 4.8 presents the results of the research findings regarding learning evaluation in the Merdeka Curriculum. The research indicates that learning evaluation in the Merdeka Curriculum is carried out through various approaches that are more flexible and diverse compared to the previous curriculum. Portfolio-based evaluation, assignments, and tests are among the primary methods. Additionally, project-based formative evaluations, portfolios, and performance assessments are used to assess students' overall skills, as revealed by DMP and SA.

Evaluation in the Merdeka Curriculum emphasizes a holistic assessment that includes knowledge, character, and skills, as described by EVP. Both formative and summative assessments are also key components of the evaluation process, as noted by TS, IR, and HU, with a focus on continuous monitoring of student development.

Furthermore, the research highlights the importance of diagnostic, formative, and summative assessments in providing a comprehensive picture of student achievement, as expressed by SC, ES, and AD.

4.1.3 Personality Competence

1. Norms and Rules

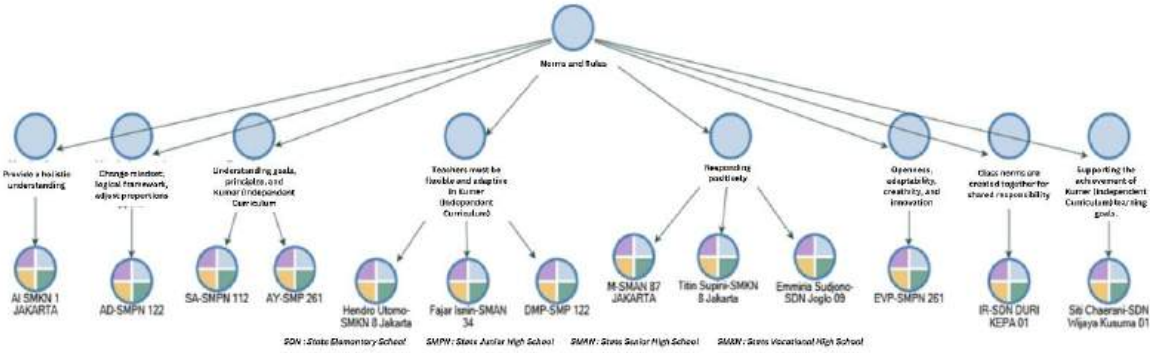

Figure 4.9: VPM in Addressing Norms and Rules in the Curriculum

The research findings regarding personality competence related to norms and rules in learning reveal that norms and rules play a crucial role in fostering a learning environment that supports the achievement of Merdeka Curriculum goals. AI emphasized the importance of providing students with a holistic understanding of the rules, while AD highlighted the need for mental shifts and logical adjustments when applying rules and learning proportions. Understanding the principles and objectives of the Merdeka Curriculum, as noted by SA and AY, serves as an important foundation for adjusting classroom norms.

Teachers must be flexible and adaptive in implementing the Merdeka Curriculum, as stated by HU and FI, ensuring that norms and rules remain effective. DMP from SMPN 122 added that adopting a positive attitude toward the rules can enhance their effectiveness, a sentiment echoed by M and TS.

Openness, adaptation, creativity, and innovation in managing classroom norms with students, as explained by ES and EVP, foster a sense of shared responsibility. Additionally, clear and consistent norms are essential for achieving learning objectives, as expressed by IR and SC.

2. Attitude

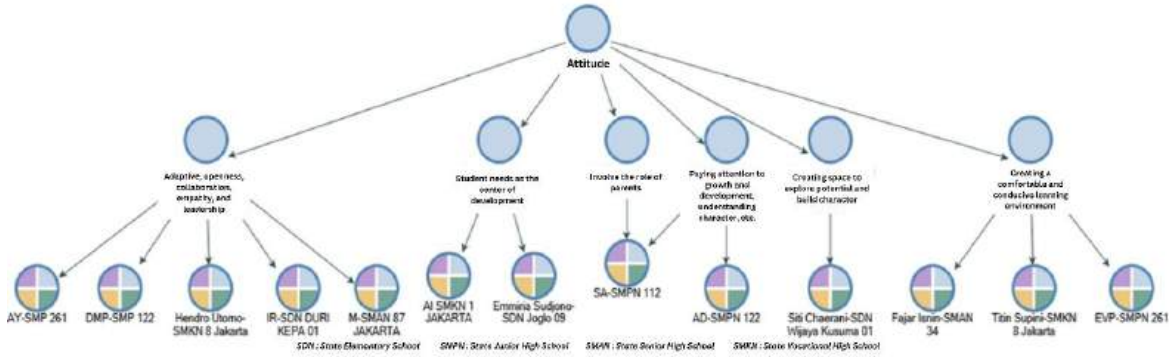

Figure 4.10: VPM Attitudes Teachers Must Demonstrate in Implementing the Merdeka Curriculum

The findings highlight several key aspects of teacher attitudes necessary to support effective learning within the Merdeka Curriculum. First and foremost, teachers must demonstrate adaptability, openness, collaboration, empathy, and leadership skills, as emphasized by AY, DMP, HU, and IR. These qualities are essential for fostering dynamic learning environments that prioritize students' needs and promote engagement and motivation.

Additionally, it is crucial to consider the development of students, as the focal point of the educational process. AI and ES stress that learning should be directed toward meeting the diverse needs and unlocking the potential of each student. This individualized approach ensures that every learner is given the opportunity to thrive based on their abilities and interests.

Moreover, the role of parents in the learning process cannot be overlooked. Active involvement from parents, as highlighted by SA, is essential for creating a supportive and collaborative educational ecosystem. Teachers must also closely monitor students' growth and development, understand their unique characteristics, and provide the necessary support for their overall well-being, as noted by AD.

Furthermore, teachers are encouraged to create learning spaces that facilitate student exploration and character development. As SC explains, these spaces should foster creativity and critical thinking. In addition, teachers must ensure that the learning environment is comfortable

and supportive, as mentioned by FI, TS, and EVP, as this is vital for sustaining students' engagement and enhancing the effectiveness of the learning process.

3. Work Ethic

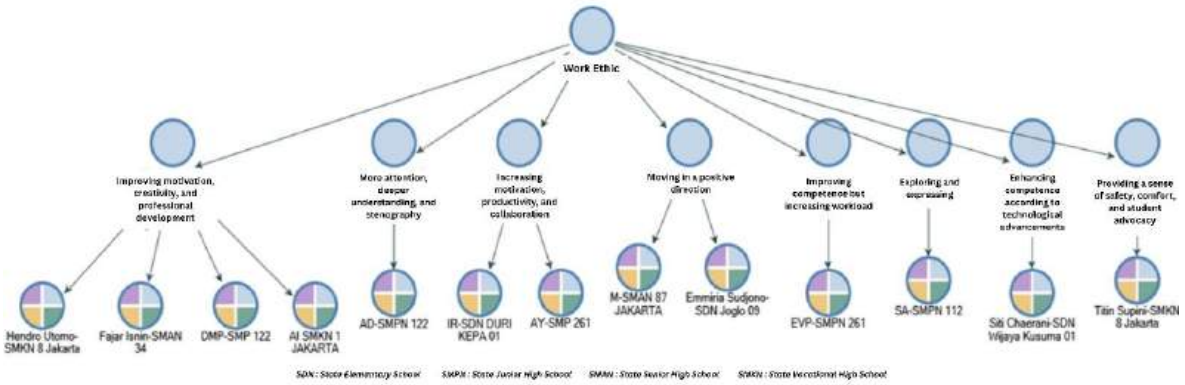

Figure 4.11: VPM of the Impact of Implementing the Merdeka Curriculum on Work Ethics

This finding shows that the implementation of the Merdeka Curriculum has a significant impact on increasing teacher motivation, creativity, and professional development. HU, FI, and DMP reported that the Merdeka Curriculum encourages teachers to be more creative and engaged in professional development.

Teachers are also placing greater emphasis on understanding students' needs and deepening skills, such as stenography, to take notes more effectively, as shared by AI and AD. Improved motivation, productivity, and collaboration were also reflected in the findings of IR and AY, who indicated that the Merdeka Curriculum fosters better cooperation between teachers and students.

Positive impacts were also observed in the improvement of work ethic, with many teachers reporting positive changes in their teaching approaches, as expressed by M and ES. However, some teachers, such as EVP, revealed that the increase in teacher competencies also resulted in an increased workload.

Teachers like SA and SC noted that the Merdeka Curriculum offers opportunities to explore and adapt to technological developments and adjust competencies in line with current times. Additionally, the Merdeka Curriculum encourages teachers to create a safe and comfortable learning environment that benefits students, as stated by TS.

4.1.4 Professional Competence

1. Material Mastery

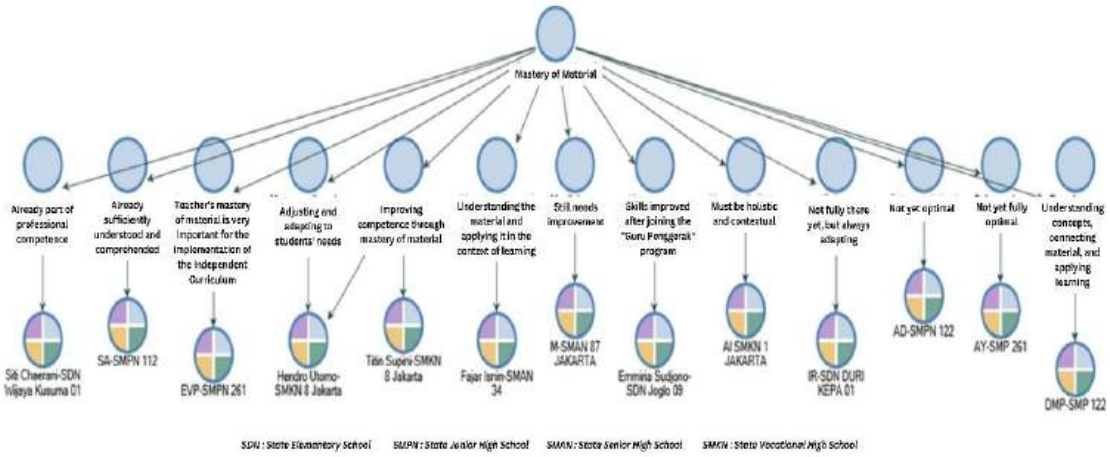

Figure 4.12: VPM of Professional Competence and Mastery of Materials in the Curriculum

The research findings presented in Figure 4.12 highlight the importance of professional competence, particularly in mastering the material within the Merdeka Curriculum. This finding indicates that teachers' mastery of teaching materials is a crucial element in the successful implementation of the Merdeka Curriculum.

SC emphasized that mastery of the material is an integral part of a teacher's professional competence. SA and EVP stressed that a sufficient and in-depth understanding of the material is essential for effectively implementing the Merdeka Curriculum. HU added that it is important for teachers to adjust and adapt materials to meet students' needs.

Teachers must also continually improve their competence in mastering the material, as noted by TS and FI, who highlighted the importance of understanding the context of learning. However, some teachers, such as M, acknowledged that mastery of the material still needs improvement, particularly in applying contextual and holistic learning, as expressed by AI.

Although some teachers, such as ES and IR, have demonstrated improved competence, others feel they are still in the process of adapting to the Merdeka Curriculum materials. AD and AY emphasized that their mastery of the material has not yet reached its full potential, although they are making efforts to improve.

DMP emphasized that understanding concepts, connecting materials, and applying learning are key components of the Merdeka Curriculum, requiring ongoing improvement and adjustment from teachers.

2. Use of Technology

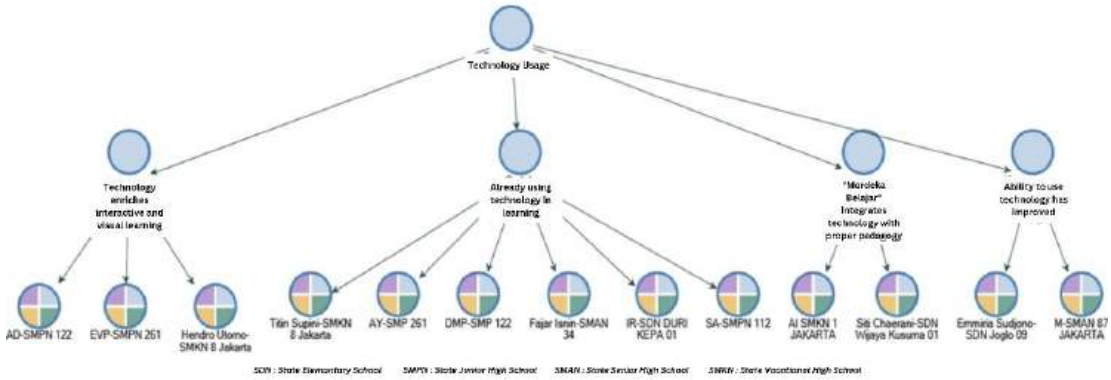

Figure 4.13: VPM on the Use of Technology in the Merdeka Curriculum

Figure 4.13 highlights the pivotal role technology plays in enriching learning, particularly within the context of the Merdeka Curriculum. According to AD, EVP, and H, technology has significantly contributed to creating more interactive learning experiences in the classroom. Additionally, it provides visually engaging learning experiences, which enhance students' comprehension of the material.

Many teachers, including TS, AY, and DMP, have integrated technology into their teaching methods, utilizing various platforms and tools to support the learning process. These educators have observed that the Merdeka Curriculum encourages them to blend technology with appropriate pedagogical strategies, as emphasized by AI and SC. This fusion enables a more holistic and relevant learning experience, catering to students' diverse needs and fostering a deeper understanding of the subject matter.

Moreover, teachers' ability to utilize technology has been steadily increasing, as indicated by ES and M. These educators have become more proficient in leveraging various digital tools that support project-based learning, collaborative efforts, and formative assessments. This growing technological competence is empowering teachers to create dynamic and flexible learning environments, reflecting the evolving demands of the modern educational landscape.

3. Self-Development

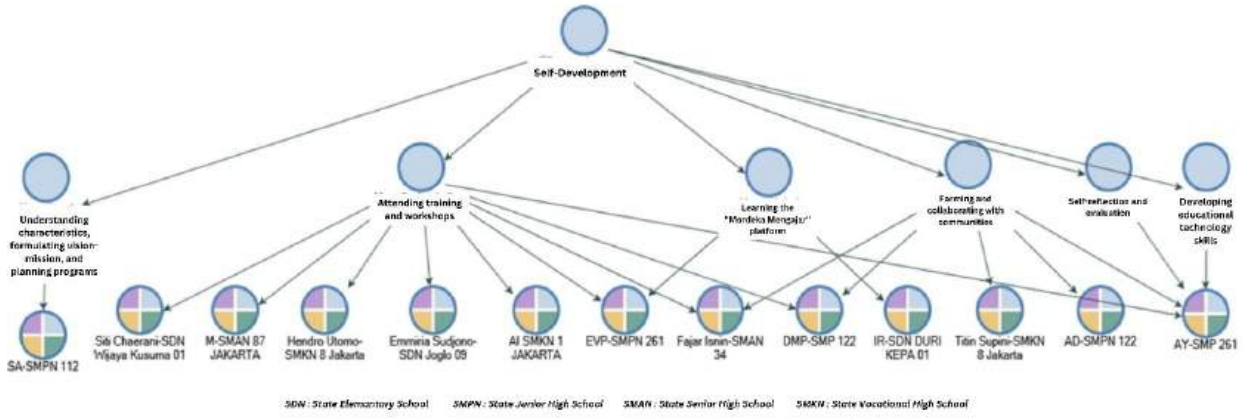

Figure 4.14: VPM of Self-Development in Enhancing Professional Competence within the Merdeka Curriculum

The research findings regarding professional competence focus on teacher self-development within the context of the Merdeka Curriculum. These findings highlight that self-development is a crucial factor in improving teachers' abilities and effectiveness in implementing the Merdeka Curriculum.

SA and SC emphasized the importance of understanding the characteristics of the education unit, developing a clear vision and mission, and planning appropriate learning programs. Teachers such as M, HU, and ES actively participate in training and workshops to enhance their professional competencies.

In addition to formal training, teachers also engage with the "Merdeka Mengajar" platform to better understand and apply Merdeka Curriculum concepts in the teaching and learning process. Teachers like FI and EVP use this platform to support classroom learning. Collaboration with professional communities is also considered vital by teachers such as IR and TS, who noted that such collaboration helps enrich learning insights and practices. Moreover, periodic self-reflection and evaluation, as highlighted by AD, enable teachers to continuously improve the quality of their teaching.

4.2 Discussion

4.2.1 Social Competence

The findings highlighted significant improvements in teachers' communication and adaptation skills under the Merdeka Curriculum. Teachers demonstrated increased flexibility in communication during collaboration, developed facilitation abilities, and responded more effectively to the diverse demands of students. The Merdeka Curriculum fosters an inclusive, equitable, and non-discriminatory learning environment, tailoring education to the individual competencies of each student. However, the adaptation process among teachers remains uneven, with some facing notable challenges. These findings echo broader concerns in curriculum implementation, as teachers' preparedness and ability to adapt to systemic changes vary widely (Caena & Vuorikari, 2022; Rencher et al., 1978). While the Merdeka Curriculum has led to positive changes in teachers' social competencies—especially in communication, adaptation, and inclusive behavior—future adjustments are necessary in certain areas.

The practical implications of these findings are significant for policymakers and educators. For policymakers, the research emphasizes the importance of targeted professional development programs and continuous support to ensure that teachers can effectively navigate these changes. While the Merdeka Curriculum offers a promising framework for inclusive education, the uneven pace at which teachers adapt suggests the need for more robust, localized support structures (Caena & Vuorikari, 2022; Cross, 1994). For educators, fostering an inclusive learning environment goes beyond implementing new teaching strategies; it involves mastering social competencies such as conflict management, team collaboration, and a deep understanding of student diversity. These skills are essential in creating a dynamic, responsive classroom that aligns with the goals of the Merdeka Curriculum.

Comparative studies from other global contexts offer additional perspective on these challenges. For example, studies in the United States and the United Kingdom have shown similar struggles in implementing inclusive curricula, particularly concerning the professional development of teachers and the integration of new technologies (Johansson et al., 2014). In both contexts, a key challenge has been the alignment of curriculum changes with teachers' pre-existing skills and the varying levels of institutional support available. While the Merdeka Curriculum has its own unique cultural and educational context, the global trend highlights that substantial teacher training and systemic support are critical in ensuring the success of inclusive education reforms.

Furthermore, the research findings emphasize the importance of teachers' ability to build strong networks within the educational ecosystem. Teachers in this study demonstrated improved social interaction skills with students, colleagues, and parents, contributing to a more inclusive and supportive environment. Teachers' social competence—including the ability to communicate effectively and manage conflict—plays a pivotal role in creating a collaborative and inclusive classroom (Pantiwati et al., 2023; Siri et al., 2020). Globally, studies on teachers' social competence, such as those by Caena and Vuorikari (2022), Lindström et al. (2024), and Reagan and Pratte (1973), underline that effective communication and teamwork are essential for fostering a harmonious learning environment. Teachers must act not only as instructors but also as facilitators of collaboration within the broader school community.

Considering these challenges and opportunities, while the Merdeka Curriculum has made notable strides in improving teachers' social competencies, further investments in professional development are crucial. Teachers need ongoing training to adapt to evolving pedagogical practices, manage new educational technologies, and respond to the diverse demands of students. This is particularly pertinent in a global context where educational reforms often encounter resistance due to inadequate training or a lack of support for teachers (Cross, 1994). Policymakers must prioritize the creation of support systems that equip educators to navigate these changes, ensuring that the goals of the Merdeka Curriculum are met and that inclusive, equitable education becomes a reality for all students.

4.2.2 Pedagogical Competence

The implementation of the Merdeka Curriculum poses a number of challenges that can impact its effectiveness. A major concern is the large class size, which hinders teachers' ability to provide individualized attention and tailor learning experiences to the diverse needs of students. This is a common issue not only in Indonesia but also in many other countries with limited resources, such as India and Brazil, where class sizes often exceed 40 students. Additionally, while the Merdeka Curriculum encourages a shift toward technology integration and student-centered learning, teachers often lack the necessary training and resources to make these transitions successfully. Short online training programs are insufficient in helping teachers adapt to these new methods, leaving many without the technological proficiency needed for effective implementation (Hartshorne et al., 2020; Hew et al., 2020; Mahmood, 2021). Furthermore, resource constraints,

such as insufficient teaching assistants and teaching tools, add to the difficulties teachers face in adapting their methods to large, diverse classrooms. These resource limitations prevent teachers from fully engaging with every student, reducing the overall effectiveness of the curriculum (Pantiwati et al., 2023).

The findings from the research offer several practical implications for policymakers and educators to improve the implementation of the Merdeka Curriculum. First, there is a clear need for policymakers to invest in continuous, accessible teacher training programs that focus on both pedagogical innovation and technological integration. Equipping instructors with the necessary resources to effectively engage students—primarily through project-based learning and technology-enhanced methods—can facilitate the successful realization of the curriculum's student-centered approach. Additionally, to address the challenge of large class sizes, class division strategies and the use of teaching assistants are practical solutions that could significantly enhance the quality of instruction. Policymakers should prioritize these strategies and allocate resources to ensure that teachers are supported in managing large classrooms. Another key implication is the shift toward holistic student assessments, which track not only academic progress but also socio-emotional development. Educators' assessment frameworks should incorporate a broader range of evaluative methods, such as portfolios and performance assessments, to reflect the diverse aspects of students' growth.

A comprehensive, global viewpoint indicates that the issues and solutions associated with implementing the Merdeka Curriculum are not exclusive to Indonesia. The prevalence of large class sizes is a significant concern in nations with constrained educational resources, such as India and Brazil. Overcoming this obstacle necessitates systematic support through resource allocation and the employment of teaching assistants—tactics that have been effectively executed in other nations confronting analogous issues (Mahmood, 2021). The global trend of integrating technology in education is apparent in numerous nations; nevertheless, its effectiveness is largely contingent upon the training and preparedness of educators. Finland has made substantial investments in digital tools and teacher professional development to facilitate efficient technology integration. This comparative analysis indicates that although the Merdeka Curriculum's emphasis on technology and student-centered learning corresponds with international best practices, local teacher readiness and infrastructure enhancements are essential for its complete efficacy.

Additionally, the worldwide transition toward comprehensive evaluations, particularly those emphasizing socio-emotional development, reinforces the trajectory of the Merdeka Curriculum. Countries such as Finland and Singapore have consistently adopted comprehensive evaluation models that monitor both academic and character development, a practice that aligns with the Pancasila Student Profile in Indonesia. The efficacy of such programs relies on adapting global techniques to local contexts, ensuring that the curriculum is culturally relevant and viable within current resource limitations.

4.2.3 Personality Competence

The research findings demonstrate that the effectiveness of teachers' personality competence within the Merdeka Curriculum is largely based on the rigorous application of norms and regulations in learning. Clearly defined and consistently enforced norms foster a conducive learning environment, which is vital for achieving the goals of the Merdeka Curriculum. Teachers must demonstrate adaptability, flexibility, and a positive attitude in applying these rules, ensuring that students understand and implement them effectively. To address diverse student needs, norms should be applied holistically and collaboratively, actively involving students in the learning process. Creativity and innovation on the part of teachers in managing classroom norms are essential, enabling students to develop a sense of shared responsibility in their education. Parental involvement and a safe, supportive learning environment are critical factors for success. Implementing the Merdeka Curriculum has positively influenced teacher motivation and professionalism, encouraging greater creativity and collaboration in nurturing students' potential. However, the increased workload for teachers highlights a significant challenge in implementation. Addressing this requires targeted efforts to enhance teachers' pedagogical and personal competencies to sustain the curriculum's focus on holistic student development.

From a global perspective, the challenges faced in implementing the Merdeka Curriculum align with similar reforms worldwide, where teachers are expected to balance traditional practices with progressive educational demands. For instance, curriculum reforms in Finland and Singapore also highlight the importance of teacher adaptability and student-centered learning, suggesting the necessity for ongoing professional development and institutional support. Policymakers should consider these international benchmarks to provide actionable strategies that alleviate teacher burdens while enhancing curriculum implementation.

The practical implications of these findings are profound for both policymakers and educators. Policymakers must address systemic challenges, such as teacher workload, by offering targeted training programs and additional resources to streamline curriculum demands. Integrating technology and collaborative teaching methods could further support teachers in managing classroom norms effectively. Educators, on the other hand, should focus on fostering professional learning communities where best practices and innovative strategies are shared. Such collaborative efforts would enhance teacher competencies and contribute to the sustainable implementation of the Merdeka Curriculum.

This study reinforces existing theories on the critical role of teacher personality competence in fostering conducive learning environments. Previous research by Ahmad et al. (2017) highlighted the importance of stable, authoritative, and responsible teacher personalities in shaping student character. Similarly, Prahastina et al. (2024) emphasized the need for consistency and flexibility in applying norms and rules, aligning with the adaptive and creative roles required of teachers under the Merdeka Curriculum. Furthermore, findings from Yoto et al. (2024) underscore the significance of collaborative approaches that actively engage students in learning, echoing the global shift toward participatory education. The role of teachers in building harmonious relationships with parents and the community, as noted by Pantiwati et al. (2023), further complements the findings of this study. Lastly, Rohmah et al. (2024) assert that teacher professionalism and integrity drive holistic student development, paralleling the positive outcomes observed under the Merdeka Curriculum.

By situating these findings within a broader context, the study provides valuable insights for both national and international education stakeholders. Comparative analyses highlight that, while the Merdeka Curriculum faces unique challenges, its emphasis on teacher creativity, collaboration, and adaptability reflects global trends in curriculum reform. Addressing these challenges requires systemic interventions that empower educators and prioritize student-centered learning as a shared responsibility among all stakeholders.

4.2.4 Professional Competence

The results indicate that educators' professional proficiency in understanding the Merdeka Curriculum is crucial to achieving learning success. A comprehensive and contextual understanding of the curriculum allows educators to effectively tailor education to meet the diverse

needs of students. It is imperative for educators to possess extensive subject knowledge to present content in an engaging and relevant manner (Tang et al., 2017). However, challenges remain in its implementation, as not all educators have equal access to professional development opportunities or the essential skills required to apply these methodologies consistently. Addressing inequities in teacher preparation and resource distribution is vital for overcoming these challenges.

A crucial element of this study is the focus on incorporating technology into the educational process, a fundamental principle of the Merdeka Curriculum. The research indicates that digitally proficient teachers enhance instructional effectiveness and student engagement. However, it also identifies obstacles, including unequal access to technology, insufficient digital literacy among even confident educators, and infrastructural limitations, particularly in rural areas. Technological competency is essential for contemporary education, although successful integration often requires systemic support, including investments in infrastructure and ongoing training (Andyani et al., 2020; Gudmundsdottir & Hatlevik, 2018).

The study emphasizes the importance of continuous professional development for educators, primarily through formal training, reflective practices, and collaboration. The "Merdeka Mengajar" platform and professional networks are valuable resources, yet their adoption is hindered by obstacles such as time constraints, insufficient institutional support, and varying levels of teacher motivation. Training must be accessible and tailored to address these implementation gaps (Hunaepi & Suharta, 2024).

The findings reflect issues encountered in similar educational transformations worldwide. Comparative analyses with countries using competency-based curricula, such as Finland and Singapore, indicate that professional development is most effective when integrated within a supportive policy framework that encourages collaboration, provides mentorship opportunities, and ensures equitable resource distribution. Policymakers should consider adopting best practices from these contexts, including incentivizing professional development and incorporating feedback systems to continuously improve teacher training programs.

The implications for policymakers and educators are clear: substantial investment is essential to enhance teacher competencies and ensure the equitable implementation of the Merdeka Curriculum. Policymakers must prioritize funding for teacher training, particularly in technology integration, while addressing infrastructural and equity challenges that hinder widespread access. Furthermore, educators should actively engage in opportunities for professional development,

utilizing platforms such as "Merdeka Mengajar" to adapt teaching methodologies to contemporary needs.

This study confirms that proficiency in teaching materials, effective use of technology, and a commitment to lifelong learning form the foundation of teachers' professional competence. These elements not only enhance the quality of instruction but also increase the curriculum's relevance to students' needs in an increasingly globalized and technology-driven world (Caena & Vuorikari, 2022). Addressing these challenges and leveraging the practical implications of these findings will significantly improve the effective implementation of the Merdeka Curriculum, aligning it with global educational advancements.

CONCLUSIONS

This research highlights the transformative influence of the Merdeka Curriculum on multiple aspects of teacher competencies, including social, educational, personal, and professional dimensions. Teachers demonstrated significant improvements in social competency, particularly in communication and adaptability. The results emphasize enhanced collaboration, inclusive practices, and greater attention to diverse student needs, fostering a more dynamic and equitable educational environment. However, while many educators successfully transitioned, some continue to face challenges, underscoring the need for ongoing support and adjustment strategies.

The pedagogical competency within the Merdeka Curriculum reflects a shift toward a more student-centered and flexible learning approach. Educators must utilize diagnostic and non-cognitive assessments to better understand students, while prioritizing project-based and active learning methodologies. Despite these advancements, challenges such as large class sizes and varying levels of technological proficiency persist, indicating the need for strategies like class segmentation, additional instructional support, and continuous professional development to improve educational outcomes.

The consistent application of norms and rules enhances personal competence, fostering an effective learning environment. Educators are expected to demonstrate adaptability, innovation, and a positive attitude, encouraging students' active participation in creating a collaborative classroom atmosphere. Parental involvement and a safe, nurturing environment are crucial for achieving the curriculum's objectives. The increased workload for educators highlights the need to balance responsibilities with opportunities for professional development.

Professional competence refers to educators' expertise in instructional content and the integration of technology. Despite noticeable progress, the need for more comprehensive and contextualized learning remains a challenge. Self-development activities, including formal training, collaborative practices, and the use of technological platforms such as "Merdeka Mengajar," are essential for enhancing teaching quality. Regular reflection and assessment further support professional growth, ensuring that teachers remain aligned with the curriculum's objectives.

Several limitations emerged during the study. The variability in teachers' adaptation to curricular changes suggests that the findings may not fully reflect all circumstances, particularly in regions with limited resources or restricted access to training. Additionally, while the research addresses technological integration, the extent of its impact on different classroom environments has not been extensively explored. The results are based on case studies, which may limit their generalizability to other educational systems or cultural contexts.

Future research could explore the impact of technology integration on student learning outcomes and teacher competence within the Merdeka Curriculum. Studies might investigate how digital technologies, such as interactive platforms and AI-driven assessments, enhance engagement and comprehension in various educational contexts. Additionally, evaluating the effectiveness of professional development programs in improving teachers' pedagogical and professional skills is essential. This includes examining the long-term effects of training on classroom management, new teaching techniques, and comprehensive learning strategies. Investigating the role of bidirectional communication between educators and students, as well as interprofessional collaboration among teachers, administrators, and parents, could provide valuable insights for creating a more supportive and effective educational environment. These areas of research will contribute to the successful implementation of the Merdeka Curriculum and support the continued development of Indonesia's educational system.

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~~ANALYSIS OF THE IMPACT OF THE INDEPENDENT CURRICULUM ON THE QUALITY OF TEACHER COMPETENCE (PHENOMENOLOGICAL STUDY OF THE IMPLEMENTATION OF THE INDEPENDENT CURRICULUM IN SCHOOLS IN THE JAKARTA AREA)~~

Strengthening Teacher Competence for Leading and Sustaining the Implementation of the Merdeka Curriculum

ABTSRAK

~~Educational innovation in Indonesia moves dynamically along with the demands and developments of the times. The curriculum as an important instrument for implementing education continues to undergo improvements and developments both from a philosophical, theoretical and empirical perspective. The Merdeka Curriculum, which has become government policy in the last three years, is a clear manifestation of the dynamism of education in Indonesia with all the positive and negative impacts found in the field, both in terms of teachers, students, school management and mental preparedness as well as facilities and infrastructure. This study aims to analyze the impact of the implementation of the Merdeka Curriculum on the quality of teacher competence using Miles and Huberman's phenomenological qualitative study in the DKI Jakarta area. This study involved teachers and education *stakeholders* within the DKI Jakarta Provincial Education Office, especially in public schools. The phenomenological approach was chosen in this study based on the efforts of the data search process, data testing analysis of the phenomena found with full accuracy, depth and awareness of the human experience itself called Intentionality (intentionality), describing the reality of the relationship between the processes that occur in the consciousness of the object of concern in this research process. Data analysis using Interpretative Phenomenology analysis (AFI) aims to reveal in detail how participants interpret their personal and social world, assisted by the Vivo analysis technique. The research was conducted in public high schools within the scope of the DKI Jakarta Provincial Education Office that have been affiliated to the first wave of driving schools with a total of 26 schools. Data were collected through participant observation, in-depth interviews and documentation studies. The results of this study strive to find a complete and in-depth description related to the impact of implementing the Merdeka curriculum on the quality of teacher competence that can be felt directly by the teachers themselves in developing 21st century teacher professionalism which is their responsibility in the driving school which is the main target. So that the results of this study can be used as material for evaluating education policies and an education policy brief for the DKI Jakarta Provincial Education Office.~~

The Merdeka Curriculum, implemented over the past three years, highlighted this dynamic shift, impacting teachers and students. This study uses a phenomenological qualitative approach based on Miles and Huberman's framework to evaluate the impact of the Merdeka Curriculum on teacher competence in Indonesia. The research involved teachers and educational stakeholders in Indonesia, particularly in public schools. Data were collected through participant observation, in-depth interviews, and documentation studies across 56 public high schools affiliated with the first wave of driving schools. The study applied Interpretative Phenomenology Analysis (IPA) and NVivo software to explore how participants interpret their personal and social realities. Findings provide a comprehensive understanding of the Merdeka Curriculum's impact on teacher competence, particularly in fostering 21st century professionalism in teaching. This research offers valuable insights for evaluating educational policies, with the primary output being a policy brief for ~~the DKI Jakarta~~Indonesia Government.

Keywords: ~~Teacher Competencies, Merdeka Curriculum, Driving Schools.~~ 21st-Century Skills, Educational Policy Evaluation, Merdeka Curriculum, Phenomenological Approach, Teacher Competence

Introduction

The substantial size of the workforce in Indonesia presents both a significant challenge and a considerable opportunity for fostering economic growth. However, a scarcity of skilled graduates is the primary cause of limited job absorption (Nugroho et al., 2018; Yeoh et al., 2017). This originates from the disparity between knowledge and skills that exists between the realm of education and the business sector. A comprehensive strategy that incorporates the relevant knowledge and abilities is critical for preparing a more quality and sustainable education.

The biggest challenge in the current Indonesian education system is preparing skilled teachers to provide good-quality learning. Teachers as professionals are equipped with four competencies: social competency, pedagogical competency, personal competency, and professional competency (Nguyen et al., 2022; Siri et al., 2020). Through pedagogical competency and professional competency, teachers can identify skills that are urgently needed by students today, such as literacy, collaboration, creative thinking, and critical thinking - which support each other in improving the quality of students' skills and workforce readiness. The personal abilities of teachers can motivate students to continue learning and developing the times (König et al., 2020; Moser Opitz et al., 2020; Tran & O'Connor, 2024).

The facts on the ground that separate knowledge and skills encourage the Indonesian government to innovate to shorten the gap. Several countries have brought learning closer to work world skills such as Germany, Finland, China, and Japan (Farah & Ridge, 2009; Sakaue et al., 2024; Wermke et al., 2024; Zhao & Lee, 2024). The German curriculum prepares students with learning and skills simultaneously with the hope of integrating knowledge and skills so that students are able to adapt quickly (Szakács-Behling, 2022). Finland also provides many opportunities for students to continue to grow by reducing the amount of study load in the hope of being able to provide students to further explore knowledge through the environment and life (Wermke et al., 2015). The Japanese curriculum also prepares students to instill competencies that are essential in realizing a sustainable society by connecting global issues faced in everyday life with their solutions (Kondo et al., 2024; Sakaue et al., 2024; Urushibara-Miyachi et al., 2024). The United Arab Emirates is also transforming the curriculum by concentrating the direction of

curriculum development on improving students' abilities in various areas so that students can develop their full potential by integrating with the business world (Farah &s Ridge, 2009).

The Indonesian government has attempted to bring knowledge and skills closer together by launching the Merdeka Curriculum. This curriculum is designed to integrate skills and knowledge with the hope that Indonesian students are ready to compete competently in the world of work nationally and internationally (Choppin et al., 2022). In its implementation, the Merdeka Curriculum also prepares four teacher competencies by offering several teacher competency improvement programs. The purpose of this study is to evaluate the extent of the impacts, both positive and negative, on the development of teacher competencies.

State of the Art and Novelty

As a new policy, research related to Merdeka Belajar and Merdeka Curriculum is one of the interesting topics to research. Based on the narrative conducted using bibliometric analysis, in general, it explains that the relationship between the curriculum and increasing teacher competence is based on the results of the search using Publish Or Perish using the google scholar database, a total of more than 500 publications were obtained, with visualization as below.

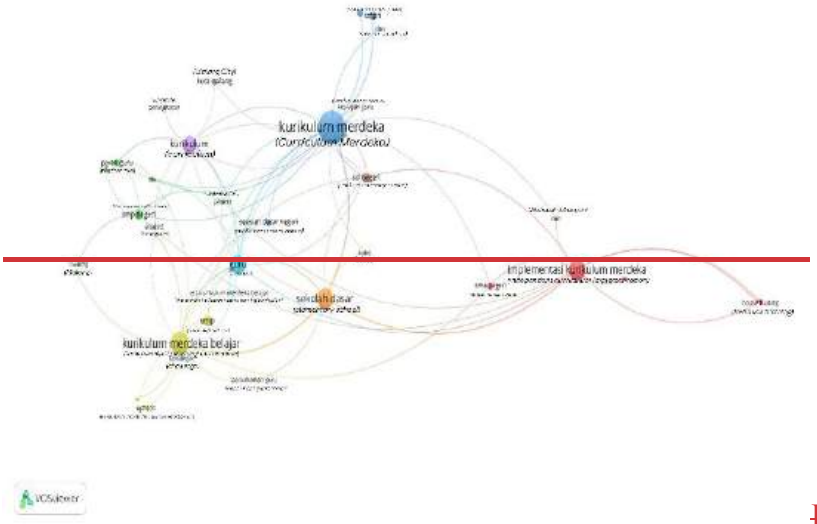

Figure 2. Publication trends on the topic of Merdeka Belajar in SCOPUS

Based on the Bibliometric analysis above, researchers see that research and outcomes regarding the Merdeka Curriculum and teacher competencies are still missing in-depth research. Therefore, this research proposal is proposed with the following novelty: 1) seeing the impact of implementing the Merdeka Curriculum in terms of the quality of competence felt directly by the teachers themselves, 2) conducted at the Public School level, 3) conducted within the DKI Jakarta

~~Provincial Government Education Office, as the first province to implement the Merdeka Curriculum, 4) using a phenomenological approach with Smith and Osborn's Interpretative Phenomenology (AFI) analysis assisted by N Vivo, so that researchers are encouraged to realize this research as a novelty related to the implementation of the Merdeka Curriculum.~~

Merdeka Curriculum

Indonesia has implemented the Merdeka curriculum as part of the government's transformation efforts to increase interest in reading, literacy, numeracy, and character development of students based on Pancasila values(Chen et al., 2021; Emawati et al., 2024). The Merdeka Curriculum focuses on the integration of knowledge with students' skills simultaneously with the hope that students can have better knowledge and skills. The Merdeka Curriculum emphasizes the importance of teacher professionalism in school implementation. Teachers in the implementation of the Merdeka curriculum are given very broad opportunities to use various references for knowledge information, not only textbooks but also information obtained through digital platforms and various related references(Wiryawan & Nurdin, 2024). The professional competence and personal competence of teachers are greatly tested in obtaining additional information other than textbooks because teachers are required to read, search, and find additional knowledge/information regarding the lesson material to be taught(Hadi et al., 2023; Lemmrich & Ehmke, 2024; Susanto et al., 2022).

The Merdeka Curriculum is not only oriented towards achieving knowledge but also provides opportunities for students to develop their character in accordance with the concept of Pancasila. Student skills in solving problems and collaboration are important elements in developing student character. Teachers who have good social and personal competence will know how to take steps to develop student character(Cross, 1994). The very important role of teachers in the implementation of the Merdeka curriculum is facilitated by the government in various teacher competency development programs in sufficient time. The impact of the development of competencies possessed by teachers in various regions of Indonesia is very important to evaluate in order to be recorded in the history of Indonesian curriculum development. This study will focus on the impact of the implementation of the Merdeka curriculum on teacher competencies such as personal competency, pedagogical competency, social competency, and professional competency.

Teacher Competence

~~Competence is a combination of knowledge, skills, values and attitudes that are reflected~~

~~in habits of thought and action.Competence is knowledge, skills, and abilities mastered by someone who has become part of him so that he can perform cognitive, affective, and psychomotor behaviors as well as possible. Competence as mastery of task, skills, attitudes, and appreciation needed to support success. This shows that competence includes the tasks, skills, attitudes, and appreciation needed to support success.~~

~~The presence of the Merdeka Curriculum has completely changed the learning paradigm from the conventional learning patterns that have been applied for a very long time in the education system in Indonesia. Teacher competence is very important in changing the learning paradigm of the conventional model to a constructivism learning model that provides very wide space for students. The main duties and functions of teachers, in accordance with Government Regulation No. 19 of 2005, are packaged in four things as described above. Curriculum implementation and development is an important part of the four competencies that teachers must have. Thus, how the ability of teachers to develop and implement the curriculum is an important part of improving the quality of the four competencies that must be possessed by teachers in Indonesia.~~

Teacher competence in providing education plays a very important role(Lemmrich & Ehmke, 2024; Nurpitriyani et al., 2022). In the implementation of the Merdeka curriculum, teachers who act as facilitators apply pedagogical competence. The teacher's ability to manage the learning process in accordance with the established scenario is an important element that is needed. The teacher's personal and social competence in classroom learning greatly influences the way teachers interact with students and colleagues(Ahmed et al., 2010; Tran & O'Connor, 2024). The teacher's competence is described as a personal interpretation that can provide a good example(Yang et al., 2021). The teacher's ability to maintain morals and provide a good example greatly influences the formation of student character based on Pancasila values. The teacher's social competence is manifested in various actions that can be felt directly by students through coaching and social activities inside and outside the classroom.

This study aims to measure the extent to which the implementation of the Merdeka curriculum has an impact on the four teacher competencies. After the implementation of the Merdeka curriculum, to what extent does the evaluation of the curriculum influence improving the teacher's competence? If these abilities increase, then the response of students and parents will provide appreciation, which will manifest in various forms of awards to schools and teachers. In its development, the increase in these teacher competencies has received attention from the

government or school leaders. To what extent can schools provide an appreciation for this achievement? This good effort needs to be maintained. What steps are schools taking to assess, maintain, and develop teacher competencies?.

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Research Methods

~~**Research DesignMethod**~~

~~The method used in this research is a qualitative method, chosen because there are several factors that are more emphasized in describing and explaining a phenomenon to be investigated. Qualitative research is a type of research in which the analysis of data findings does not use statistics or formula calculations, but as a form of research that aims to explain symptoms in a contextual manner with the researcher as a natural part of the research. (Sugiyono, 2007; Suryabrata, 2013). Qualitative research methods are often referred to as naturalistic research because they are conducted in natural conditions, observing the actual situation at the research site by collecting qualitative data. This method does not use mathematical models or calculation methods, and the analysis is more qualitative. After analyzing several definitions and meanings of qualitative research, conclusions are made that are derived from the main points of understanding of qualitative research (Moleong, 2002).~~

~~Qualitative research in this study uses a phenomenological approach, a type of qualitative research that approaches and explores the explanation and understanding of individuals regarding their experiences. The phenomenological method aims to interpret and explain the experiences experienced by a person in life, including experiences when interacting with other people and the surrounding environment. By taking a closer look, phenomenological research aims to understand the essence and meaning contained in each individual experience, making it a suitable approach to explore the qualitative aspects in the context of this study. (Asbari et al., 2020; Budiretnani & Riani, 2021)~~

This study employed a qualitative research methodology with a phenomenological approach to examine the relationship and impact of implementing the Merdeka Curriculum on teacher competencies. A qualitative design with a phenomenological approach was chosen because it allows for an in-depth understanding of complex social phenomena, such as teacher behavior in implementing the Merdeka curriculum and the positive impacts that can affect teacher competence. This design is very suitable for exploring how the Merdeka curriculum program affects teacher

competence, provides valuable experiences, and changes how teachers teach classroom lessons, which quantitative methods may not fully explore. The phenomenological approach is ideal for this study because it investigates a particular theme. This approach also allows for examining multiple data sources - such as interviews, observations, and document analysis - to provide a comprehensive view of the program and its impact on teacher competence.

Participants

The research was conducted in public schools located around 10 provinces Indonesia including primary schools, junior high schools, senior high schools, and vocational schools, have implemented the Merdeka Curriculum in their learning processes. To ensure equal representation from each type of school and category of teachers, this study established two primary criteria for selecting the research population: (1) schools must have implemented the **Merdeka** Curriculum for at least one year, and (2) schools must have at least five driving teachers to support the implementation of the **Merdeka** Curriculum in the learning process. Based on these criteria, 26 schools were selected, comprising five primary schools, eight junior high schools, seven senior high schools, and six vocational schools. The researchers selected five teachers from each school for in-depth interviews. This study employs a stratified random sampling technique to ensure diversity and balanced representation. Teachers are grouped according to their school levels, such as primary, junior high, senior high, and vocational schools. This technique is combined with simple random sampling to provide equal opportunities for each respondent to participate in the study.~~**Location and Research Subjects**~~

~~The research site is the geographical and chronological area where the research population exists. Sampling activities are carried out on the research population. Sampling activities are carried out on populations that are limited by geographic and chronological areas. The place is determined to determine the limit of application of population generalization. In accordance with the problems in this study. The location in this study was carried out at schools within the scope of the DKI Jakarta Provincial Education Office which consisted of elementary, junior high, senior high and vocational schools.~~

~~Research subjects can be defined as objects or entities that are the focus of data related to research variables. In the context of research, an explanation of the research subject data has important significance because it enlightens the subject matter to be investigated. (Sugiyono,~~

2007). The subjects in this study are school teachers from elementary to high school of the first batch of driving schools in the scope of the DKI Jakarta Provincial Education Office.

Data Collection Methods

In this study, data collection methods were carried out through three main activities, namely in-depth interviews, participant observation Nessipbayeva, O. (2012). No Title. *HE COMPETENCIES OF THE MODERN TEACHER*. https://files.eric.ed.gov/fulltext/ED567059.pdf Novib, O. (2012). *Quality Educators: An International Study of Teacher Competences and Standards*. https://policy-practice.oxfam.org/resources/quality-educators-an-international-study-of-teacher-competences-and-standards-265732/

Nessipbayeva, O. (2012). No Title. *HE COMPETENCIES OF THE MODERN TEACHER*. https://files.eric.ed.gov/fulltext/ED567059.pdf

Novib, O. (2012). *Quality Educators: An International Study of Teacher Competences and Standards*. https://policy-practice.oxfam.org/resources/quality-educators-an-international-study-of-teacher-competences-and-standards-265732/

and documentation study. This activity is aimed at teachers who are part of schools that have been affiliated as Force I driving schools at the DKI Jakarta Provincial Education Office. By applying an in-depth interview approach, researchers seek to gain a deeper understanding of the views, experiences, and perspectives of teachers on the Merdeka curriculum program as part of the driving school. Meanwhile, through observation activities, researchers can directly observe the learning practices implemented in these schools. In addition, documentation studies were conducted to explore further information based on official documents, records, and learning materials related to the implementation of driving schools. The combination of these three methods is expected to provide a comprehensive and in-depth picture of the experience and impact of the driving school program in the education environment in DKI Jakarta Province.

The research data collection was carried out using three methods, namely in-depth interviews, observations and field notes, to ensure the triangulation of data sources obtained can be accounted for in terms of validity and reliability. Data collection was carried out from 10 provinces spread across Indonesia. The determined schools had two criteria: implementing the Merdeka curriculum for at least one year and having a driving teacher. The research subjects were required to participate in the driving teacher training to understand the Merdeka curriculum that the Ministry of Education and Culture had set.

Interviews were conducted with 52 teachers who had registered voluntarily to share their experiences implementing the Merdeka curriculum. They were selected using purposive sampling to ensure relevance to the research questions. The participants, aged between 24 and 50 years, represented a variety of educational backgrounds and teaching experiences. Interviews were conducted offline, with a schedule determined by each participant for comfort and privacy. Each interview lasted between 30 and 60 minutes, allowing for in-depth exploration of the participants' experiences. The interview protocol, developed based on existing educational frameworks, included open-ended questions to obtain detailed responses on their reasons for choosing the Merdeka curriculum implementation program, the challenges faced, and its impact on teacher competency. In-depth interviews were selected to obtain nuanced insights into participants' thoughts and experiences, allowing for a comprehensive understanding of the motivations behind teachers' implementation of the Merdeka curriculum and the positive impacts on aspects of teacher competency.

Observations were conducted at schools by capturing the dynamics of teacher interactions and active student involvement during the learning process. These observations were conducted for two weeks, focusing on the four-teacher competencies studied: social competence, competence, and competence. Participants in this interview process were teachers from schools that had met previously established criteria. The selected teachers also had excellent communication skills, making it easier for researchers to obtain comprehensive information. Observations complemented interviews by providing real-time data on how the program. We examined various documents for document analysis, such as lesson plans, student worksheets, and student responses related to implementing the Merdeka curriculum. These documents were obtained directly from participants and each school. Document analysis provides additional data, offers insights into teacher competencies' significant impact, and helps triangulate information obtained from interviews and observations.

Data Analysis

~~In processing data, researchers use software to help facilitate data and information processing. The use of software in this qualitative research helps in data entry, coding, and report writing. The researcher chose to use the QSR NVIVO software with consideration based on the opinion of the researcher. (Bufoni et al., 2017), namely:~~

~~1. NVIO's QSR is a proven and reliable software for processing qualitative information and data.~~
~~2. The development of the use of NVIVO software is very rapid because in the future 90% of existing data is unstructured information.~~
~~3. It has excellent and complete features in assisting the processing and analysis of qualitative data;~~
~~4. Its ease of use is supported by an easy-to-understand interface;~~
~~5. Processed data and information are easy to export and use for further purposes.~~

~~The data processing stage using Nvivo 12 is as follows.~~

1. ~~Input data and organize data~~

   ~~Researchers obtained research data through interviews, observations and documentation studies. The data was collected and transcribed, then inputted into Nvivo 12 software.~~

2. ~~Data grouping~~

   ~~Based on the research grid that contains variables and indicators, researchers make codes (Coding) to be grouped. Documents from interviews, documentation studies and observations that have been inputted are then selected relevant data to be categorized based on the problem groups that have been compiled.~~

3. ~~Data Visualization~~

   ~~Data visualization is data abstracted in the form of a project map. The purpose of this visualization is to communicate clearly and efficiently using mappi~~Analysis data was employed in two phases. The initial phase involved thematic analysis, adhering to the framework of (Miles, M. B., & Huberman, 1994). This commenced with data reduction, encompassing the transcription of interview data and identifying predetermined themes aligned with the four-teacher competencies: social, pedagogical, personal, and professional competence, all influenced by implementing the Merdeka Curriculum. Subsequently, data visualization was employed to visually organize themes and subthemes, enhancing the clarity and comprehensibility of the findings. This process culminated in verification and conclusion drawing, where themes were synthesized to ascertain the impact of Merdeka Curriculum implementation on teacher competencies within the school learning environment.

   The second phase utilized the capabilities of NVivo software for in-depth data coding. Interview data was meticulously imported into NVivo, enabling researchers to conduct more nuanced coding procedures. The data was categorized into predetermined themes and subthemes corresponding to the four-teacher competence such as social, pedagogical, personal, and professional competence. This cross-data coding facilitated a more refined analysis by enabling the identification of recurrent word patterns, thereby providing deeper insights into the collected data. The identification of words with similar characteristics strengthened the thematic framework and offered a more nuanced perspective on how implementing the Merdeka Curriculum impacts teacher competencies.

FINDINGS AND DISCUSSION

4.1 Findings

4.1.1 Social Competence

1. Communication Skills

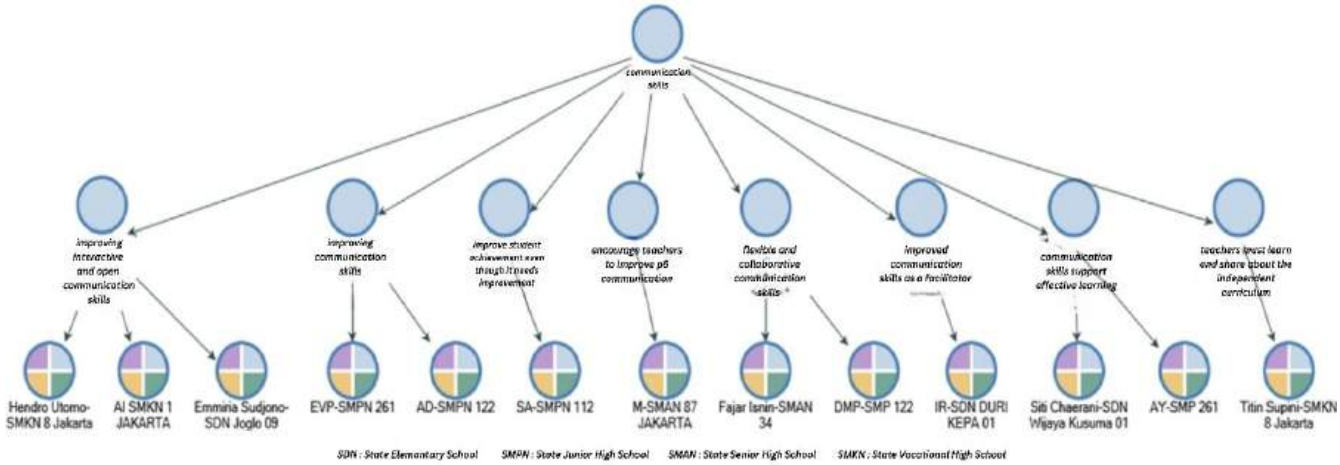

Figure 4.1 PM (Project Maps)~~visualization of the *project map of* t~~The impact of the Merdeka ~~independent~~ Curriculum on Teachers' communication skills

Figure 4.1 displays the results of data analysis regarding the impact of the Merdeka Curriculum on improving teachers' social competence in communication. Improved communication skills are shown as the main findings with various other specific findings that emerged as a result of the research. These findings include improved student achievement, adjustments in the implementation of the Merdeka Curriculum ., encouragement for teachers to improve communication patterns, especially in implementing P5, and flexibility in communication in collaboration. Teachers are also expected to be effective facilitators in the learning process, with communication skills that support the achievement of educational goals. These results indicate that the Merdeka Curriculum brings positive changes in teachers' communication skills, both in directing students and collaborating with other parties, although adjustments are needed in wider application .

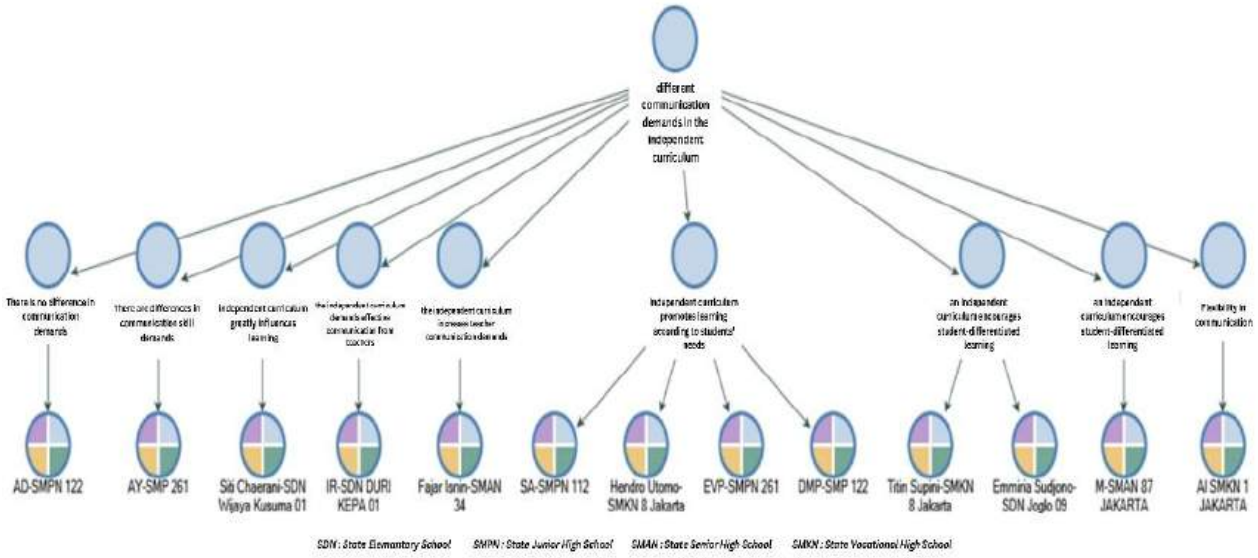

Figure 4.2 VPM different communication demands in the Merdeka curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*.~~

Figure 4.2 is the results of data analysis regarding differences in communication demands in the Merdeka Curriculum. The research findings show that the Merdeka Curriculum presents different communication demands compared to the previous curriculum. Some respondents, such as AD, revealed that there were no significant differences regarding communication demands. However, other respondents such as AY and SC highlighted a significant difference in communication demands, with Merdeka Curriculum affecting overall learning and demanding more effective communication from IR.

Here are some interview excerpts to reinforce the research findings:

In addition, the findings from FI and SA confirm that the Merdeka Curriculum increases the demands on teachers' communication skills, which must be more flexible and focused on student needs. This is also supported by HU, who pointed out that the Merdeka Curriculum encourages learning that suits students' needs. Other findings from EVP and DMP emphasize that differentiated learning is now prioritized, so teachers must be more responsive in communication.

Furthermore, TS and ES highlighted the importance of teachers building two-way communication with students, while M and AI emphasized the need for flexibility in communication to meet the demands of more effective learning in the Merdeka Curriculum.

Overall, this study reveals that the Merdeka Curriculum brings significant changes in the demands of teacher communication, which must be more flexible, effective, and based on student needs .

The following are some excerpts from the researcher's interview with the interviewee:

2. Adaptability

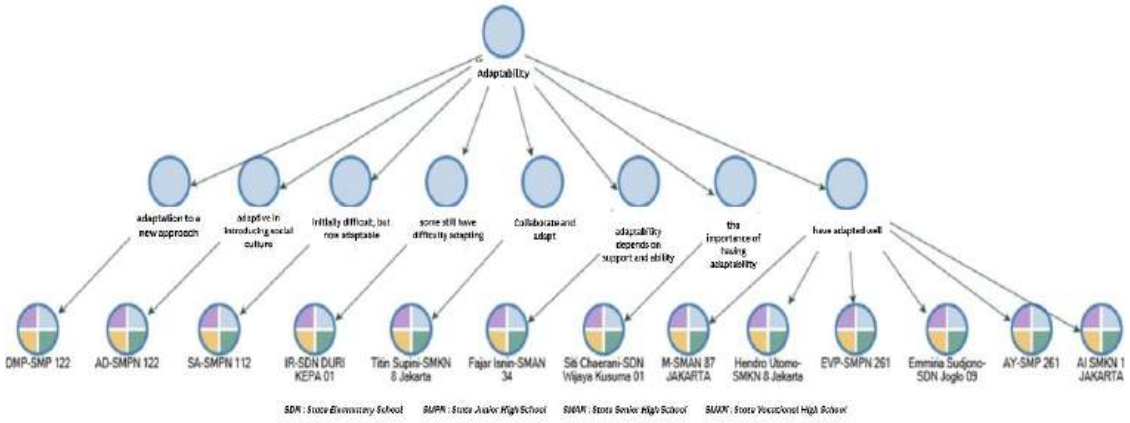

Figure 4.3 VPM adaptability in implementing an Merdeka curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

Figure 4.3 displays the results of data analysis related to adaptability in implementing the Merdeka Curriculum. This study found that teachers' adaptability to the Merdeka Curriculum shows variations. Some teachers, such as DMP, said that they had successfully adapted to the new approach presented by this curriculum. Meanwhile, AD and SA revealed that their adaptation also involves understanding the socio-cultural aspects of students, which is the key to success in the teaching and learning process.

Some teachers, such as IR, stated that although it was difficult at first, they have now been able to adapt to the changes that the Merdeka Curriculum presents. However, there are also findings from TS and FI which show that some teachers still have difficulties in adjusting to the new demands. This indicates that the adaptation process does not run uniformly in all places.

In addition, the importance of support and willingness to collaborate in the adaptation process was also raised by respondents such as SC and M, who emphasized that adaptability is strongly influenced by a supportive work environment as well as an individual's willingness to continue learning. Teachers such as HU and EVP stated that they have been able to adapt well, while other interviewees such as ES and AI also highlighted the importance of having adaptability in dealing with curriculum changes .

3. Inclusive Behavior

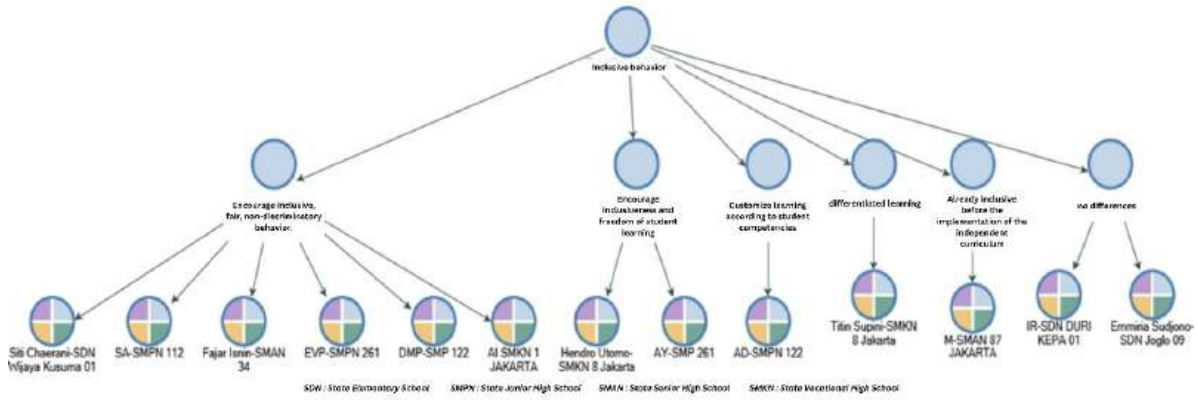

Figure 4.4 VPM *for* inclusive behavior in implementing the Merdeka curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

Figure 4.4 is the results of research analysis regarding differences in inclusive and non-discriminatory behavior carried out by teachers in implementing the Merdeka Curriculum. The research findings show that the Merdeka Curriculum encourages inclusive, fair, and non-discriminatory behavior in the educational environment. Teachers such as SC, SA, and FI confirmed that the Merdeka Curriculum motivates them to behave more inclusively and fairly towards all students, without discrimination.

Furthermore, HU and AI pointed out that Merdeka Curriculum encourages inclusiveness and greater learning freedom for students, where learning is tailored to each individual's competencies and needs, as stated by AY and AD. TS highlighted that differentiated learning is an important element in implementing the Merdeka Curriculum, where teachers pay more attention to diverse learning needs.

Meanwhile, M revealed that inclusive behavior had been implemented even before the implementation of Merdeka Curriculum, and IR and ES stated that there was no significant difference in inclusive behavior since the implementation of Merdeka Curriculum .

4.1.2 Pedagogical Competence

1. Learner Development

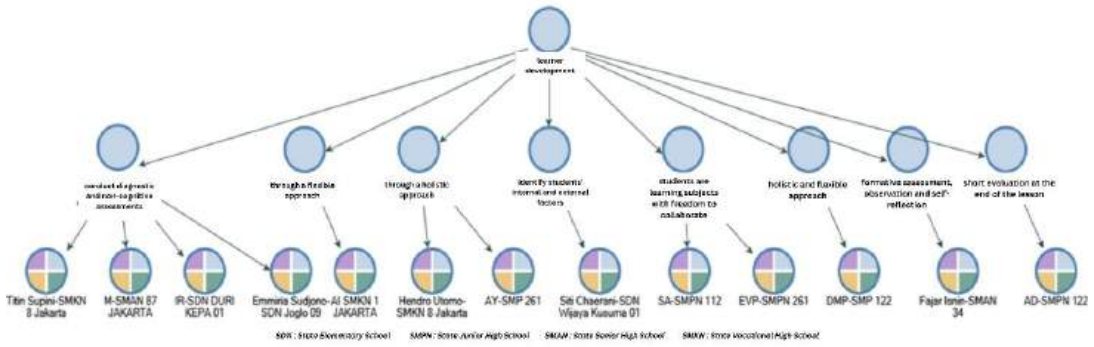

Figure 4.5 VPM for The impact of the Merdeka ~~independent~~ Curriculum on Learner Development~~Visualization of the learner development *project map*~~

Figure 4.5 displays the results of research findings regarding learner development in the Merdeka Curriculum. These findings show that learner development in the Merdeka Curriculum is carried out through various approaches. Teachers such as TS and M emphasize the importance of conducting diagnostic and non-cognitive assessments to understand the overall development of learners. In addition, ES and AI highlighted the need for a flexible approach to learning to adapt to the needs of individual students.

A holistic approach in understanding students, as stated by HU, is also key in developing learners, where academic and non-academic aspects are equally considered. Teachers like AY also realize the importance of knowing students' internal and external factors to provide more appropriate support in learning.

Students are considered as learning subjects with freedom to collaborate, as reported by SA, where students are given more space to determine how they learn. In addition, the holistic and flexible approach to learning, reported by EVP and DMP, emphasizes the importance of adapting learning methods to increase student engagement. Formative assessment, observation and self-reflection are integral to the learning process according to FI, while AD mentioned a short evaluation at the end of the lesson as an effective way to understand students' achievements and progress. .

2. Learning Implementation

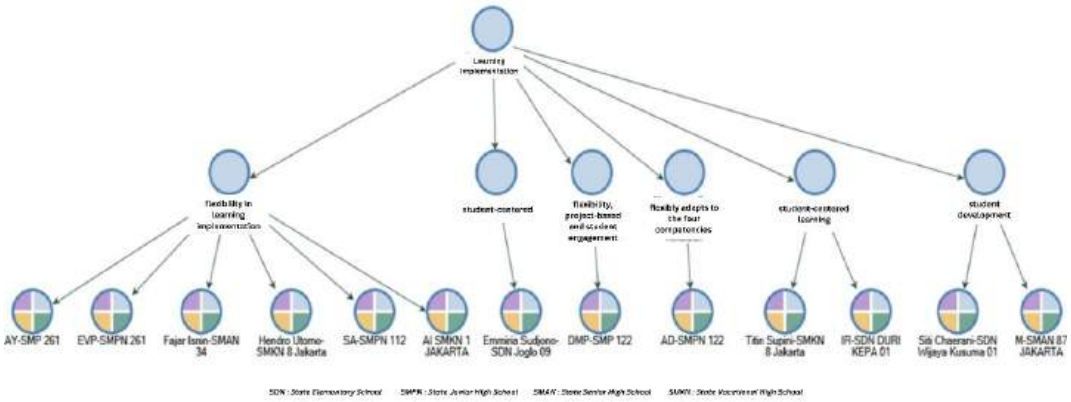

Figure 4. 6 VPM for Merdeka curriculum learning implementation

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

Figure 4.6 shows the results of research findings regarding the implementation of learning in the Merdeka Curriculum. These findings indicate that the implementation of learning in the Merdeka Curriculum is characterized by higher flexibility compared to the previous curriculum. Teachers such as AY, EVP, and FI highlighted that flexibility in learning allows adjusting materials according to student needs and the learning context. In addition, HU and SA evealed that learning is more student-centered, where they are given more freedom to determine how to learn according to their interests and abilities.

Project-based approaches and active student engagement in learning are also an important focus in Merdeka Curriculum, as shared by AI and ES. Teachers such as DMP, and AD emphasized the importance of adjusting learning on the four competencies-spiritual, social, knowledge, and skills-flexibly, taking into account time and students' learning needs.

TS and IR highlighted that learning in the Merdeka Curriculum is adapted according to students' individual needs, allowing for a more personalized approach. Finally, the development of student competencies is the main goal of this learning implementation, as expressed by SC and M.

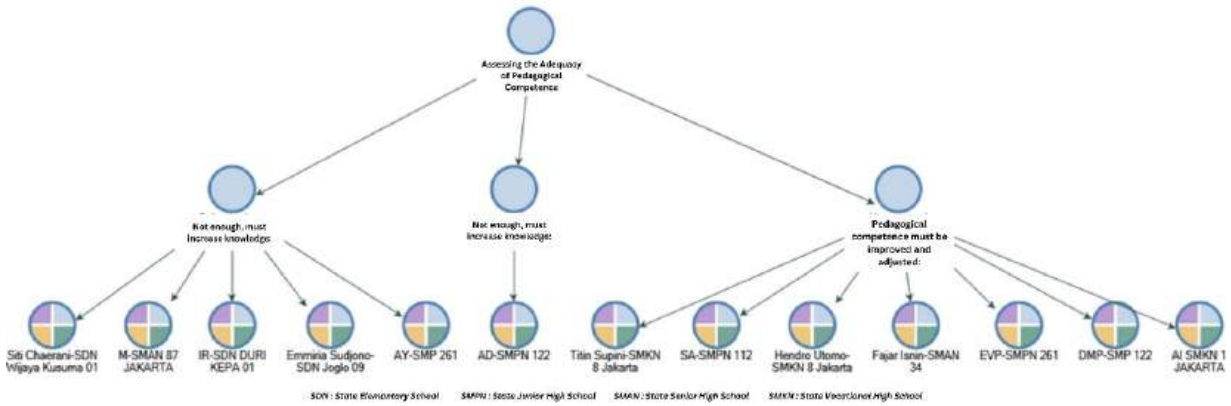

Figure 4.7 VPM in assessing the adequacy of pedagogical competence in the Merdeka curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

Figure 4.7 displays the results of research analysis regarding the assessment of the adequacy of teachers' pedagogical competence in implementing the Merdeka Curriculum. The findings of this study identified three main findings. First, the pedagogical competence that teachers currently have is considered insufficient, mainly because they still have to expand their knowledge and skills, as expressed by SC, M, and IR.

The second finding shows that pedagogical competence is severely limited when the number of students in a class exceeds a reasonable capacity, as stated by AY and AD. This situation requires strategies such as class division or additional accompanying teachers to manage students effectively.

The third finding emphasizes the importance of improving and adjusting pedagogical competencies to suit the demands of Merdeka Curriculum. Teachers such as TS, FI, and HU stated that integrating technology and adjusting learning methods are necessary to meet the needs of more flexible and project-based learning .

3. Learning Evaluation

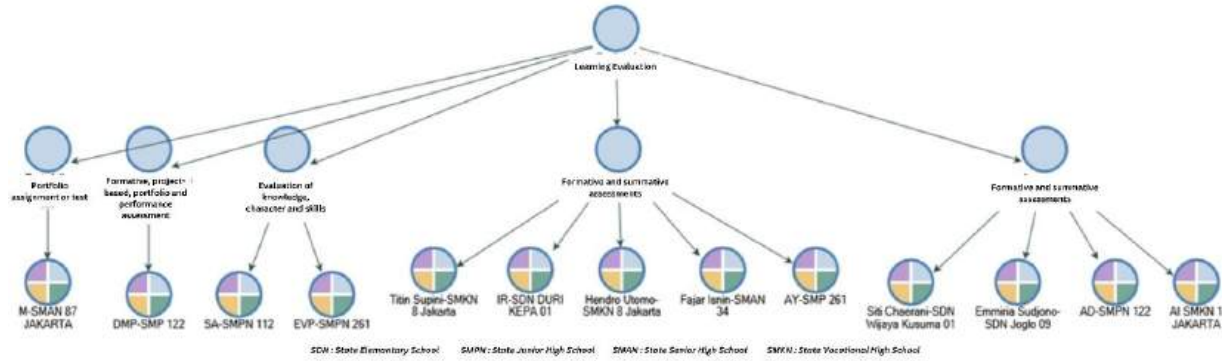

Figure 4.8 VPM for the learning evaluation in the Merdeka curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

Figure 4.8 shows the results of research findings regarding learning evaluation in the Merdeka Curriculum. This research identifies that learning evaluation in the Merdeka Curriculum is carried out through various approaches that are more flexible and diverse than the previous curriculum. Portfolio-based evaluation, assignments, and tests are one of the main methods. In addition, project-based formative evaluation, portfolios, and performance assessments are also used to assess students' overall skills, as revealed by DMP and SA.

Evaluation in the Merdeka Curriculum emphasizes holistic assessment that includes knowledge, character, and skills, as described by EVP. Formative and summative assessments are also important elements in evaluation, as conveyed by TS, IR and HU, with a focus on continuous monitoring of student development.

In addition, the research also identified the importance of diagnostic, formative, and summative assessments in providing a complete picture of student achievement, as expressed by SC, ES, and AD.

4.1.3 Personality Competence

1. Norms and Rules

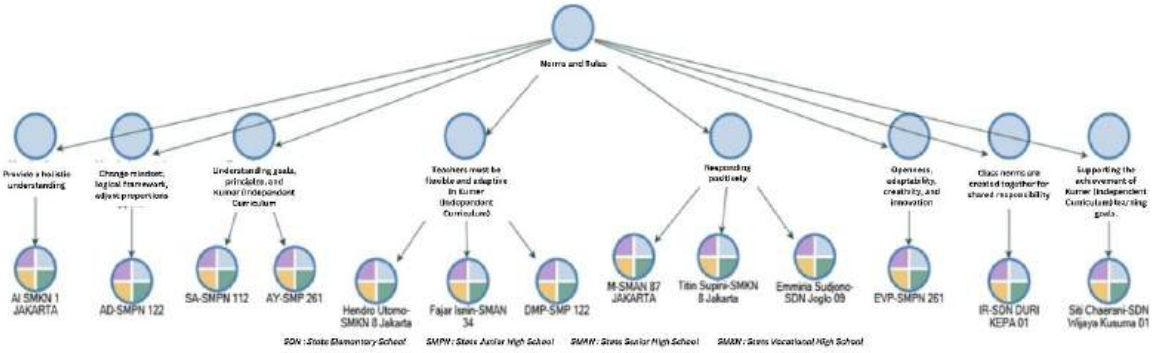

Figure 4.9 VPM in addressing norms and rules in the ~~independent~~ curriculum

The results of research findings that discuss personality competence related to norms and rules in learning. These findings show that norms and rules play an important role in creating a learning environment that supports the achievement of Merdeka Curriculum goals.

AI highlighted the importance of providing students with a holistic understanding of the rules, while AD underlined the need for mental changes and logical adjustments in applying rules and learning proportions. Understanding the principles and objectives of Merdeka Curriculum, as expressed by SA and AY, is an important foundation in adjusting classroom norms.

Teachers must be flexible and adaptive in implementing Merdeka Curriculum, as stated by HU and FI, so that norms and rules can be effective. DMP from SMPN 122 added that a positive attitude in addressing the rules will increase their effectiveness, as also expressed by M and TS.

Openness, adaptation, creativity and innovation in managing classroom norms made with students, as explained by ES and EVP, will encourage a sense of shared responsibility. In addition, clear and consistent norms support the achievement of learning objectives, as expressed by IR and SC .

2. Attitude

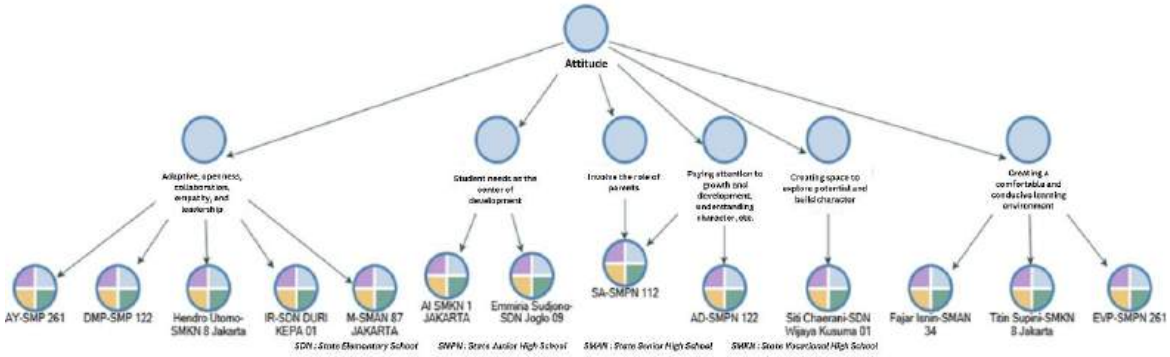

Figure 4.10VPM attitudes that teachers must show in implementing the Merdeka curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

The findings highlight several key aspects of teacher attitudes necessary to support effective learning within the Merdeka Curriculum. First and foremost, teachers must demonstrate adaptability, openness, collaboration, empathy, and leadership skills, as emphasized by AY, DMP, HU, and IR. These qualities are crucial for fostering dynamic learning environments that center around students' needs and promote engagement and motivation.Additionally, it is essential that the development of students, as the focal point of the educational process, is carefully considered. AI and ES stress that learning should be directed towards meeting the diverse needs and unlocking the potential of each student. This individualized approach ensures that every learner is given the opportunity to thrive according to their abilities and interests.

Moreover, the role of parents in the learning process cannot be overlooked. Active involvement from parents, as highlighted by SA, is essential for creating a supportive and collaborative educational ecosystem. Teachers must also pay close attention to students' growth and development, understand their unique characteristics, and provide the necessary support for their overall well-being, as noted by AD.Furthermore, teachers are encouraged to create learning spaces that facilitate student exploration and character development. As SC explains, these spaces should be conducive to fostering creativity and critical thinking. In addition, teachers must ensure that the learning environment is comfortable and supportive, as mentioned by FI, TS, and EVP, as

this is vital for sustaining students' engagement and enhancing the effectiveness of the learning process.

3. Work Ethic

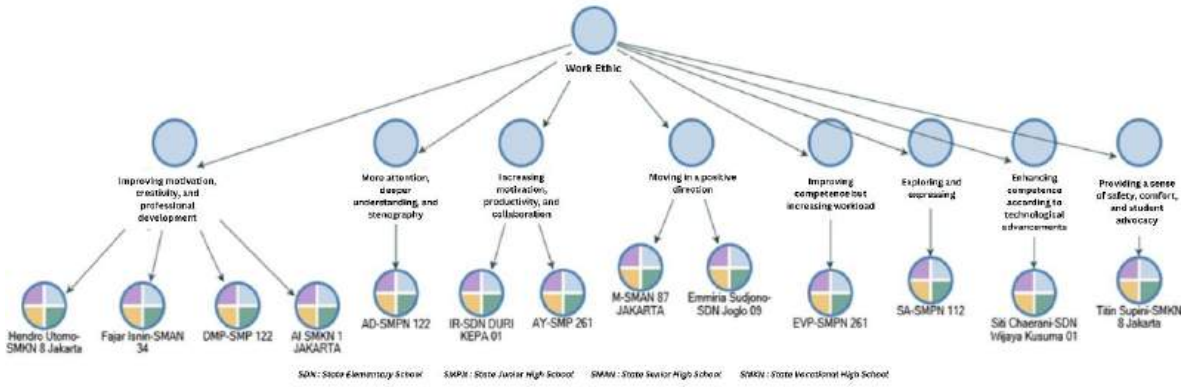

Figure 4. 11 VPM *of* the impact of implementing the Merdeka curriculum on work ethics.
~~Source: Results of data processing using *NVIVO 12 Pro software*~~

This finding shows that the implementation of Merdeka Curriculum has a significant impact on increasing teacher motivation, creativity, and professional development. HU, FI, and DMP reported that Merdeka Curriculum encouraged teachers to be more creative and involved in professional development.

Teachers also pay more attention to understanding students' needs and deepening skills such as stenography to take notes more effectively, as AI and AD shared. Improved motivation, productivity and collaboration were also reflected in the findings of IR and AY, who indicated that Merdeka Curriculum promotes better cooperation among teachers and students.

Positive impacts were also seen in the improvement of work ethic, with many teachers reporting positive changes in their approach to teaching, as expressed by M and ES. However, some teachers such as EVP revealed that the increase in teacher competencies also increased their workload.

Teachers such as SA and SC also noted that the Merdeka Curriculum provides opportunities to explore and express technological developments and adjust competencies according to the times. In addition, the Merdeka Curriculum also encourages teachers to create a safe and comfortable learning environment, which favors students, as stated by TS.

4.1.4 Professional Competence

1. Material Mastery

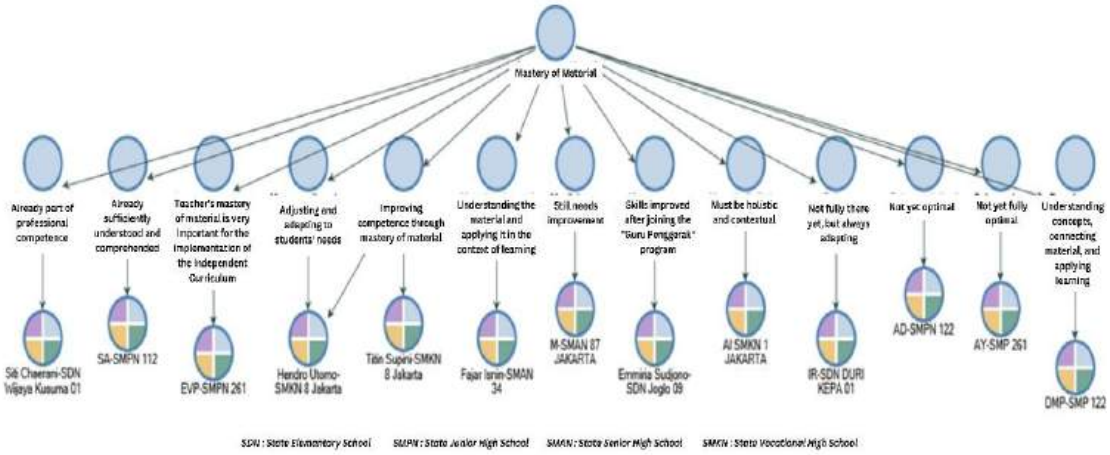

Figure 4.12 VPM ~~Visualization of the *project map for* improving~~ professional competence with mastery of materials in the ~~independent~~ curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

The results of the research findings shown in Figure 4.12 regarding professional competence, especially in mastering the material in the Merdeka Curriculum. This finding shows that teachers' mastery of teaching materials is one of the key elements in the successful implementation of the Merdeka Curriculum.

SC emphasized that mastery of the material is part of the teacher's professional competence. SA and EVP emphasized that sufficient and in-depth understanding of the material is essential for implementing Merdeka Curriculum effectively. HU added that it is important for teachers to adjust and adapt materials according to student needs.

Teachers also need to continuously improve their competence in mastering the material, as expressed by TS and FI, who highlighted the importance of understanding the context of learning. However, some teachers, such as M, admitted that mastery of the material still needs to be improved, especially in the application of contextual and holistic learning, as expressed by AI.

Although some teachers, such as ES and IR, have shown improved competence, some teachers feel that they are still in the process of adapting to Merdeka Curriculum materials. AD and AY emphasized that their mastery of the material has not been fully maximized, although there are efforts to continue to improve.

DMP emphasizes that understanding concepts, connecting materials, and applying learning are key elements in the Merdeka Curriculum, which requires continuous improvement and adjustment from teachers .

2. Use of Technology

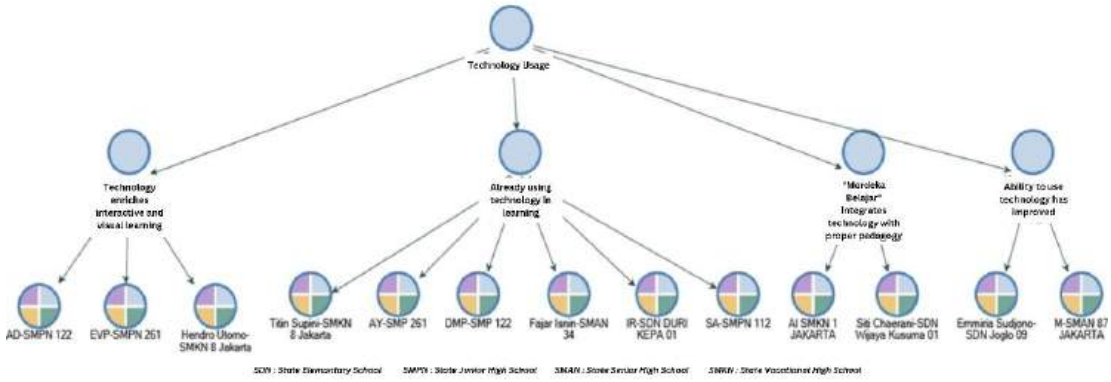

Figure 4.13 VPM the use of technology in the Merdeka curriculum

~~Source: Results of data processing using *NVIVO 12 Pro software*~~

Figure 4.13 highlights that technology plays a pivotal role in enriching learning, particularly within the context of the Merdeka Curriculum. According to AD, EVP, and H, technology has significantly contributed to the creation of more interactive during learning in classroom. Furthermore, technology also visually engaging learning experiences, which, in turn, enhances students' comprehension of the material.

Most teachers, including TS, AY, and DMP, have integrated technology into their teaching methods, employing various platforms and tools to support the learning process. These educators have observed that the Merdeka Curriculum encourages them to blend technology with appropriate pedagogical strategies, as emphasized by AI and SC. This fusion enables a more holistic and relevant learning experience, catering to students' diverse needs and fostering a deeper understanding of the subject matter.

Furthermore, the ability to utilize technology has been steadily increasing among teachers, as indicated by ES and M. These educators have become increasingly proficient in leveraging

various digital tools, which support not only project-based learning but also collaborative efforts and formative assessments. This growing technological competence is empowering teachers to create more dynamic and flexible learning environments, reflecting the evolving demands of the modern educational landscape.

3. Self-Development

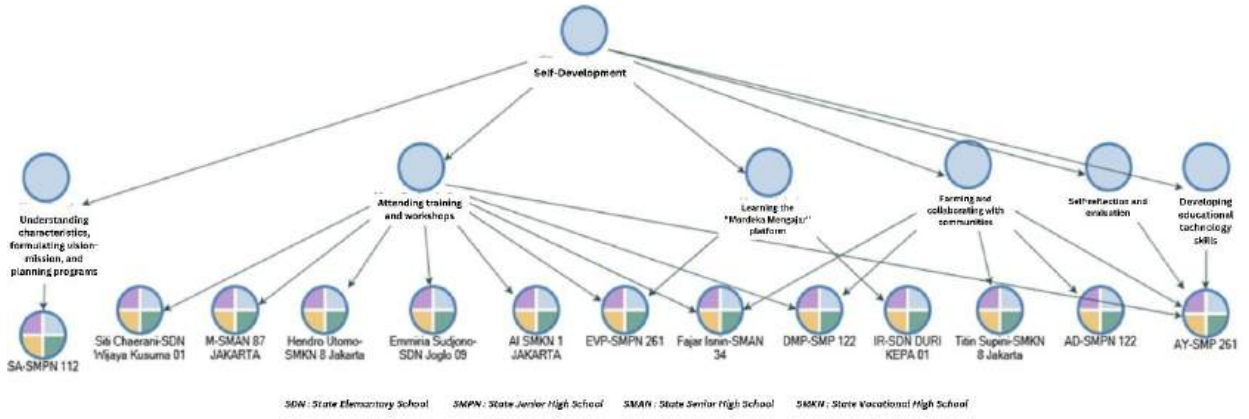

Figure 4.14 VPM of the self-development in improving the professional competence of the Merdeka curriculum

The results of research findings regarding professional competence discuss teacher self-development in the context of the Merdeka Curriculum. These findings highlight that self-development is an important aspect in improving teachers' abilities and effectiveness in implementing the Merdeka Curriculum.

SA and SC stressed the importance of understanding the characteristics of the education unit, developing a vision-mission and planning appropriate learning programs. Teachers such as M, HU and ES actively participate in training and workshops to improve their professional competencies.

In addition to formal training, teachers also learn the "Merdeka Mengajar" platform to better understand and apply Merdeka Curriculum concepts in the teaching and learning process. Teachers such as FI and EVP are involved in using this platform to support classroom learning. Collaborating with professional communities is also considered important by teachers such as IR and TS, who indicated that this collaboration helps enrich learning insights and practices. In

addition, periodic self-reflection and evaluation, as expressed by AD, enables teachers to continuously improve the quality of their teaching.

4.2 Discussion

4.2.1 Social Competence

Findings show significant improvements in teachers' communication and adaptation skills. Key findings include increased communication flexibility in collaboration, teachers' ability as facilitators, and adjustments to communication demands that are more effective and responsive to student needs. The Merdeka Curriculum also encourages inclusive, fair and non-discriminatory behavior in the educational environment, with learning that is more tailored to the competencies of each student. Nonetheless, teachers' adaptation processes to these changes vary, with some still facing challenges. Overall, this study indicates that Merdeka Curriculum brings positive changes in teachers' social competencies, both in communication skills, adaptation, and inclusive behavior, although further adjustments are needed in some areas. As also found in research by Siswanto et al (2024), which highlights the crucial role of teachers as facilitators in creating an inclusive and equitable learning environment. This is reinforced by the findings of Hidayah et al (2022) who showed that social competencies, including effective communication skills and conflict handling, are critical in supporting inclusive learning in schools.

In addition, the results of this study reveal that Merdeka Curriculum not only improves teachers' communication competencies but also encourages equitable inclusive behavior, a finding that is in line with previous research by Walukow et al (2022) which emphasizes the importance of a paradigm shift in education to support equitable and responsive learning environments. This study also noted that despite progress, some teachers still face challenges in adjusting to these changes, in line with a report by Mahmud et al (2023), which found that many teachers need further support in mastering the new technologies and methodologies required in the implementation of Merdeka Curriculum. Therefore, more intensive training and ongoing support are needed to ensure all teachers can adapt well to the ongoing curriculum changes.

Meanwhile, the results of research on teachers' social competence in implementing the Merdeka Curriculum show that teachers are able to improve their social interaction skills with students, peers, and parents. These social competencies include effective communication, conflict management, and dynamic teamwork. In line with research by Sagala (2022), good communication skills are essential for creating an inclusive and collaborative learning environment. In addition, teachers are expected to be able to adapt to environmental changes and act as influential agents of social change in society. This emphasizes the important role of social competence in supporting the success of the Merdeka Curriculum. This is also added by the results of research on teachers' social competence in implementing the Merdeka Curriculum, which shows that teachers' ability to communicate and cooperate effectively with students, parents, and colleagues is an important aspect in creating an inclusive and conducive learning environment. Teachers are expected to be able to understand individual differences, manage conflict, and build harmonious relationships in the school environment. As stated in a study by Alfath et al (2022), teachers' social competence includes the ability to internalize changes in the social environment and apply the principles of good governance, which are very important in the success of the Merdeka Curriculum. Teachers need to have good communication skills, both with students and other parties, such as parents and colleagues, to create a conducive learning environment (Aditya, 2023).

~~Teachers are expected to communicate effectively with students, colleagues and parents to create an inclusive and supportive learning environment. This research highlights that good communication not only improves interactions between parties within the school but also facilitates a smoother learning process (Sibagariang et al., 2021). Social competence includes teachers' ability to build teamwork, manage conflict, and understand individual differences among students. The mobilizing teacher is expected to be a good facilitator in mobilizing the education community to work together to achieve better learning goals (Sijabat et al., 2022).~~

~~This study also emphasizes the importance of social competence for teachers in carrying out their duties in the Merdeka Belajar program. Good social competence allows teachers to communicate effectively with students, peers, and parents. The results showed that teachers who have good communication skills tend to be more successful in creating harmonious collaboration in the school environment. Teachers are required to not only give instructions but also manage interactions between students and between students and teachers to make the learning process more dynamic and inclusive. This research also notes that teachers' ability to build teamwork with other school staff is an important factor in improving the quality of education services offered by schools (Taridala et al., 2023). With strong social competence, teachers can create a learning atmosphere that supports students' character and academic development.~~

The findings highlighted the significant improvements in teachers' communication and adaptation skills under the Merdeka Curriculum. Teachers demonstrated increased flexibility in communication during collaboration, developed facilitation abilities, and a more effective response to the diverse demands of students. The Merdeka Curriculum fosters an inclusive, equitable, and non-discriminatory learning environment, tailoring education to the individual competencies of each student. However, the adaptation process among teachers remains even, with some facing notable challenges. These findings echo boarder concerns in curriculum implementation, as teachers' preparedness and ability to adapt to systemic changes vary widely(Caena & Vuorikari, 2022; Rencher et al., 1978). While the Merdeka Curriculum has led to positive changes in teachers' social competencies – especially in communication, adaptation, dan inclusive behavior – future adjustments are necessary in certain areas.

The practical implications of these findings are significant for policymakers and educators. For policymakers, the research emphasizes the importance of targeted professional development programs and continuous support to ensure that teachers can effectively navigate these changes. While the Merdeka Curriculum offers a promising framework for inclusive education, the uneven pace at which teachers adapt suggests the need for more robust, localized support structures(Caena & Vuorikari, 2022; Cross, 1994). For educators, fostering an inclusive learning environment goes beyond implementing new teaching strategies; it involves mastering social competencies such as conflict management, team collaboration, and a deep understanding of student diversity. These

skills are essential in creating a dynamic, responsive classroom that aligns with the goal of the Merdeka Curriculum.

Comparative studies from other global contexts offer additional perspective on these challenges. For example, in the United States and the United Kingdom has shown similar struggles in implementing inclusive curricula, particularly concerning the professional development of teachers and the integration of new technologies(Johansson et al., 2014). In both contexts, a key challenge has been the alignment of curriculum changes with teachers' pre-existing skills and the varying levels of institutional support available. While the Merdeka Curriculum has its own unique cultural and educational context, the global trend highlighted that substantial teacher training and systemics support are critical in ensuring the success of inclusive education reforms.

Furthermore, the research findings also emphasize the importance of teachers' ability to build strong networks within the educational ecosystem. Teachers in this study demonstrated improved social interaction skills with students, colleagues, and parents, contributing to a more inclusive and supportive environment. Teachers' social competence – including the ability to communicate effectively and manage conflict – plays a pivotal role in creating a collaborative and inclusive classroom(Pantiwati et al., 2023; Siri et al., 2020). Globally, studies on teachers' social competence, such as (Caena & Vuorikari, 2022; Lindström et al., 2024; Reagan & Pratte, 1973) underline that effective communication and teamwork are essential for fostering a harmonious learning environment. Teachers must act not only as instructors but also as facilitators of collaboration within the broader school community.

Considering these challenges and opportunities, while the Merdeka Curriculum has made notable strides in improving teachers' social competencies, further investments in professional development are crucial. Teachers need ongoing training to adapt to evolving pedagogical practices, manage new educational technologies, and respond to the diverse demands of students. This is particularly pertinent in a global context where educational reforms often encounter resistance due to inadequate training or the lack of support for teachers(Cross, 1994). Policymakers must prioritize the creation of support systems that equip educators to navigate these changes, ensuring that goals of Merdeka Curriculum will be met and that inclusive, an equitable education becomes a reality for all students.

4.2.2 Pedagogical Competence

Research findings regarding teachers' pedagogical competence in implementing the Merdeka Curriculum show that the approach applied must be flexible and holistic, adjusting to the needs of each student. The use of diagnostic and non-cognitive assessments is important to understand the development of students comprehensively. The implementation of learning is also more student-centered, giving them the freedom to choose a way of learning that suits their interests and abilities. Project-based approaches and active student engagement are the main focus in learning, where adaptation of methods is key to increasing engagement. The findings also highlight that teachers' pedagogical competence needs to be continuously improved, especially in terms of mastery of technology and adaptation of learning methods. Learning evaluation is conducted holistically, covering formative and summative assessments through portfolios, assignments and performance assessments to monitor students' overall development. On the other hand, the challenge faced by teachers is the large number of students in a class, which can limit the effectiveness of learning. Therefore, improving pedagogical competence through class division strategies and using assistants is needed so that the implementation of Merdeka Curriculum runs optimally. In line with the research of Faridah et al. (in Siswanto 2024) which emphasizes that teachers need to be able to design learning according to student characteristics. Second, learning is more student-centered, providing freedom in choosing how to learn according to their interests and abilities. This is relevant to the findings of Walukow et al. (2022), who stated that a project-based approach can increase students' involvement and active participation in the learning process.

Third, learning assessment is conducted holistically through portfolios, assignments and performance assessments, which is in line with Fitriyah & Wardani's (2022) research, where these holistic assessments help monitor students' development more thoroughly. However, a challenge faced by teachers is the large number of students in a class, which can hinder learning effectiveness, as also highlighted by Mahmud et al (2023), who pointed out that further support is needed to overcome resource limitations in large classes. To address this, improving teachers' pedagogical competencies, especially in terms of technology mastery and adaptation of learning methods, is crucial. In addition, the use of class division strategies and chaperone assistance are considered as potential solutions to support a more optimized learning process.

The results showed that teachers' pedagogical competence is very important in implementing the Merdeka Curriculum, where teachers must be able to manage learning

~~effectively. This pedagogical competence includes the ability to design, implement, and evaluate student-centered learning. Teachers are required to understand the individual characteristics of students and use innovative and contextualized learning methods, such as project-based approaches that encourage students to think critically and creatively (Murniarti, 2021). In addition, teachers are also expected to utilize technology in the learning process to make it more relevant to the demands of modern times. Learning evaluation must be carried out on an ongoing basis to monitor student development comprehensively. This research confirms that mastery of pedagogical competence plays an important role in improving the quality of student learning outcomes, especially in supporting character development in accordance with the Pancasila Student Profile (Nasution, 2022). However, limitations in short online training are a challenge in developing these competencies.~~The implementation of the Merdeka Curriculum poses a number of challenges that can impact its effectiveness. A major concern is the large class size, which hinders teachers' ability to provide individualized attention and tailor learning experiences to the diverse needs of students. This is a common issue not only in Indonesia but also in many other countries with limited resources, such as India and Brazil, where class size often exceeds 40 students. Additionally, while the Merdeka Curriculum encourages a shift toward technology integration and student-centered learning, teachers often lack the necessary training and resources to make these transitions successfully. Short online training programs are insufficient in helping teachers adapt to these new methods, leaving many without the technological proficiency needed for effective implementation(Hartshorne et al., 2020; Hew et al., 2020; Mahmood, 2021). Furthermore, the resource constraints, such as insufficient teaching assistants and teaching tools, add to the difficulties teachers face in adapting their methods to large, diverse classrooms. These resource limitations prevent teachers from fully engaging with every student, reducing the overall effectiveness of the curriculum(Pantiwati et al., 2023).

The findings from the research offer several practical implications for policymakers and educators to improve the implementation of the Merdeka Curriculum. First, there is a clear need for policymakers to invest in continuous, accessible teacher training programs that focus on both pedagogical innovation and technological integration. Equipping instructors with the necessary resources to effectively engage students, primarily through project-based learning and technology-enhanced methods, can facilitate the successful realization of the curriculum's student-centered approach. Additionally, to address the challenge of large class sizes, class division strategies and

the use of teaching assistants are practical solutions that could significantly enhance the quality of instruction. Policymakers should prioritize these strategies and allocate resources to ensure that teachers are supported in managing large classrooms. Another key implication is the shift toward holistic students' assessments, which track not only academic progress but also socio-emotional development. Educators' assessment frameworks incorporate a broader range of evaluative methods, such as portfolios, and performance assessment, to reflect the diverse aspects of students' growth.

A comprehensive, global viewpoint indicates that the issues and solutions associated with implementing the Merdeka Curriculum are not exclusive to Indonesia. The prevalence of big class sizes is a significant concern in nations with constrained educational resources, such as India and Brazil. Overcoming this obstacle necessitates systematic support via resource allocation and the employment of teaching assistants, tactics that have been effectively executed in other nations confronting analogous issues(Mahmood, 2021). The global trend of integrating technology in education is apparent in numerous nations; nevertheless, its effectiveness is largely contingent upon the training and preparedness of educators. Finland has made substantial expenditures in digital tools and teacher professional development to facilitate efficient technology integration. This comparative analysis indicates that although the Merdeka Curriculum's emphasis on technology and student-centered learning corresponds with international best practices, local teacher readiness, and infrastructure enhancements are essential for its complete efficacy.

Additionally, the worldwide transition towards comprehensive evaluations, particularly those emphasizing socio-emotional development, reinforces the trajectory of the Merdeka Curriculum. Countries such as Finland and Singapore have consistently adopted comprehensive evaluation models that monitor academic and character development, a practice that corresponds with the Pancasila Student Profile in Indonesia. Such programs' efficacy relies on adapting global techniques to local contexts, guaranteeing that the curriculum is culturally pertinent and viable within current resource limitations

4.2.3 Personality Competence

~~The research findings show that the teacher's personality competence in the Merdeka Curriculum is strongly influenced by the application of norms and rules in learning. Clearly and consistently applied norms play an important role in creating a conducive learning environment~~

and supporting the achievement of the Merdeka Curriculum goals. Teachers are required to be adaptive, flexible, and have a positive attitude in enforcing rules so that students can understand and carry them out properly. The application of rules must be tailored to student needs through a holistic and collaborative approach, where students are given space to be actively involved in learning. The findings also show the importance of teacher creativity and innovation in managing classroom norms, so that students feel they have a shared responsibility in the learning process. In addition, parental involvement in learning and the support of a comfortable and safe learning environment are also important factors. The Merdeka curriculum is proven to have a positive impact on increasing teacher motivation and professionalism, encouraging them to be more creative and collaborate in developing students' potential. Although the workload of teachers has increased, improving pedagogical competence is crucial in supporting the success of the Merdeka Curriculum, which focuses on the needs of students as a whole.

These findings reinforce previous theories and research results regarding the role of teacher personality competence in creating a conducive learning environment and supporting learning success, especially in the context of the Merdeka Curriculum. In line with the findings of Illahi (2020) and Mulyasa (2013), this study confirms that a stable, authoritative, and responsible personality is a crucial element in shaping student character and creating a comfortable learning atmosphere. In Merdeka Curriculum, the consistent and flexible application of norms and rules requires teachers to be adaptive and creative, which supports their role as role models for students, as stated by Sagala (2022). This research also confirms the importance of a holistic and collaborative approach to learning, where students are not only passive but also actively involved in the learning process, supporting the findings of Sulastri et al. (2023). The creativity and innovation expected of teachers in managing classroom norms as well as the involvement of parents and the surrounding environment corroborate the findings of Ramlino & Niron (2020) who emphasize the role of teachers in building harmonious relationships with all parties in education. Furthermore, increasing teacher professionalism as a result of the Merdeka Curriculum is also in line with Purwati & Sukirman's (2024) findings, which emphasize that teachers' mature personalities and high integrity help them lead and encourage comprehensive student growth.

The research findings demonstrate that the effectiveness of teachers' personality competence within the Merdeka Curriculum is largely based on the rigorous application of norms and regulations in learning. Clearly defined and consistently enforced norms foster a conducive

learning environment, which is vital for achieving the goals of the Merdeka Curriculum. Teachers must demonstrate adaptability, flexibility, and a positive attitude in applying these rules, ensuring students understand and implement them effectively. To address diverse student needs, norms should be applied holistically and collaboratively, actively involving students in the learning process. Creativity and innovation on the part of teachers in managing classroom norms are essential, enabling students to develop a sense of shared responsibility in their education. Parental involvement and a safe and supportive learning environment are critical factors for success. Implementing the Merdeka Curriculum has positively influenced teacher motivation and professionalism, encouraging greater creativity and collaboration in nurturing students' potential. However, the increased workload for teachers highlights a significant challenge in implementation. Addressing this requires targeted efforts to enhance teachers' pedagogical and personality competencies to sustain the curriculum's focus on holistic student development.

From a global perspective, the challenges faced in implementing the Merdeka Curriculum align with similar reforms worldwide, where teachers are expected to balance traditional practices with progressive educational demands. For instance, curriculum reforms in Finland and Singapore also highlight the importance of teacher adaptability and student-centered learning, suggesting the necessity for ongoing professional development and institutional support. Policymakers should consider these international benchmarks to provide actionable strategies that alleviate teacher burdens while enhancing curriculum implementation.

The practical implications of these findings are profound for both policymakers and educators. Policymakers must address systemic challenges such as teacher workload by offering targeted training programs and additional resources to streamline curriculum demands. Integrating technology and collaborative teaching methods could further support teachers in managing classroom norms effectively. Educators, on the other hand, should focus on fostering professional learning communities where best practices and innovative strategies are shared. Such collaborative efforts would enhance teacher competencies and contribute to a sustainable implementation of the Merdeka Curriculum.

This study reinforces existing theories on the critical role of teacher personality competence in fostering conducive learning environments. Previous research by (Ahmad et al., 2017) highlighted the importance of stable, authoritative, and responsible teacher personalities in shaping student character. Similarly, (Prahastina et al., 2024) emphasized the need for consistency and

flexibility in applying norms and rules, aligning with the adaptive and creative roles required of teachers under the Merdeka Curriculum. Furthermore, findings from (Yoto et al., 2024) underscore the significance of collaborative approaches that actively engage students in learning, echoing the global shift toward participatory education. The role of teachers in building harmonious relationships with parents and the community, as noted by (Pantiwati et al., 2023), further complements the findings of this study. Lastly, (Rohmah et al., 2024) assertion that teacher professionalism and integrity drive holistic student development parallels the positive outcomes observed under the Merdeka Curriculum.

By situating these findings within a broader context, the study provides valuable insights for both national and international education stakeholders. Comparative analyses highlight that while the Merdeka Curriculum faces unique challenges, its emphasis on teacher creativity, collaboration, and adaptability reflects global trends in curriculum reform. Addressing these challenges requires systemic interventions that empower educators and prioritize student-centered learning as a shared responsibility among all stakeholders.

4.2.4 Professional Competence

~~The results of the research findings show that teachers' professional competence in mastering material in the Merdeka Curriculum is a key element of learning success. In-depth and contextual mastery of material is very important for teachers to be able to adjust and adapt learning according to student needs. This is in line with the theory expressed by Sulastri et al. (2023), which emphasizes that teachers must have in-depth knowledge of the subjects taught in order to deliver the material in an interesting and relevant way for students. In this study, teachers who have good professional competence are proven to be better able to design interactive and contextual learning, which is one of the main objectives of Merdeka Curriculum.~~

~~In addition, the results of this study also underline the importance of technology utilization in supporting the learning process. Teachers' use of technology increases in line with the implementation of Merdeka Curriculum, which encourages the integration of technology in the pedagogical approach. This is in line with the findings of Sijabat et al. (2022), who stated that teachers' ability to master technology is very important to improve the quality of learning, especially in the context of online learning which is increasingly being used. Teachers who are~~

~~able to integrate technology into learning not only improve teaching effectiveness, but also ensure students can keep up with the development of science and technology.~~

~~Furthermore, this study emphasizes the importance of teachers' continuous self-development through training, self-reflection and professional collaboration. This is also emphasized by Mauizdati (2020), who highlights that continuous training is needed to support the improvement of teachers' professional competencies, especially in mastering technology and developing innovative learning methods. By attending formal training, utilizing the "Merdeka Mengajar" platform, and collaborating with professional communities, teachers can continuously update their skills and improve the quality of teaching.~~

~~Overall, the findings of this study support existing theories on teachers' professional competence. Mastery of teaching materials, utilization of technology, and self-development through continuous training are the main pillars in improving teachers' professional competence. This is also reinforced by Purwati & Sukirman (2024), who assert that teachers' professional competence, especially in terms of mastery of technology, is an important indicator in improving the quality of teaching and the relevance of learning to students' needs in the modern era.~~The results indicate that educators' professional proficiency in comprehending the Merdeka Curriculum is crucial to achieving learning success. A comprehensive and contextual understanding of the curriculum allows educators to effectively customize education to address varied student requirements. The imperative for educators to have extensive topic knowledge to provide content in an engaging and pertinent manner(Tang et al., 2017). Nonetheless, obstacles remain in execution since not all educators have equitable access to professional development opportunities or the essential skills required to implement such methodologies consistently. Rectifying inequities in teacher preparation and resource distribution is essential for surmounting these challenges.

A crucial element of this study is the focus on incorporating technology in the educational process, a fundamental principle of the Merdeka Curriculum. The research indicates that digitally proficient teachers improve instructional effectiveness and student involvement. However, it also identifies obstacles, including unequal access to technology, insufficient digital literacy among confident educators, and infrastructural limitations, especially in rural regions. Technological competency is essential for contemporary education, although successful integration frequently necessitates systemic support, including infrastructure investment and continuous trainingv(Andyani et al., 2020; Gudmundsdottir & Hatlevik, 2018).

The study emphasizes the significance of ongoing professional growth for educators, primarily via formal training, reflective practices, and cooperation. The "Merdeka Mengajar" platform and professional networks are valuable resources, yet their adoption is impeded by obstacles such as time limitations, insufficient institutional support, and differing levels of teacher motivation. Training must be accessible and customized to bridge these implementation gaps(Hunaepi & Suharta, 2024).

The findings reflect issues encountered in analogous educational transformations globally. Comparative analyses with nations employing competency-based curricula, such as Finland and Singapore, indicate that professional development is most efficacious when integrated within a supportive policy framework that promotes collaboration, offers mentorship opportunities, and guarantees equitable resource distribution. Policymakers should consider adopting exemplary approaches from these contexts, including incentivizing professional development and incorporating feedback systems to enhance teacher training programs perpetually.

The ramifications for policymakers and educators are evident: comprehensive investment is essential to improve teacher competencies and guarantee equal execution of the Merdeka Curriculum. Policymakers must prioritize funding for teacher training, especially in technology integration, while tackling infrastructural and equity concerns that impede widespread access. Moreover, educators should promote and participate in opportunities for professional growth, utilizing platforms such as "Merdeka Mengajar" to modify teaching methodologies to contemporary requirements.

This study confirms that proficiency in teaching materials, adept utilization of technology, and dedication to lifelong learning constitute the foundations of teachers' professional competency. These aspects not only elevate the quality of instruction but also augment the curriculum's relevance to students' demands in an increasingly globalized and technology-driven world(Caena & Vuorikari, 2022). Confronting the problems and utilizing the practical ramifications of these results will significantly enhance the effective execution of the Merdeka Curriculum, aligning it with international educational progress.

CONCLUSIONS

Social competence saw significant improvements in teachers' communication and adaptation skills. Key findings include increased communication flexibility in collaboration, teachers' ability as facilitators, and adjustments to communication demands that are more effective and responsive to student needs. The Merdeka Curriculum also encourages inclusive, fair and non-discriminatory behavior in the educational environment, with learning that is more tailored to the competencies of each student. Nonetheless, teachers' adaptation processes to these changes vary, with some still facing challenges. Overall, this research indicates that the Merdeka Curriculum brings positive changes in teachers' social competencies, both in communication skills, adaptation, and inclusive behavior, although further adjustments are needed in some areas.

Teachers' pedagogical competence in the Merdeka Curriculum shows that the approach applied must be flexible and holistic, adjusting to the needs of each student. The use of diagnostic and non-cognitive assessments is important to understand the development of students comprehensively. The implementation of learning is also more student-centered, giving them the freedom to choose a way of learning that suits their interests and abilities. Project-based approaches and active student engagement are the main focus in learning, where adaptation of methods is key to increasing engagement. The findings also highlight that teachers' pedagogical competence needs to be continuously improved, especially in terms of mastery of technology and adaptation of learning methods. Learning evaluation is conducted holistically, covering formative and summative assessments through portfolios, assignments and performance assessments to monitor students' overall development. On the other hand, the challenge faced by teachers is the large number of students in a class, which can limit the effectiveness of learning. Therefore, improving pedagogical competence through class division strategies and the use of assistants is necessary for the implementation of Merdeka Curriculum to run optimally.

The teacher's personality competence in the Merdeka Curriculum is strongly influenced by the application of norms and rules in learning. Clearly and consistently applied norms play an important role in creating a conducive learning environment and supporting the achievement of the Merdeka Curriculum goals. Teachers are required to be adaptive, flexible, and have a positive attitude in enforcing rules so that students can understand and carry them out properly. The application of rules must be tailored to student needs through a holistic and collaborative approach, where students are given space to be actively involved in learning. The findings also show the importance of teacher creativity and innovation in managing classroom norms, so that students

feel they have a shared responsibility in the learning process. In addition, parental involvement in learning and the support of a comfortable and safe learning environment are also important factors. The Merdeka curriculum is proven to have a positive impact on increasing teacher motivation and professionalism, encouraging them to be more creative and collaborate in developing students' potential. Although the workload of teachers has increased, improving pedagogical competence is crucial in supporting the success of the Merdeka Curriculum, which focuses on the needs of students as a whole.

Teachers' professional competence in mastering material in the Merdeka Curriculum is a key element of learning success. Teachers are required to master teaching materials in depth and contextually in order to adjust and adapt learning according to student needs. Although some teachers have shown improvement in their mastery of the material, there are still challenges in implementing holistic and contextual learning. Teachers are also expected to continuously improve their competencies through self-development, training and professional collaboration. Technology is becoming an important tool in supporting teaching, creating more interactive and relevant learning for students. The utilization of technology by teachers is increasing, in line with the implementation of Merdeka Curriculum which encourages the integration of technology in pedagogical approaches. Self-development is also an important part of improving professional competence, with teachers actively participating in formal training, utilizing the "Merdeka Mengajar" platform, and collaborating with professional communities. Periodic self-reflection and evaluation allow teachers to continuously improve teaching quality. Overall, these findings show that mastery of material, use of technology, and self-development play a major role in supporting the effective implementation of Merdeka Curriculum and improving teachers' professional competence.

For Future Researchers

Future researchers can focus on evaluating the impact of technology integration in learning on student learning outcomes and examining the effectiveness of teacher training in improving professional competence. In addition, further research on the effect of two-way communication between teachers and students on learning outcomes is also necessary, including the role of interprofessional collaboration in supporting teacher competence in the Independent Curriculum era.This research highlights the transforming influence of the Merdeka Curriculum on multiple

dimensions of teacher abilities, encompassing social, educational, personality, and professional elements. Teachers exhibited notable improvements in social competency, especially in communication and adaptability abilities. The results highlight enhanced collaboration, inclusive practices, and attentiveness to varied student requirements, promoting a more dynamic and fair educational setting. Nevertheless, although numerous educators effectively transitioned, specific individuals continue encountering difficulties, emphasizing the need for sustained assistance and adjustment measures.

The pedagogical competency within the Merdeka Curriculum ~~signifies~~shows a transition to a more student-centric and adaptable learning methodology. Educators must employ diagnostic and non-cognitive evaluations to understand students while prioritizing project-based and active engagement methodologies. Notwithstanding advancements, obstacles, including substantial class numbers and proficiency in technology, remain, signifying a necessity for class segmentation tactics, supplementary instructional support, and ongoing professional development to enhance educational results.

The continuous application of norms and rules enhances personality competence, promoting an effective learning environment. Educators are anticipated to exhibit adaptability, innovation, and an optimistic disposition, facilitating students' active involvement in cultivating a collaborative classroom environment. Parental engagement and a secure, nurturing atmosphere are essential to fulfilling the curriculum's objectives. The heightened workload for educators underscores the necessity of combining duties with chances for professional development.

Professional competence pertains to educators' proficiency in instructional content and the incorporation of technology. Despite observable advancements, the need for more comprehensive and contextualized learning remains challenging. Self-development activities, encompassing formal training, collaborative practices, and using technological platforms such as "Merdeka Mengajar," are crucial for improving teaching quality. Regular reflection and assessment enhance professional development, ensuring teachers stay aligned with the curriculum's goals.

Numerous constraints arose during the investigation. The heterogeneity in teachers' adaptation processes to curricular changes suggests that the findings may not comprehensively reflect all circumstances, especially in areas with constrained resources or restricted access to training. Secondly, although the research addresses technological integration, the degree of its influence on varied classroom environments remains little examined. The results are derived from

case studies, which may restrict their applicability across other educational systems or cultural situations.

Future research may examine the influence of technology integration on student learning outcomes and teacher competence within the Merdeka Curriculum. Research may examine how digital technologies, including interactive platforms and AI-driven evaluations, improve engagement and understanding in various educational settings. Furthermore, assessing the efficacy of professional development programs in enhancing teachers' pedagogical and professional competencies is crucial. This entails assessing the enduring effects of training on classroom management, new pedagogical techniques, and comprehensive learning strategies. Investigating the significance of bidirectional communication between educators and learners and interprofessional collaboration among teachers, administrators, and parents can yield critical insights for fostering a more supportive and effective educational environment. These fields of study will enhance the execution of the Merdeka Curriculum and facilitate the ongoing advancement of Indonesia's educational system.

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11 Maret 2025

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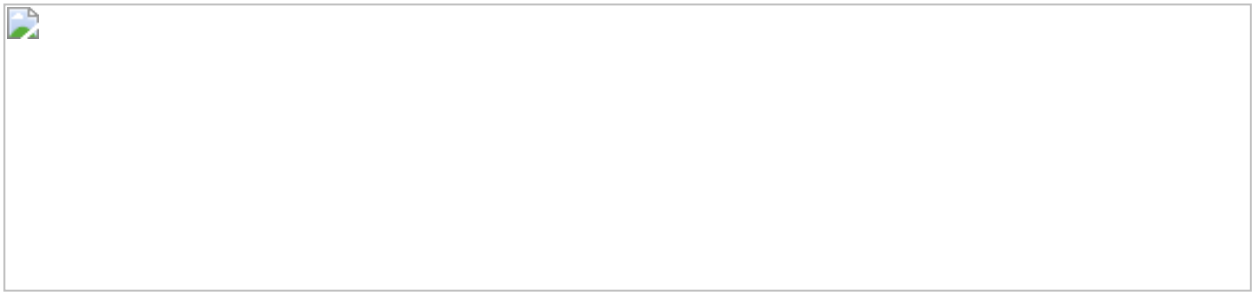

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Journal	**Cogent Education**

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EVALUATING THE IMPACT OF THE MERDEKA CURRICULUM ON TEACHER COMPETENCE: A PHENOMENOLOGICAL STUDY IN JAKARTA SCHOOLS

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4th author	Isha Bin	Awang	Universiti Utara Malaysia	isha@uum.edu.my
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We have now evaluated your authorship change request.

This has been evaluated and the authorship addition request is declined as this does not align with Taylor & Francis' authorship policies.

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1) Continue with the revised submission, with the original author list (3 original authors, Erna Kusumawati, Suswandari Suswandari & Mohd Isha Bin Awang)

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Kind Regards,

Erna Kusumawati

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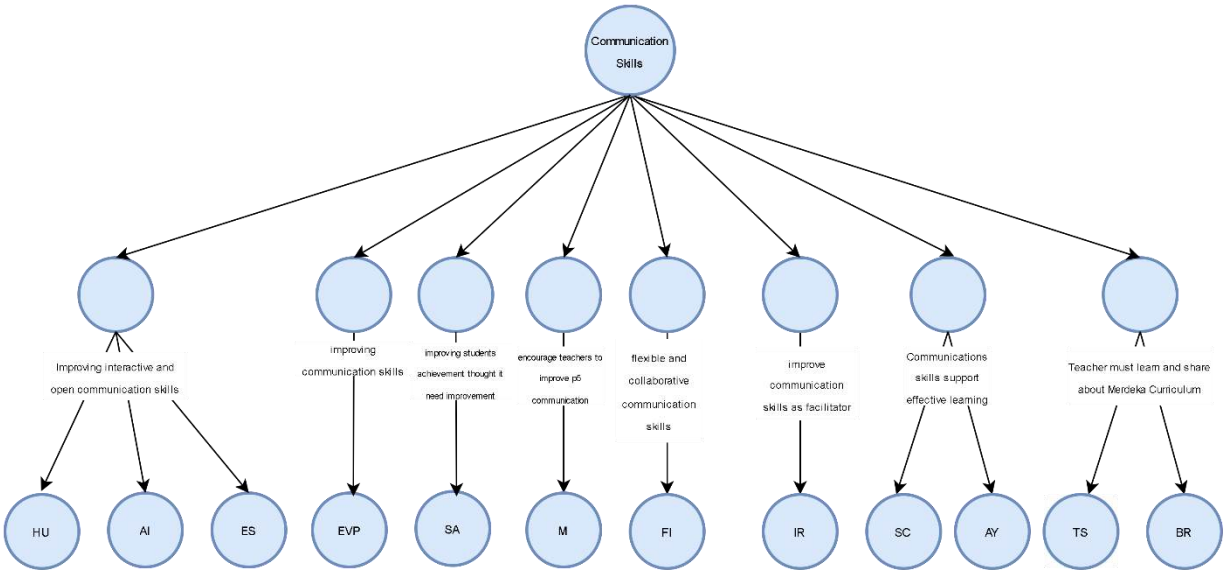

Figure 4.1: The Impact of the Merdeka Curriculum on Teachers' Communication Skills (Visualization Project Maps-VPM).

Figure 4.1 alt text. Flowchart diagram illustrating various aspects of improving communication skills. The central node is labeled 'Communication Skills' and is connected to several other nodes, each representing different areas for development. These include 'Improving interactive and open communication skills,' 'Improving students' achievement through communication,' 'Encouraging teachers to improve communication skills,' and 'Improving communication skills as a facilitator.' The diagram also includes 'Flexible and collaborative communication skills,' 'Communication skills support effective learning,' and 'Teacher must learn and share about Merdeka Curriculum.' Various smaller nodes under each area contain abbreviations representing specific categories or methods related to communication skills.

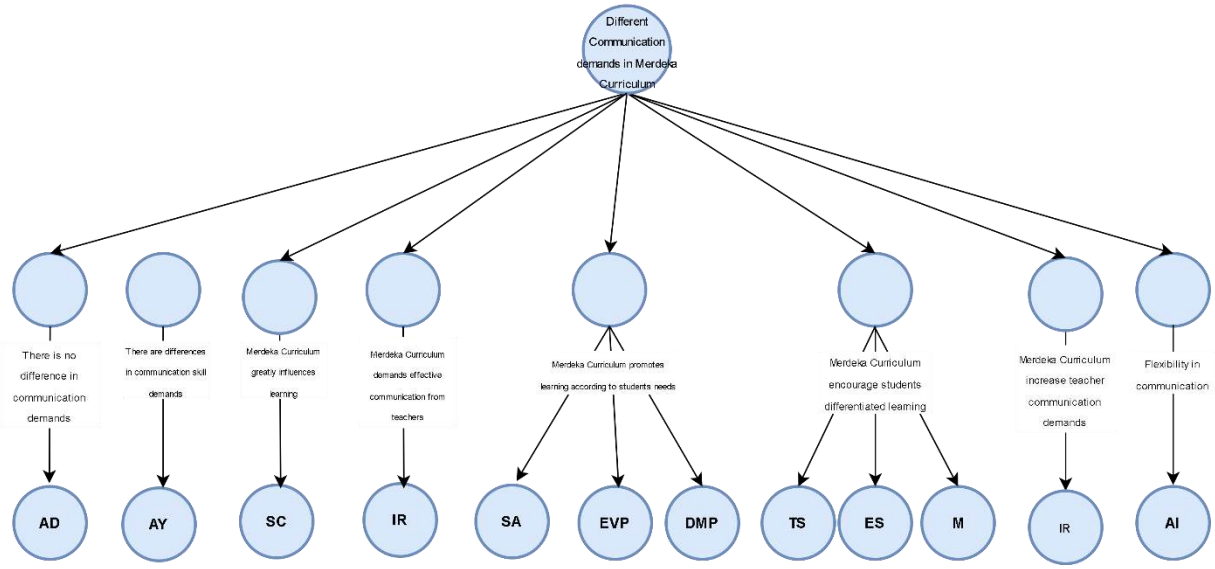

Figure 4.2: Different Communication Demands in the Merdeka Curriculum (VPM)

Figure 4.2 alt text. Flowchart diagram illustrating the different communication demands in the Merdeka Curriculum. The central node is labeled 'Different Communication Demands in Merdeka Curriculum' and is connected to various nodes representing different aspects of communication demands. These include 'There is no difference in communication demands,' 'There are differences in communication skill demands,' 'Merdeka Curriculum greatly influences learning,' 'Merdeka Curriculum demands effective communication from teachers,' and 'Merdeka Curriculum promotes learning according to students' needs.' Additional nodes include 'Merdeka Curriculum encourages students' differentiated learning,' 'Merdeka Curriculum increases teacher communication demands,' and 'Flexibility in communication.' Smaller nodes represent abbreviations of specific categories or methods related to these communication demands

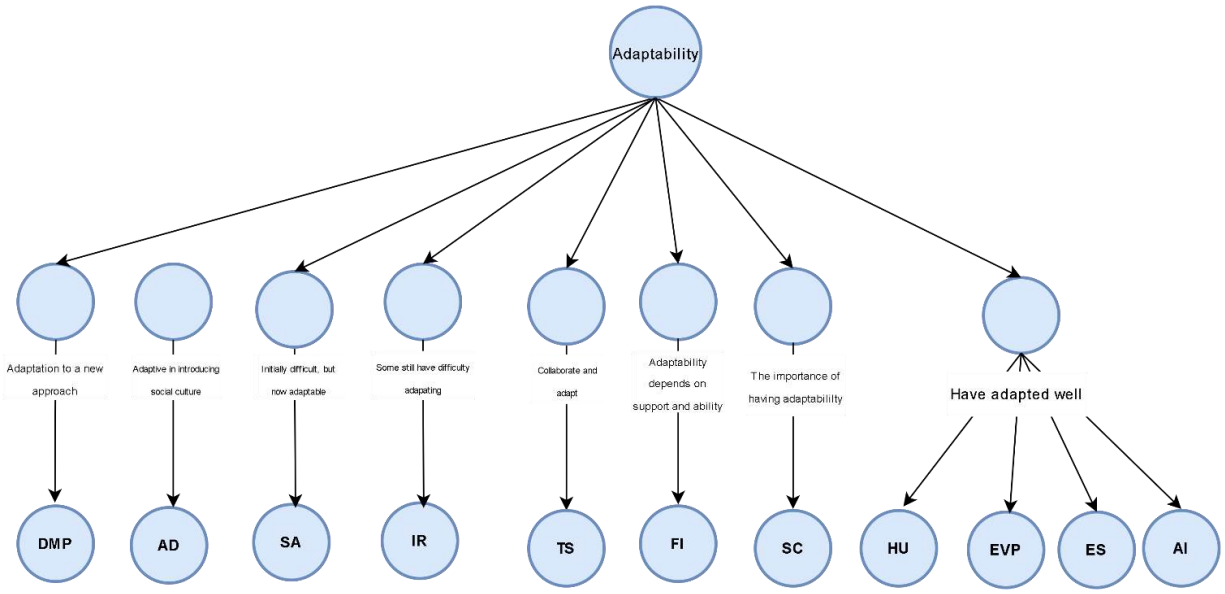

Figure 4.3: VPM Adaptability in Implementing the Merdeka Curriculum

Figure 4.3 alt txt. Flowchart diagram illustrating various aspects of adaptability. The central node is labeled 'Adaptability' and is connected to multiple other nodes that represent different aspects of adaptation. These include 'Adaptation to a new approach,' 'Adaptive in introducing social culture,' 'Initially difficult, but now adaptable,' 'Some still have difficulty adapting,' 'Collaborate and adapt,' and 'Adaptability depends on support and ability.' Additional nodes represent 'The importance of having adaptability' and 'Have adapted well.' Smaller nodes underneath these main aspects contain abbreviations related to specific categories or methods connected to adaptability.

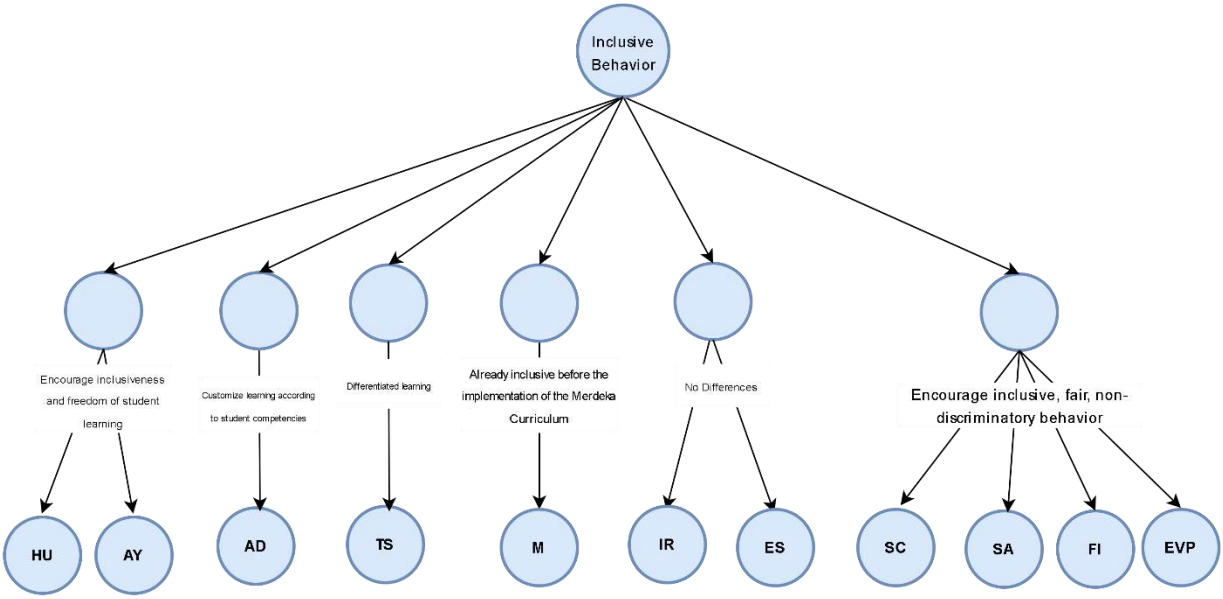

Figure 4.4: VPM for Inclusive Behavior in Implementing the Merdeka Curriculum

Figure 4.4 alt text. Flowchart diagram illustrating various aspects of inclusive behavior. The central node is labeled 'Inclusive Behavior' and is connected to different areas that emphasize inclusivity in education. These areas include 'Encourage inclusiveness and freedom of student learning,' 'Customize learning according to student competencies,' 'Differentiated learning,' 'Already inclusive before the implementation of the Merdeka Curriculum,' and 'No Differences in treatment.' The diagram also highlights the importance of 'Encouraging inclusive, fair, non-discriminatory behavior.' Smaller nodes below these categories contain abbreviations that represent specific categories or methods related to promoting inclusive behavior.

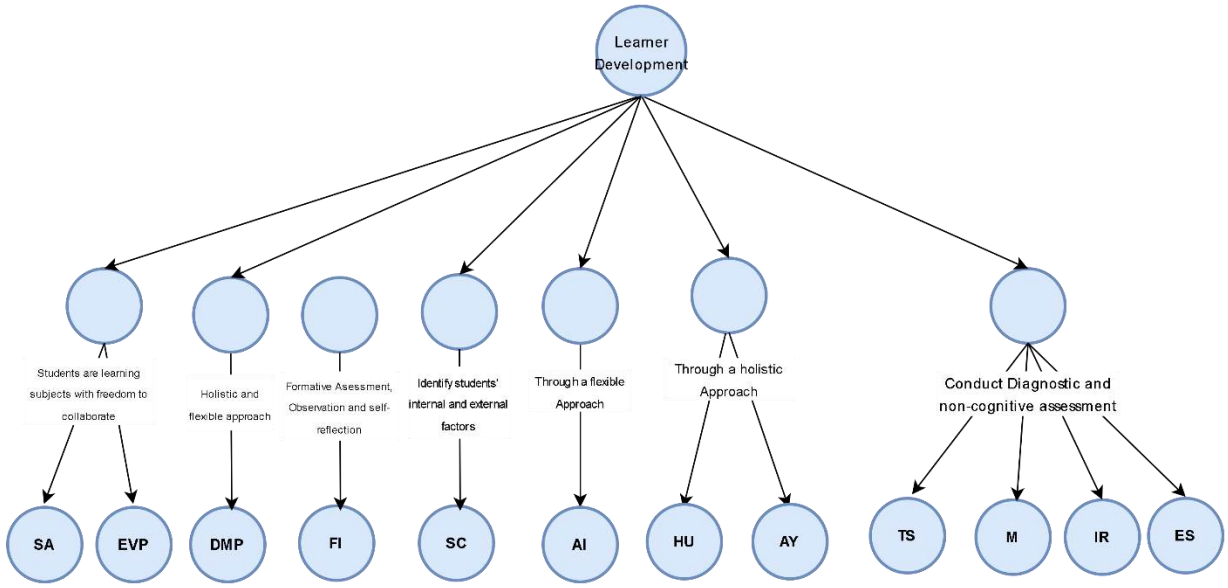

Figure 4.5: VPM for the Impact of the Merdeka Curriculum on Learner Development

Figure 4.5 alt. text. Flowchart diagram illustrating various aspects of learner development. The central node is labeled 'Learner Development' and is connected to different elements that support the growth of students. These include 'Students are learning subjects with freedom to collaborate,' 'Holistic and flexible approach,' 'Formative assessment, observation, and self-reflection,' 'Identify students' internal and external factors,' and 'Through a holistic approach.' The diagram also emphasizes 'Conduct diagnostic and non-cognitive assessment.' Smaller nodes below these categories contain abbreviations that represent specific categories or methods related to learner development.

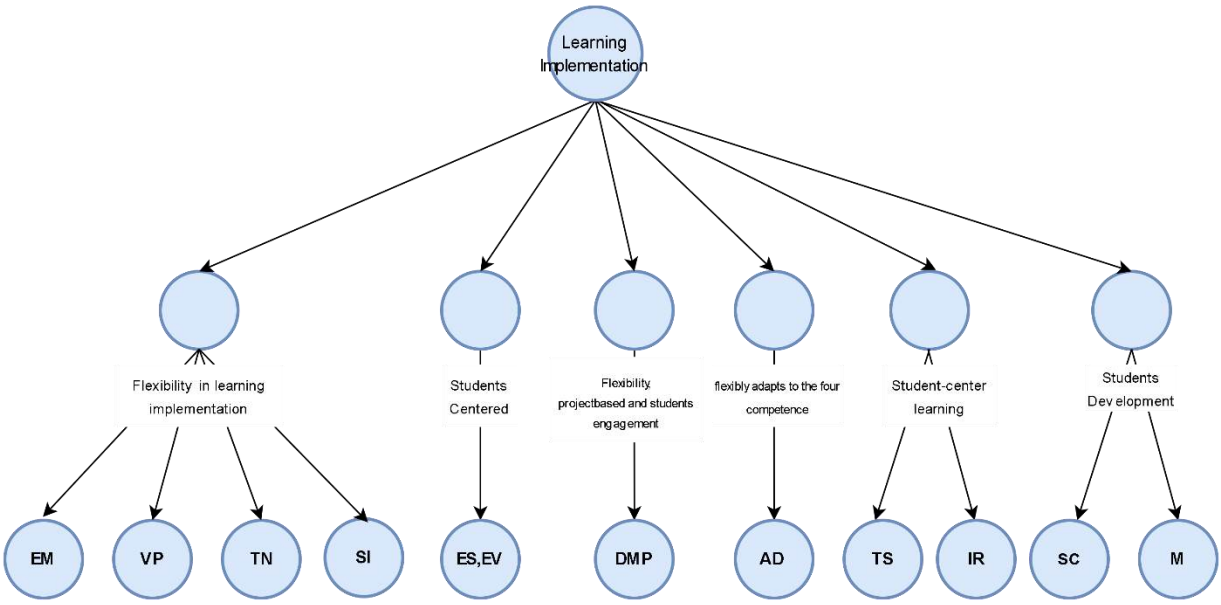

Figure 4.6: VPM for the Implementation of Merdeka Curriculum Learning

Figure 4.6 alt.text. Flowchart diagram depicting various aspects of learning implementation. The central node is labeled 'Learning Implementation' and connects to several key components. These include 'Flexibility in learning implementation,' 'Students Centered,' 'Flexibility, project-based and student engagement,' 'Flexibly adapts to the four competences,' 'Student-centered learning,' and 'Students Development.' Smaller nodes below represent different institutions or categories, such as 'EM,' 'VP,' 'TN,' 'SI,' 'ES, EV,' 'DMP,' 'AD,' 'TS,' 'IR,' 'SC,' and 'M,' indicating specific locations or educational institutions involved in the learning process.

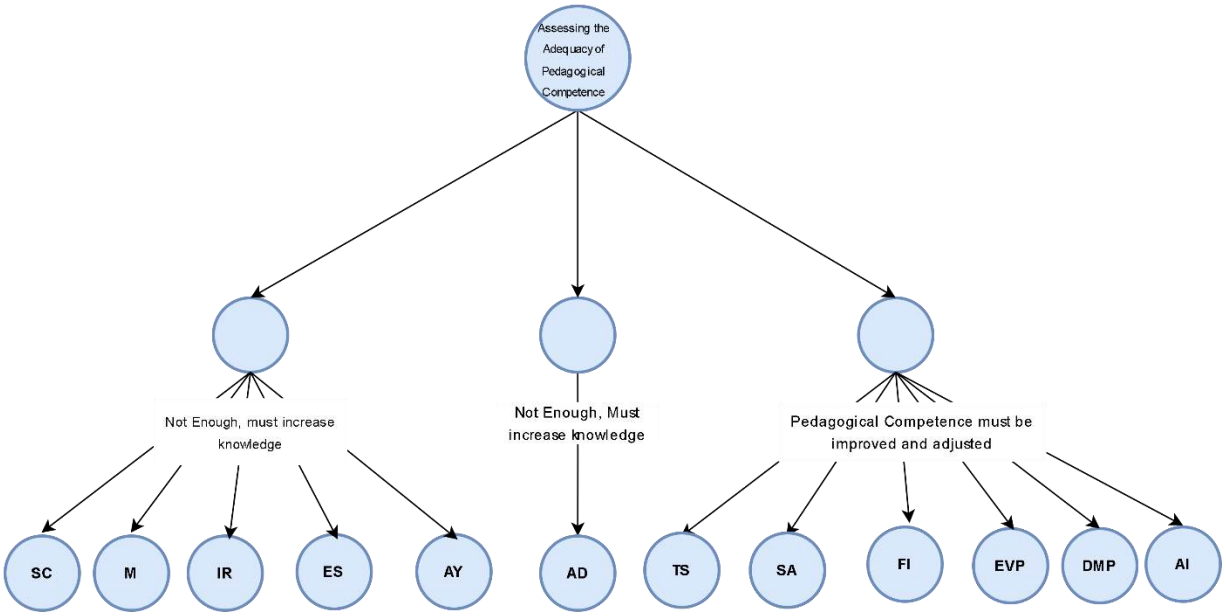

Figure 4.7: VPM in Assessing Pedagogical Competence Adequacy in the Merdeka Curriculum

Figure 4. 7 alt.text. Flowchart diagram illustrating the assessment of pedagogical competence. The central node is labeled 'Assessing the Adequacy of Pedagogical Competence' and is connected to three key categories. The first category, 'Not Enough, must increase knowledge,' is connected to several nodes, including 'SC,' 'M,' 'IR,' 'ES,' and others. The second category also indicates 'Not Enough, must increase knowledge' with connections to 'AY,' 'AD,' and more. The final category states 'Pedagogical Competence must be improved and adjusted' with additional connections to 'TS,' 'SA,' 'FI,' 'EVP,' 'DMP,' and 'AI.

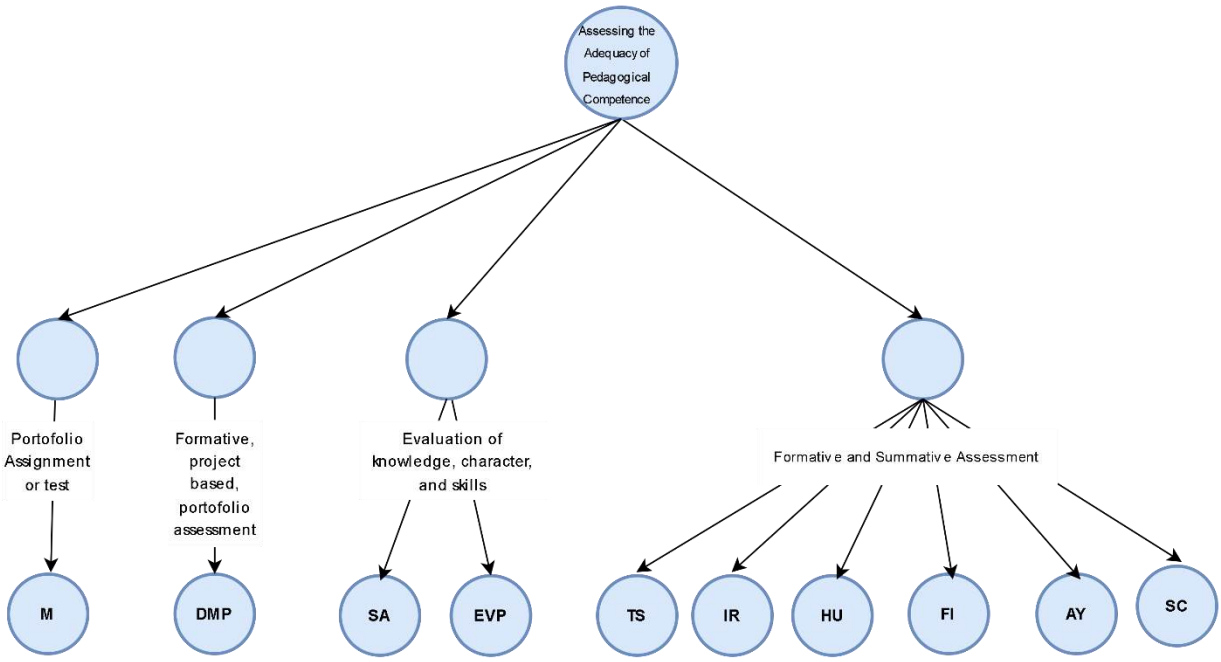

Figure 4.8: VPM for Learning Evaluation in the Merdeka Curriculum

Figure 4.8 alt.text. Flowchart diagram illustrating the assessment of pedagogical competence. The central node is labeled 'Assessing the Adequacy of Pedagogical Competence,' and it connects to three primary categories. The first category focuses on 'Portfolio Assignment or test' with a connection to 'M.' The second category, 'Formative, project-based, portfolio assessment,' connects to 'DMP,' 'SA,' 'EVP,' and other nodes. The third category is 'Evaluation of knowledge, character, and skills,' leading to 'TS,' 'IR,' 'HU,' 'FI,' 'AY,' and 'SC.

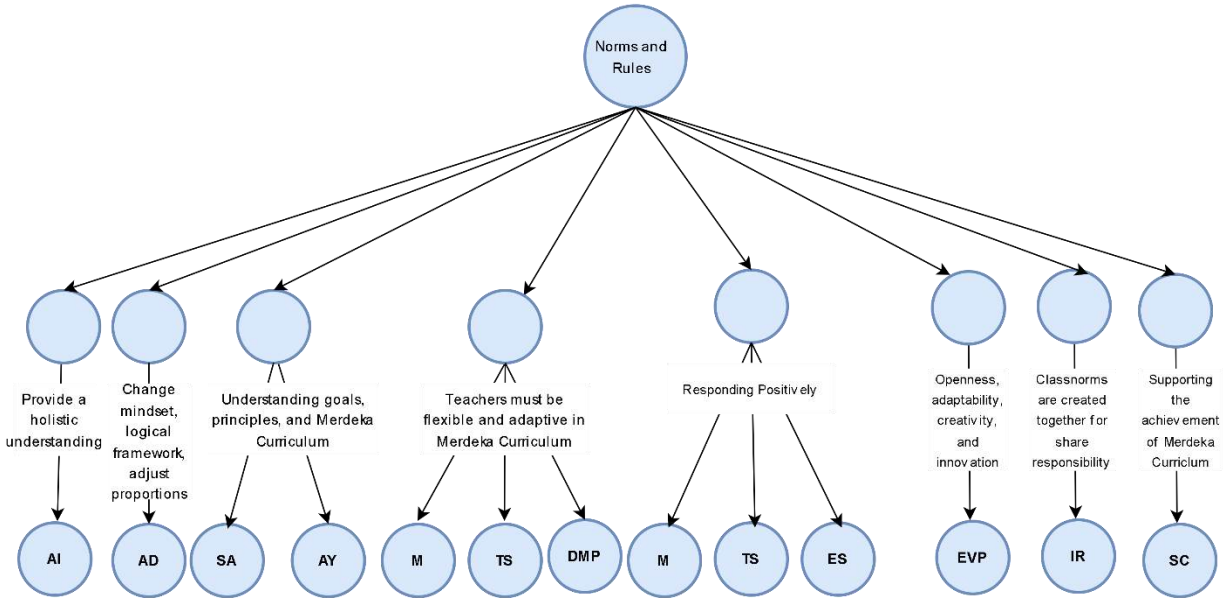

Figure 4.9: VPM in Addressing Norms and Rules in the Curriculum

Figure 4.9 alt. text. Flowchart diagram illustrating the norms and rules in the Merdeka Curriculum. The central node is labeled 'Norms and Rules' and is connected to several key aspects. These include 'Provide a holistic understanding,' 'Change mindset, logical framework, adjust proportions,' 'Understanding goals, principles, and Merdeka Curriculum,' and 'Teachers must be flexible and adaptive in Merdeka Curriculum.' To the right, the diagram includes 'Responding Positively,' 'Openness, adaptability, creativity, and innovation,' 'Class norms are created together for shared responsibility,' and 'Supporting the achievement of Merdeka Curriculum.' Smaller nodes below these categories represent various abbreviations connected to the topics, such as 'AI,' 'AD,' 'SA,' 'AY,' 'M,' 'TS,' 'DMP,' 'ES,' 'EVP,' 'IR,' and 'SC.

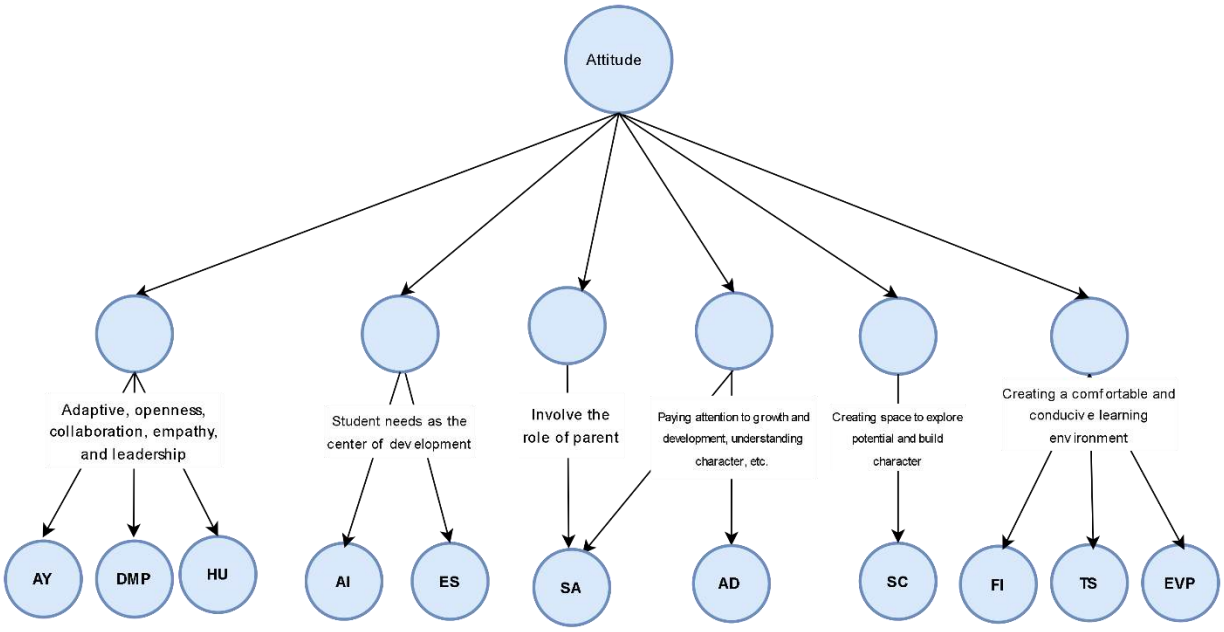

Figure 4.10: VPM Attitudes Teachers Must Demonstrate in Implementing the Merdeka Curriculum

Figure 4.10 alt. text. Flowchart diagram illustrating various aspects of attitude in the context of student development. The central node is labeled 'Attitude' and is connected to several key aspects. These include 'Adaptive, openness, collaboration, empathy, and leadership,' 'Student needs as the center of development,' 'Involve the role of parent,' 'Paying attention to growth and development, understanding character, etc.,' 'Creating space to explore potential and build character,' and 'Creating a comfortable and conducive learning environment.' Smaller nodes below these categories represent various abbreviations such as 'AY,' 'DMP,' 'HU,' 'AI,' 'ES,' 'SA,' 'AD,' 'SC,' 'FI,' 'TS,' and 'EVP,' indicating specific areas or methods related to fostering positive attitudes in learning.

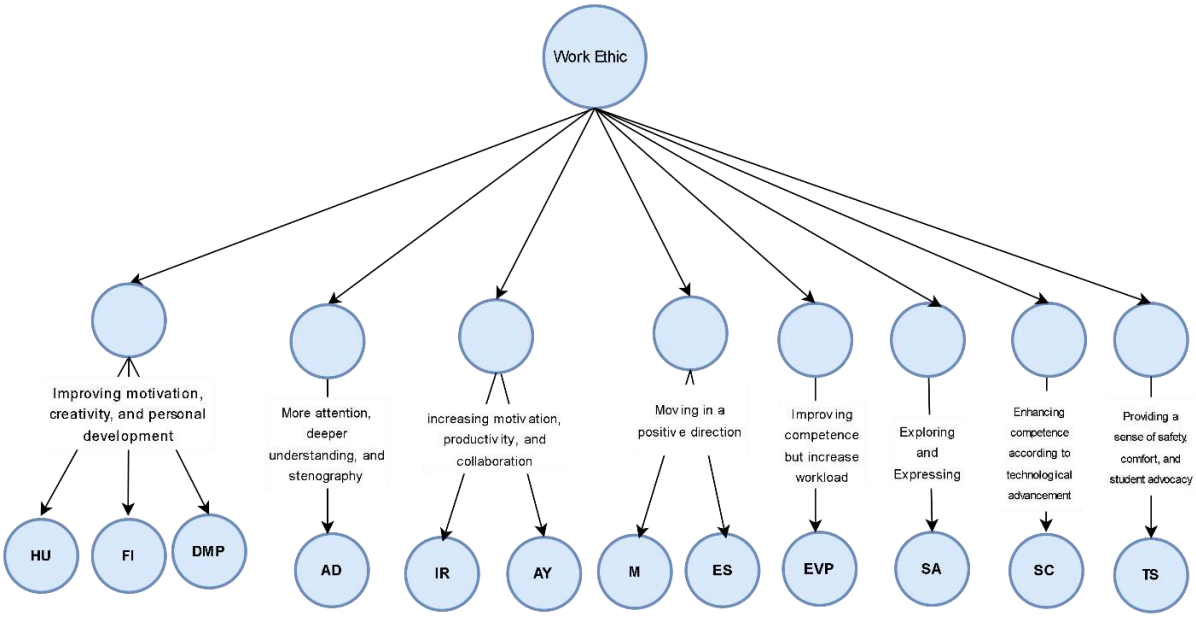

Figure 4.11 Visualization of the project map of the impact of implementing the independent curriculum on work ethic.

Figure 4.11 alt.text. Flowchart diagram illustrating various aspects of work ethic in student development. The central node is labeled 'Work Ethic' and is connected to multiple key aspects. These include 'Improving motivation, creativity, and personal development,' 'More attention, deeper understanding, and stenography,' 'Increasing motivation, productivity, and collaboration,' 'Moving in a positive direction,' 'Improving competence but increasing workload,' 'Exploring and expressing,' 'Enhancing competence according to technological advancement,' and 'Providing a sense of safety, comfort, and student advocacy. Smaller nodes underneath each of these categories represent abbreviations like 'HU,' 'FI,' 'DMP,' 'AD,' 'IR,' 'AY,' 'M,' 'ES,' 'EVP,' 'SA,' 'SC,' and 'TS,' linked to specific aspects or methods related to work ethic development. Smaller nodes underneath each of these categories represent abbreviations like 'HU,' 'FI,' 'DMP,' 'AD,' 'IR,' 'AY,' 'M,' 'ES,' 'EVP,' 'SA,' 'SC,' and 'TS,' linked to specific aspects or methods related to work ethic development.

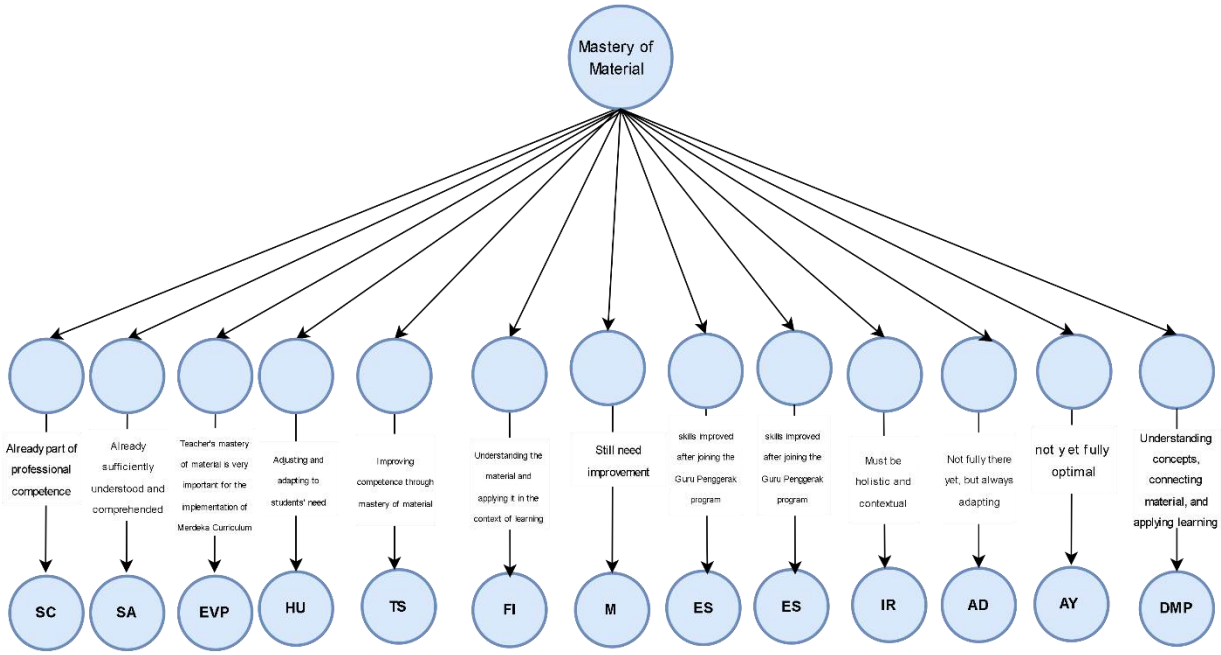

Figure 4.12: VPM of Professional Competence and Mastery of Materials in the Curriculum

Figure 4.12 alt.text. Flowchart diagram illustrating various aspects of mastery of material in teaching. The central node is labeled 'Mastery of Material' and is connected to different categories. These include 'Already part of professional competence,' 'Already sufficiently understood and comprehended,' 'Teacher's mastery of material is very important for the implementation of the Merdeka Curriculum,' 'Adjusting and adapting to students' needs,' 'Improving competence through mastery of material,' and 'Understanding the material and applying it in the context of learning.' Other aspects include 'Still need improvement,' 'Skills improved after joining the Guru Penggerak program,' 'Must be holistic and contextual,' 'Not fully there yet, but always adapting,' and 'Not yet fully optimal.' Smaller nodes below each category represent abbreviations like 'SC,' 'SA,' 'EVP,' 'HU,' 'TS,' 'FI,' 'M,' 'ES,' 'IR,' 'AD,' 'AY,' and 'DMP,' which are linked to specific elements of mastery of material.

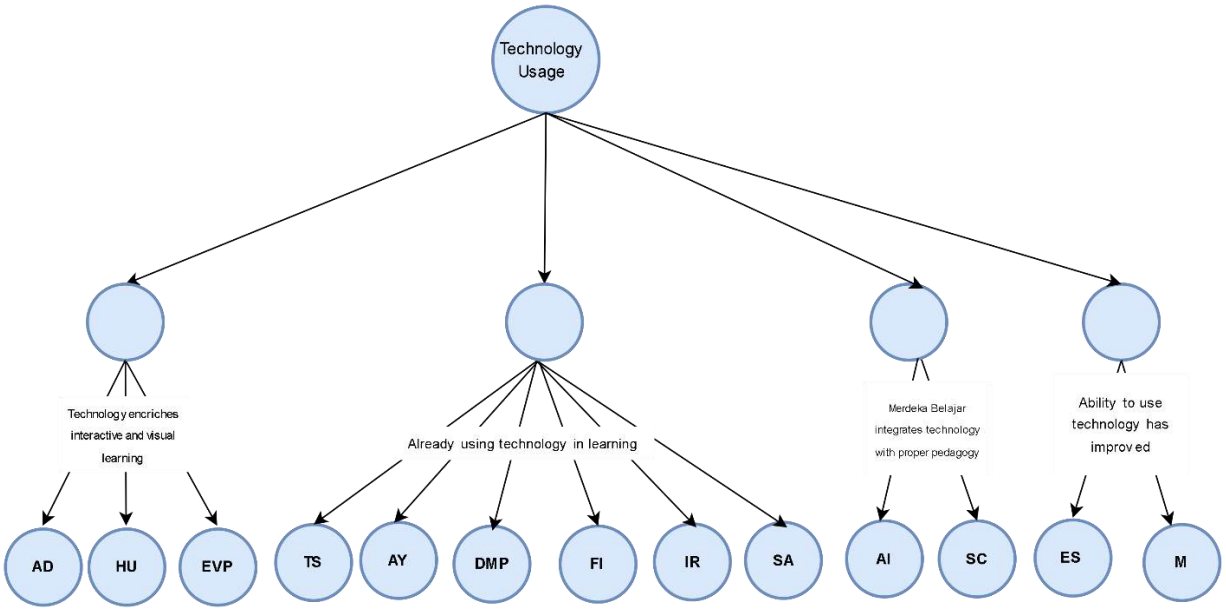

Figure 4.13: VPM on the Use of Technology in the Merdeka Curriculum

Figure 4.13 alt.text. Flowchart diagram illustrating various aspects of technology usage in teaching. The central node is labeled 'Technology Usage' and is connected to key elements. These include 'Technology enriches interactive and visual learning,' 'Already using technology in learning,' and 'Merdeka Belajar integrates technology with proper pedagogy.' The diagram also highlights 'Ability to use technology has improved.' Smaller nodes beneath these categories represent abbreviations like 'AD,' 'HU,' 'EVP,' 'TS,' 'AY,' 'DMP,' 'FI,' 'IR,' 'SA,' 'AI,' 'SC,' 'ES,' and 'M,' which are linked to specific methods or practices in the context of technology usage in education.

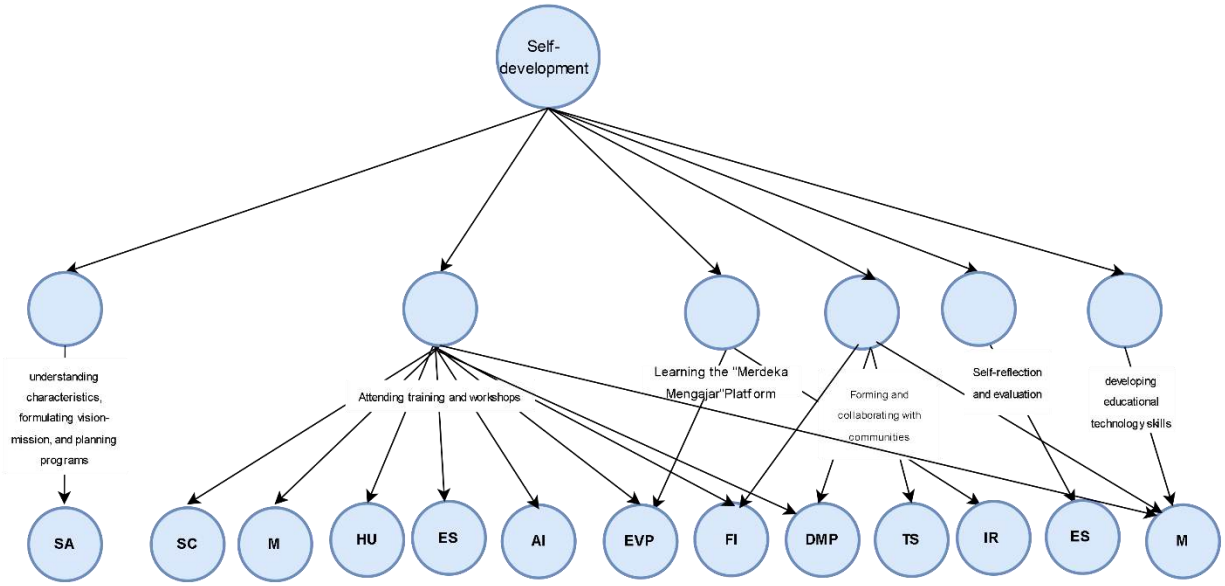

Figure 4.14: VPM of Self-Development in Enhancing Professional Competence within the Merdeka Curriculum

Figure 4.14 alt.text. Flowchart diagram illustrating various aspects of self-development in the context of education. The central node is labeled 'Self-development' and connects to several key elements. These include 'Understanding characteristics, formulating vision-mission, and planning programs,' 'Attending training and workshops,' 'Learning the Merdeka Mengajar Platform,' 'Forming and collaborating with communities,' 'Self-reflection and evaluation,' and 'Developing educational technology skills.' Smaller nodes beneath these categories represent abbreviations like 'SA,' 'SC,' 'M,' 'HU,' 'ES,' 'AI,' 'EVP,' 'FI,' 'DMP,' 'TS,' 'IR,' and 'ES,' which are linked to specific aspects or methods related to self-development in education.

Strengthening Teacher Competence for Leading and Sustaining the Implementation of the Merdeka Curriculum

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Abstract

The Merdeka Curriculum, implemented over the past three years, has highlighted a dynamic shift, impacting both teachers and students. This study employs a phenomenological qualitative approach, based on Miles and Huberman's framework, to evaluate the impact of the Merdeka Curriculum on teacher competence in Indonesia. The research involved teachers and educational stakeholders, particularly in public schools. Data were collected through participant observation, in-depth interviews, and documentation studies across 56 public high schools affiliated with the first wave of driving schools. The study applied Interpretative Phenomenological Analysis (IPA) and NVivo software to explore how participants interpret their personal and social realities. The findings provide a comprehensive understanding of the Merdeka Curriculum's impact on teacher competence, especially in fostering 21st-century professionalism in teaching. This research offers valuable insights for evaluating educational policies, with the primary output being a policy brief for the Indonesian government.

Keywords: 21st-Century Skills, Educational Policy Evaluation, Merdeka Curriculum, Phenomenological Approach, Teacher Competence

Introduction

The substantial size of the workforce in Indonesia presents both a significant challenge and a considerable opportunity for fostering economic growth. However, a scarcity of skilled graduates is the primary cause of limited job absorption (Nugroho et al., 2018; Yeoh et al., 2017). This issue arises from the disparity between the knowledge and skills in the education sector and those

required by the business sector. A comprehensive strategy that incorporates relevant knowledge and abilities is critical for preparing a higher-quality and more sustainable education system.

The biggest challenge in the current Indonesian education system is preparing skilled teachers to provide high-quality learning. Teachers, as professionals, are equipped with four competencies: social competency, pedagogical competency, personal competency, and professional competency (Nguyen et al., 2022; Siri et al., 2020). Through pedagogical and professional competencies, teachers can identify the skills that are urgently needed by students today, such as literacy, collaboration, creative thinking, and critical thinking—skills that support each other in improving the quality of students' abilities and workforce readiness. The personal abilities of teachers can motivate students to continue learning and developing with the times (König et al., 2020; Moser Opitz et al., 2020; Tran & O'Connor, 2024).

The facts on the ground that separate knowledge and skills have prompted the Indonesian government to innovate in order to close the gap. Several countries, including Germany, Finland, China, and Japan, have aligned learning with work-related skills (Farah & Ridge, 2009; Sakaue et al., 2024; Wermke et al., 2024; Zhao & Lee, 2024). The German curriculum prepares students with both learning and skills simultaneously, with the hope of integrating knowledge and skills so that students can adapt quickly (Szakács-Behling, 2022). Finland also provides many opportunities for students to continue growing by reducing the study load, with the hope of enabling students to further explore knowledge through their environment and life experiences (Wermke et al., 2015). The Japanese curriculum prepares students to instill competencies essential for realising a sustainable society by connecting global issues faced in everyday life with their solutions (Kondo et al., 2024; Sakaue et al., 2024; Urushibara-Miyachi et al., 2024). The United Arab Emirates is also transforming its curriculum by concentrating on improving students' abilities in various areas, enabling them to develop their full potential through integration with the business world (Farah & Ridge, 2009).

The Indonesian government has attempted to bring knowledge and skills closer together by launching the Merdeka Curriculum. This curriculum is designed to integrate skills and knowledge with the aim of ensuring that Indonesian students are prepared to competently compete in the world of work, both nationally and internationally (Choppin et al., 2022). In its implementation, the Merdeka Curriculum also prepares teachers by focusing on four competencies, offering several teacher competency improvement programmes. The purpose of this

study is to evaluate the extent of the impacts—both positive and negative—on the development of teacher competencies.

Merdeka Curriculum

Indonesia has implemented the Merdeka Curriculum as part of the government's transformation efforts to increase interest in reading, literacy, numeracy, and character development in students based on Pancasila values (Chen et al., 2021; Emawati et al., 2024). The Merdeka Curriculum focuses on the integration of knowledge with students' skills, with the aim that students can acquire better knowledge and skills. Additionally, the Merdeka Curriculum emphasises the importance of teacher professionalism in school implementation. In the implementation of the Merdeka Curriculum, teachers are provided with broad opportunities to use various sources of knowledge, not only textbooks but also information obtained through digital platforms and other related references (Wiryawan & Nurdin, 2024). The professional and personal competencies of teachers are greatly tested when obtaining additional information beyond textbooks, as teachers are required to read, search for, and find supplementary knowledge and information relevant to the lesson material to be taught (Hadi et al., 2023; Lemmrich & Ehmke, 2024; Susanto et al., 2022).

The Merdeka Curriculum is not only oriented towards achieving knowledge but also provides opportunities for students to develop their character in accordance with the concept of Pancasila. Student skills in problem-solving and collaboration are important elements in developing student character. Teachers who possess strong social and personal competencies will know how to take steps to develop student character (Cross, 1994). The important role of teachers in the implementation of the Merdeka Curriculum is supported by the government through various teacher competency development programmes, providing ample time for development. The impact of competency development among teachers in various regions of Indonesia is crucial to evaluate, as it contributes to the history of Indonesian curriculum development. This study will focus on the impact of the implementation of the Merdeka Curriculum on teacher competencies, including personal competency, pedagogical competency, social competency, and professional competency.

Teacher Competence

Teacher competence in providing education plays a crucial role (Lemmrich & Ehmke,

2024; Nurpitriyani et al., 2022). In the implementation of the Merdeka Curriculum, teachers, acting as facilitators, apply pedagogical competence. The teacher's ability to manage the learning process in accordance with the established scenario is an essential element. The teacher's personal and social competencies in classroom learning significantly influence the way teachers interact with students and colleagues (Ahmed et al., 2010; Tran & O'Connor, 2024). Teacher competence is described as a personal interpretation that can provide a positive example (Yang et al., 2021). The teacher's ability to maintain morals and provide a positive example significantly influences the formation of student character based on Pancasila values. The teacher's social competence is manifested in various actions that are directly experienced by students through coaching and social activities both inside and outside the classroom.

This study aims to measure the extent to which the implementation of the Merdeka Curriculum impacts the four teacher competencies. After the implementation of the Merdeka Curriculum, to what extent does the evaluation of the curriculum influence the improvement of teacher competence? If these competencies increase, the response from students and parents will lead to recognition, which may manifest in various forms of awards for schools and teachers. Over time, the enhancement of these teacher competencies has garnered attention from the government and school leaders. To what extent can schools provide recognition for this achievement? This positive effort needs to be sustained. What steps are schools taking to assess, maintain, and develop teacher competencies?

Research Methods

This study employed a qualitative research methodology with a phenomenological approach to examine the relationship and impact of implementing the Merdeka Curriculum on teacher competencies. A qualitative design with a phenomenological approach was chosen because it allows for an in-depth understanding of complex social phenomena, such as teacher behaviour in implementing the Merdeka Curriculum and the positive impacts that can influence teacher competence. This design is well-suited for exploring how the Merdeka Curriculum program affects teacher competence, provides valuable experiences, and changes the way teachers teach classroom lessons—an aspect that quantitative methods may not fully capture. The phenomenological approach is ideal for this study because it investigates a specific theme. This approach also allows

for the examination of multiple data sources—such as interviews, observations, and document analysis—to provide a comprehensive view of the program and its impact on teacher competence.

Participants

The research was conducted in public schools across 10 provinces in Indonesia, including primary schools, junior high schools, senior high schools, and vocational schools, all of which have implemented the Merdeka Curriculum in their learning processes. To ensure equal representation from each type of school and category of teachers, this study established two primary criteria for selecting the research population: (1) schools must have implemented the Merdeka Curriculum for at least one year, and (2) schools must have at least five driving teachers to support the implementation of the Merdeka Curriculum in the learning process. Based on these criteria, 26 schools were selected, comprising five primary schools, eight junior high schools, seven senior high schools, and six vocational schools. The researchers selected five teachers from each school for in-depth interviews. This study employs a stratified random sampling technique to ensure diversity and balanced representation. Teachers are grouped according to their school levels—primary, junior high, senior high, and vocational schools. This technique is combined with simple random sampling to provide equal opportunities for each respondent to participate in the study.

Data Collection

The research data collection was conducted using three methods: in-depth interviews, observations, and field notes, to ensure the triangulation of data sources and the validity and reliability of the findings. Data collection took place across 10 provinces in Indonesia. The selected schools met two criteria: implementing the Merdeka Curriculum for at least one year and having a driving teacher. The research subjects were required to participate in the driving teacher training to understand the Merdeka Curriculum as set by the Ministry of Education and Culture.

Interviews were conducted with 52 teachers who voluntarily registered to share their experiences implementing the Merdeka Curriculum. They were selected using purposive sampling to ensure relevance to the research questions. The participants, aged between 24 and 50 years, represented a variety of educational backgrounds and teaching experiences. Interviews were conducted offline, with schedules arranged according to each participant's preference for comfort and privacy. Each interview lasted between 30 and 60 minutes, allowing for in-depth exploration of the participants' experiences. The interview protocol, developed based on existing educational frameworks,

included open-ended questions to obtain detailed responses on participants' reasons for choosing the Merdeka Curriculum implementation program, the challenges faced, and its impact on teacher competency. In-depth interviews were selected to gain nuanced insights into participants' thoughts and experiences, enabling a comprehensive understanding of the motivations behind teachers' implementation of the Merdeka Curriculum and the positive impacts on various aspects of teacher competency.

Observations were conducted at schools to capture the dynamics of teacher interactions and active student involvement during the learning process. These observations took place over two weeks, focusing on the four teacher competencies being studied: social competence, pedagogical competence, personal competence, and professional competence. Participants in this process were teachers from schools that had met the previously established criteria. The selected teachers also possessed strong communication skills, making it easier for researchers to obtain comprehensive information. Observations complemented the interviews by providing real-time data on how the program was implemented. Various documents were examined for document analysis, such as lesson plans, student worksheets, and student responses related to the implementation of the Merdeka Curriculum. These documents were obtained directly from participants and each school. Document analysis provided additional data, offering insights into the significant impact of teacher competencies and helping to triangulate information obtained from the interviews and observations.

Data Analysis

Data analysis was conducted in two phases. The initial phase involved thematic analysis, following the framework of Miles and Huberman (1994). This phase began with data reduction, which included transcribing interview data and identifying predetermined themes aligned with the four teacher competencies: social, pedagogical, personal, and professional competence, all influenced by the implementation of the Merdeka Curriculum. Subsequently, data visualization was used to organise themes and subthemes visually, enhancing the clarity and comprehensibility of the findings. This process culminated in verification and conclusion drawing, where themes were synthesised to determine the impact of Merdeka Curriculum implementation on teacher competencies within the school learning environment.

The second phase utilised the capabilities of NVivo software for in-depth data coding. Interview data was meticulously imported into NVivo, enabling researchers to conduct more nuanced coding procedures. The data was categorised into predetermined themes and subthemes corresponding to the four teacher competencies: social, pedagogical, personal, and professional competence. This cross-data coding facilitated a more refined analysis by enabling the identification of recurrent word patterns, providing deeper insights into the collected data. The identification of words with similar characteristics strengthened the thematic framework and offered a more nuanced perspective on how the implementation of the Merdeka Curriculum impacts teacher competencies.

FINDINGS AND DISCUSSION

4.1 Findings

4.1.1 Social Competence

1. Communication Skills

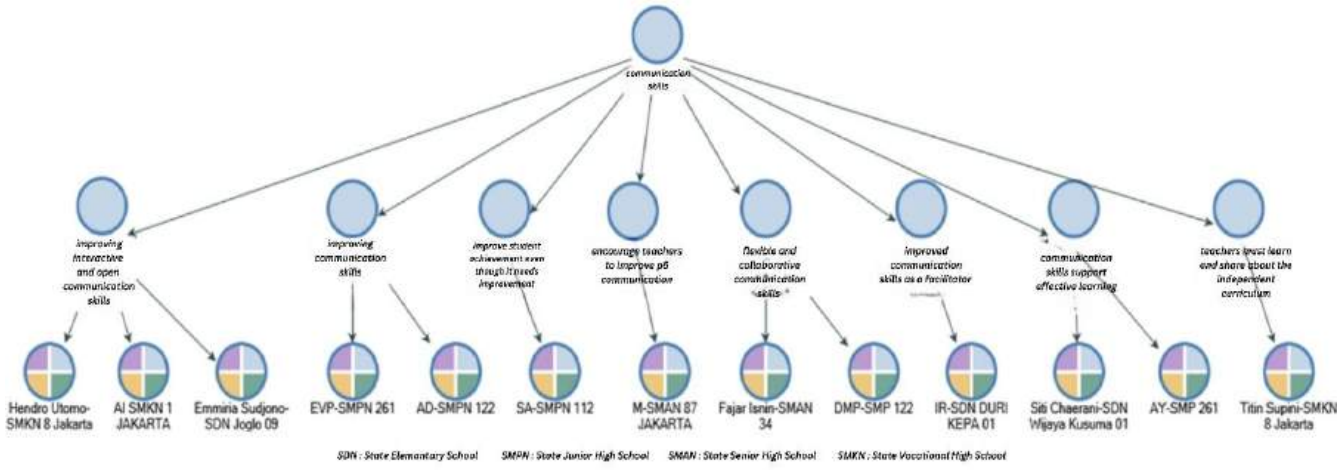

Figure 4.1: The Impact of the Merdeka Curriculum on Teachers' Communication Skills (Project Maps)

Figure 4.1 displays the results of data analysis regarding the impact of the Merdeka Curriculum on improving teachers' social competence in communication. Improved communication skills are highlighted as the main finding, with several specific findings emerging

from the research. These findings include enhanced student achievement, adjustments in the implementation of the Merdeka Curriculum, encouragement for teachers to improve communication patterns—particularly in implementing P5—and greater flexibility in communication during collaboration. Teachers are also expected to be effective facilitators in the learning process, with communication skills that support the achievement of educational goals. These results indicate that the Merdeka Curriculum brings positive changes to teachers' communication skills, both in guiding students and collaborating with other parties, although further adjustments are needed for broader application.

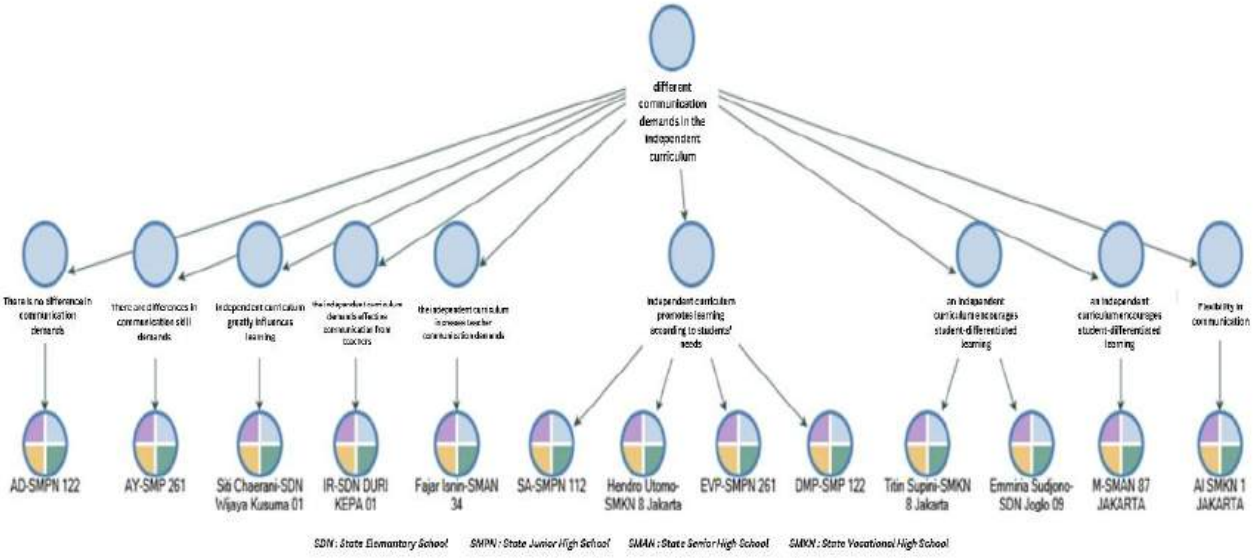

Figure 4.2: Different Communication Demands in the Merdeka Curriculum (VPM)

Figure 4.2 presents the results of data analysis regarding differences in communication demands in the Merdeka Curriculum. The research findings indicate that the Merdeka Curriculum introduces different communication demands compared to the previous curriculum. Some respondents, such as AD, reported no significant differences in communication demands. However, other respondents, including AY and SC, emphasized a significant change in communication demands, with the Merdeka Curriculum impacting overall learning and requiring more effective communication from IR.

The following interview excerpts further support the research findings:

FI and SA noted that the Merdeka Curriculum increases the demands on teachers' communication skills, requiring them to be more flexible and focused on meeting student needs.

This view is also supported by HU, who emphasized that the Merdeka Curriculum promotes learning that caters to students' individual needs. Additionally, EVP and DMP highlighted that differentiated learning is now prioritized, necessitating more responsive communication from teachers.

Furthermore, TS and ES emphasized the importance of teachers fostering two-way communication with students, while M and AI stressed the need for flexibility in communication to meet the demands of more effective learning under the Merdeka Curriculum. Overall, the study reveals that the Merdeka Curriculum introduces significant changes to the demands placed on teacher communication, which must now be more flexible, effective, and tailored to student needs.

The following excerpts are from the researcher's interview with the participant:

2. Adaptability

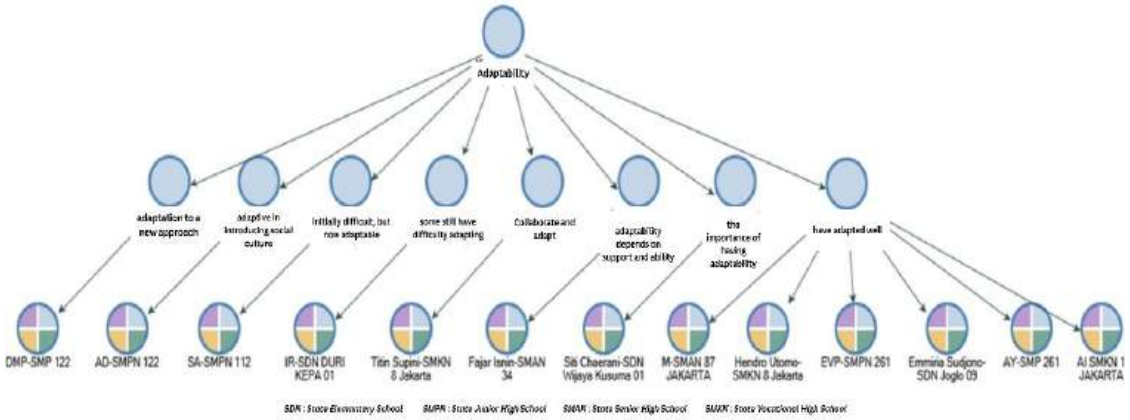

Figure 4.3: VPM Adaptability in Implementing the Merdeka Curriculum

Figure 4.3 displays the results of data analysis related to adaptability in implementing the Merdeka Curriculum. The study found that teachers' adaptability to the Merdeka Curriculum varies. Some teachers, such as DMP, reported having successfully adapted to the new approach introduced by the curriculum. Meanwhile, AD and SA noted that their adaptation process also involved understanding the socio-cultural aspects of students, which they identified as key to success in the teaching and learning process.

Some teachers, such as IR, stated that although adapting to the changes introduced by the Merdeka Curriculum was initially challenging, they have now successfully adjusted. However,

findings from TS and FI indicate that some teachers continue to face difficulties in meeting the new demands. This suggests that the adaptation process is not uniform across all settings.

Additionally, the importance of support and collaboration in the adaptation process was emphasized by respondents such as SC and M, who noted that adaptability is strongly influenced by a supportive work environment and an individual's willingness to continue learning. Teachers like HU and EVP stated that they have successfully adapted, while other interviewees, such as ES and AI, highlighted the significance of being adaptable when facing curriculum changes.

3. Inclusive Behavior

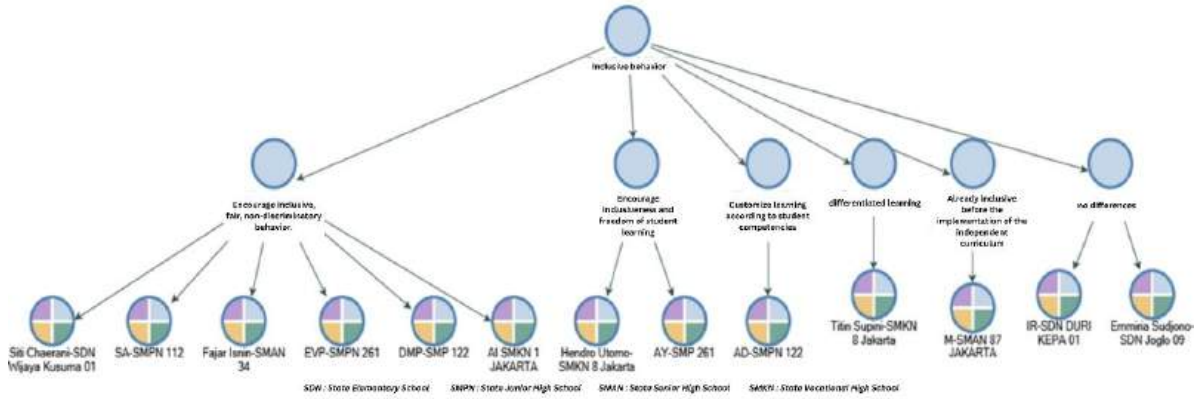

Figure 4.4: VPM for Inclusive Behavior in Implementing the Merdeka Curriculum

Figure 4.4 presents the results of the research analysis regarding differences in inclusive and non-discriminatory behavior exhibited by teachers in implementing the Merdeka Curriculum. The findings show that the Merdeka Curriculum fosters inclusive, fair, and non-discriminatory behavior within the educational environment. Teachers such as SC, SA, and FI confirmed that the curriculum motivates them to adopt more inclusive and equitable practices, ensuring no discrimination toward students.

Furthermore, HU and AI pointed out that the Merdeka Curriculum encourages inclusiveness and greater learning freedom for students, with learning tailored to each individual's competencies and needs, as noted by AY and AD. TS highlighted that differentiated learning is a crucial component of the Merdeka Curriculum, where teachers give greater attention to diverse learning needs. Meanwhile, M revealed that inclusive behavior had been practiced even before the

implementation of the Merdeka Curriculum, and IR and ES stated that there was no significant change in inclusive behavior since its implementation.

4.1.2 Pedagogical Competence

1. Learner Development

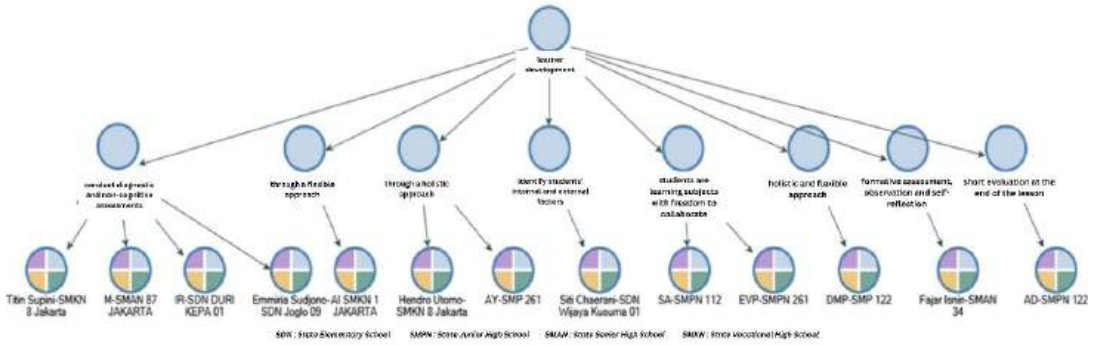

Figure 4.5: VPM for the Impact of the Merdeka Curriculum on Learner Development

Figure 4.5 displays the research findings related to learner development in the Merdeka Curriculum. The results show that learner development within this curriculum is approached through various strategies. Teachers such as TS and M emphasize the importance of conducting diagnostic and non-cognitive assessments to understand students' overall development. Additionally, ES and AI stress the need for a flexible learning approach to meet the individual needs of students.

A holistic approach to understanding students, as emphasized by HU, is crucial for developing learners, where both academic and non-academic aspects are equally considered. Teachers like AY also recognize the importance of understanding students' internal and external factors to provide more tailored support in learning.

Students are seen as active participants in the learning process with the freedom to collaborate, as reported by SA, where they are given more autonomy in determining how they learn. Additionally, the holistic and flexible approach to learning, highlighted by EVP and DMP,

underscores the importance of adapting teaching methods to enhance student engagement. According to FI, formative assessments, observations, and self-reflection are integral to the learning process, while AD suggested that short evaluations at the end of lessons are an effective way to assess students' achievements and progress.

2. Learning Implementation

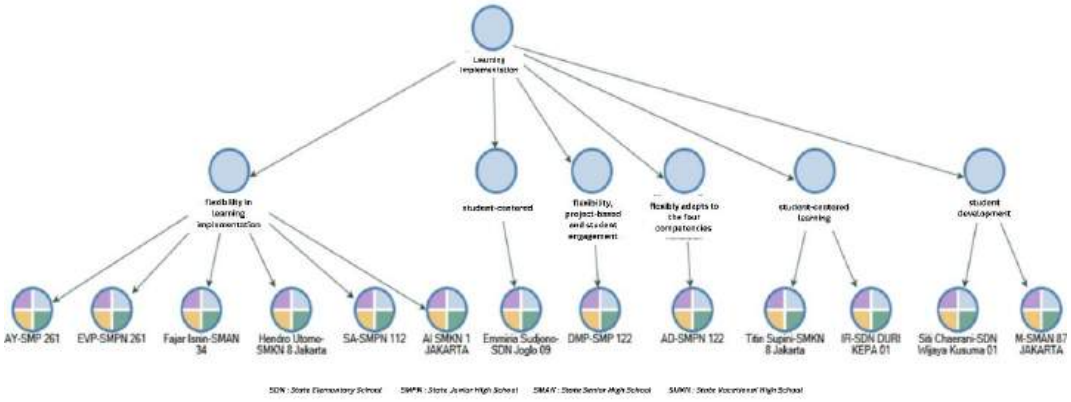

Figure 4.6: VPM for the Implementation of Merdeka Curriculum Learning

Figure 4.6 presents the results of the research findings regarding the implementation of learning in the Merdeka Curriculum. These findings indicate that the Merdeka Curriculum offers greater flexibility compared to the previous curriculum. Teachers such as AY, EVP, and FI emphasized that this flexibility allows for the adjustment of materials based on students' needs and the learning context. Additionally, HU and SA revealed that learning is more student-centered, with students given greater autonomy to determine how they learn based on their interests and abilities.

Project-based approaches and active student engagement in learning are also key focuses of the Merdeka Curriculum, as shared by AI and ES. Teachers such as DMP and AD emphasized the importance of adjusting learning to the four competencies—spiritual, social, knowledge, and skills—flexibly, considering time and students' learning needs. TS and IR highlighted that learning in the Merdeka Curriculum is tailored to students' individual needs, enabling a more personalized

approach. Finally, the development of student competencies is the primary goal of this learning implementation, as expressed by SC and M.

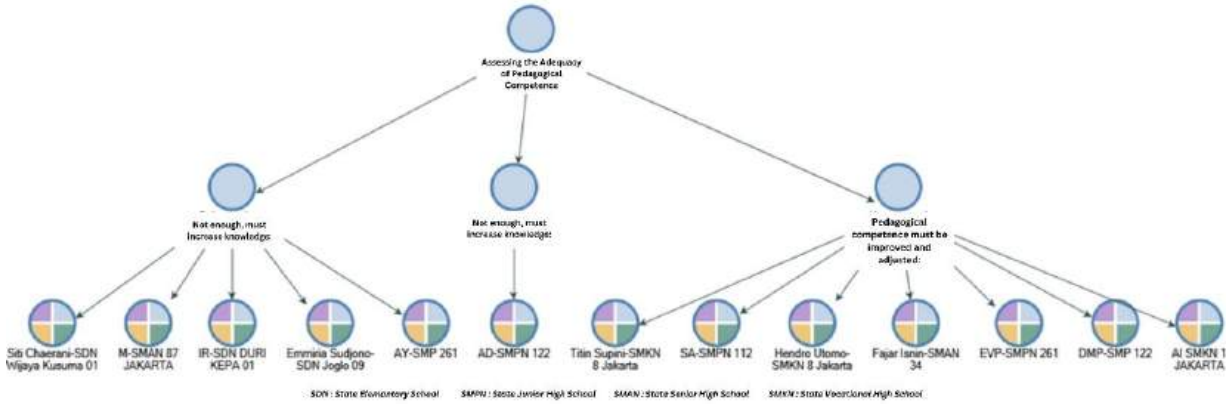

Figure 4.7: VPM in Assessing Pedagogical Competence Adequacy in the Merdeka Curriculum

Figure 4.7 presents the results of the research analysis regarding the assessment of the adequacy of teachers' pedagogical competence in implementing the Merdeka Curriculum. The findings of this study reveal three key insights.

First, the pedagogical competence that teachers currently possess is considered insufficient, primarily because they need to expand their knowledge and skills, as noted by SC, M, and IR.

The second finding indicates that pedagogical competence is severely limited when the number of students in a class exceeds a reasonable capacity, as stated by AY and AD. This situation necessitates strategies such as class division or additional supporting teachers to manage students effectively.

The third finding highlights the importance of improving and adjusting pedagogical competencies to meet the demands of the Merdeka Curriculum. Teachers such as TS, FI, and HU emphasized that integrating technology and adapting teaching methods are essential to accommodate the needs of more flexible and project-based learning.

3. Learning Evaluation

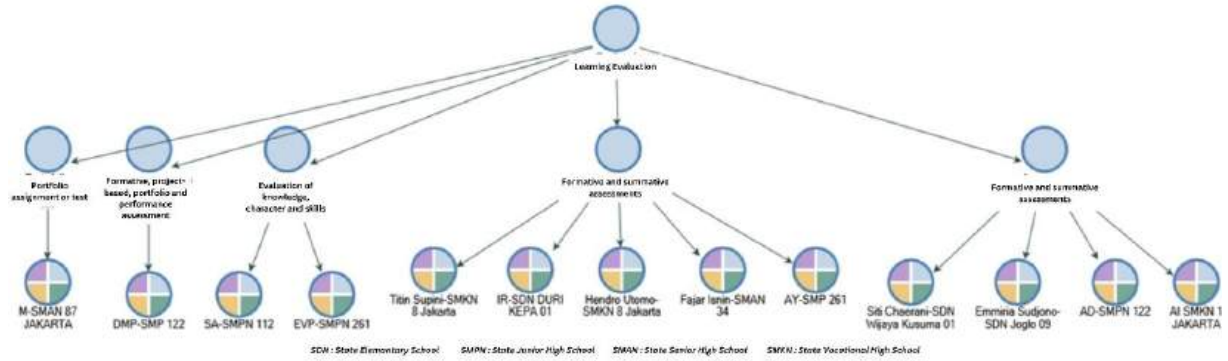

Figure 4.8: VPM for Learning Evaluation in the Merdeka Curriculum

Figure 4.8 presents the results of the research findings regarding learning evaluation in the Merdeka Curriculum. The research indicates that learning evaluation in the Merdeka Curriculum is carried out through various approaches that are more flexible and diverse compared to the previous curriculum. Portfolio-based evaluation, assignments, and tests are among the primary methods. Additionally, project-based formative evaluations, portfolios, and performance assessments are used to assess students' overall skills, as revealed by DMP and SA.

Evaluation in the Merdeka Curriculum emphasizes a holistic assessment that includes knowledge, character, and skills, as described by EVP. Both formative and summative assessments are also key components of the evaluation process, as noted by TS, IR, and HU, with a focus on continuous monitoring of student development.

Furthermore, the research highlights the importance of diagnostic, formative, and summative assessments in providing a comprehensive picture of student achievement, as expressed by SC, ES, and AD.

4.1.3 Personality Competence

1. Norms and Rules

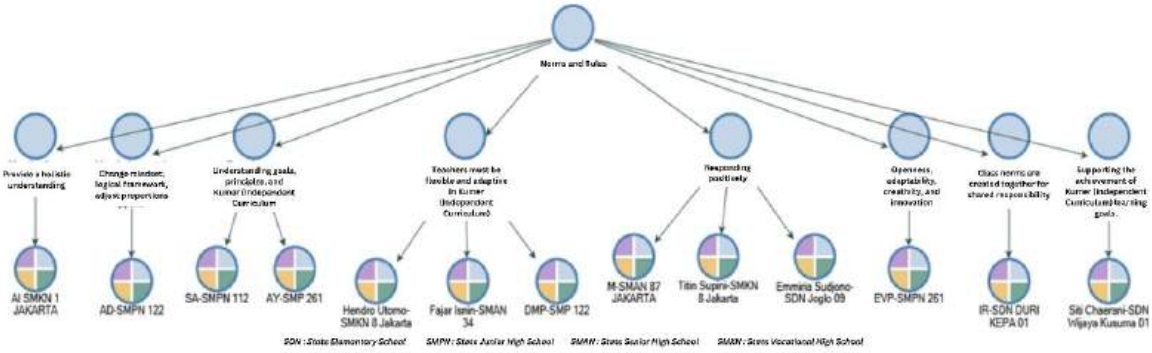

Figure 4.9: VPM in Addressing Norms and Rules in the Curriculum

The research findings regarding personality competence related to norms and rules in learning reveal that norms and rules play a crucial role in fostering a learning environment that supports the achievement of Merdeka Curriculum goals. AI emphasized the importance of providing students with a holistic understanding of the rules, while AD highlighted the need for mental shifts and logical adjustments when applying rules and learning proportions. Understanding the principles and objectives of the Merdeka Curriculum, as noted by SA and AY, serves as an important foundation for adjusting classroom norms.

Teachers must be flexible and adaptive in implementing the Merdeka Curriculum, as stated by HU and FI, ensuring that norms and rules remain effective. DMP from SMPN 122 added that adopting a positive attitude toward the rules can enhance their effectiveness, a sentiment echoed by M and TS.

Openness, adaptation, creativity, and innovation in managing classroom norms with students, as explained by ES and EVP, foster a sense of shared responsibility. Additionally, clear and consistent norms are essential for achieving learning objectives, as expressed by IR and SC.

2. Attitude

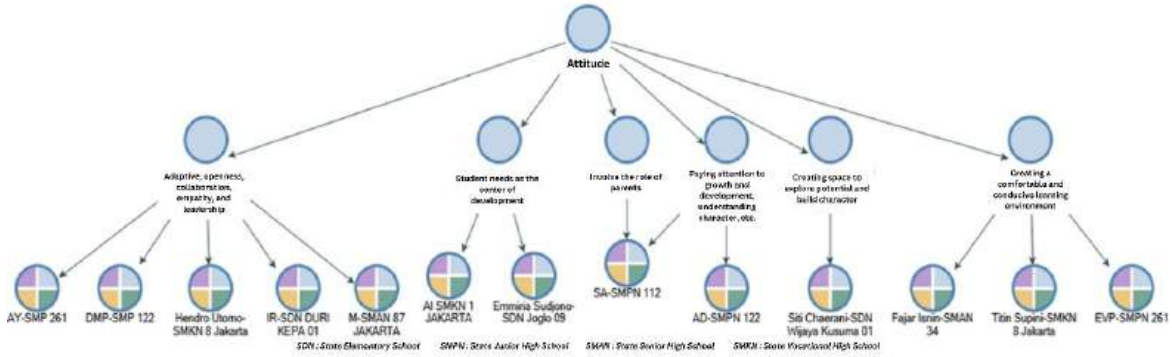

Figure 4.10: VPM Attitudes Teachers Must Demonstrate in Implementing the Merdeka Curriculum

The findings highlight several key aspects of teacher attitudes necessary to support effective learning within the Merdeka Curriculum. First and foremost, teachers must demonstrate adaptability, openness, collaboration, empathy, and leadership skills, as emphasized by AY, DMP, HU, and IR. These qualities are essential for fostering dynamic learning environments that prioritize students' needs and promote engagement and motivation.

Additionally, it is crucial to consider the development of students, as the focal point of the educational process. AI and ES stress that learning should be directed toward meeting the diverse needs and unlocking the potential of each student. This individualized approach ensures that every learner is given the opportunity to thrive based on their abilities and interests.

Moreover, the role of parents in the learning process cannot be overlooked. Active involvement from parents, as highlighted by SA, is essential for creating a supportive and collaborative educational ecosystem. Teachers must also closely monitor students' growth and development, understand their unique characteristics, and provide the necessary support for their overall well-being, as noted by AD.

Furthermore, teachers are encouraged to create learning spaces that facilitate student exploration and character development. As SC explains, these spaces should foster creativity and critical thinking. In addition, teachers must ensure that the learning environment is comfortable

and supportive, as mentioned by FI, TS, and EVP, as this is vital for sustaining students' engagement and enhancing the effectiveness of the learning process.

3. Work Ethic

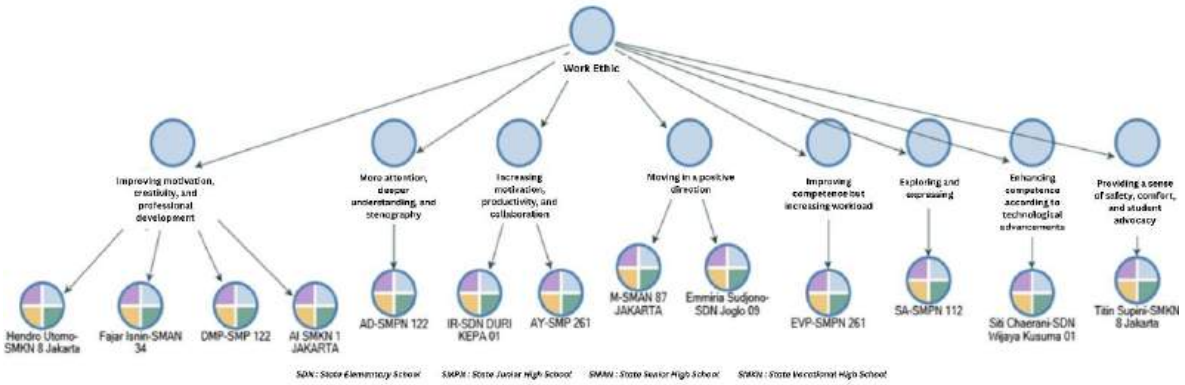

Figure 4.11: VPM of the Impact of Implementing the Merdeka Curriculum on Work Ethics

This finding shows that the implementation of the Merdeka Curriculum has a significant impact on increasing teacher motivation, creativity, and professional development. HU, FI, and DMP reported that the Merdeka Curriculum encourages teachers to be more creative and engaged in professional development.

Teachers are also placing greater emphasis on understanding students' needs and deepening skills, such as stenography, to take notes more effectively, as shared by AI and AD. Improved motivation, productivity, and collaboration were also reflected in the findings of IR and AY, who indicated that the Merdeka Curriculum fosters better cooperation between teachers and students.

Positive impacts were also observed in the improvement of work ethic, with many teachers reporting positive changes in their teaching approaches, as expressed by M and ES. However, some teachers, such as EVP, revealed that the increase in teacher competencies also resulted in an increased workload.

Teachers like SA and SC noted that the Merdeka Curriculum offers opportunities to explore and adapt to technological developments and adjust competencies in line with current times. Additionally, the Merdeka Curriculum encourages teachers to create a safe and comfortable learning environment that benefits students, as stated by TS.

4.1.4 Professional Competence

1. Material Mastery

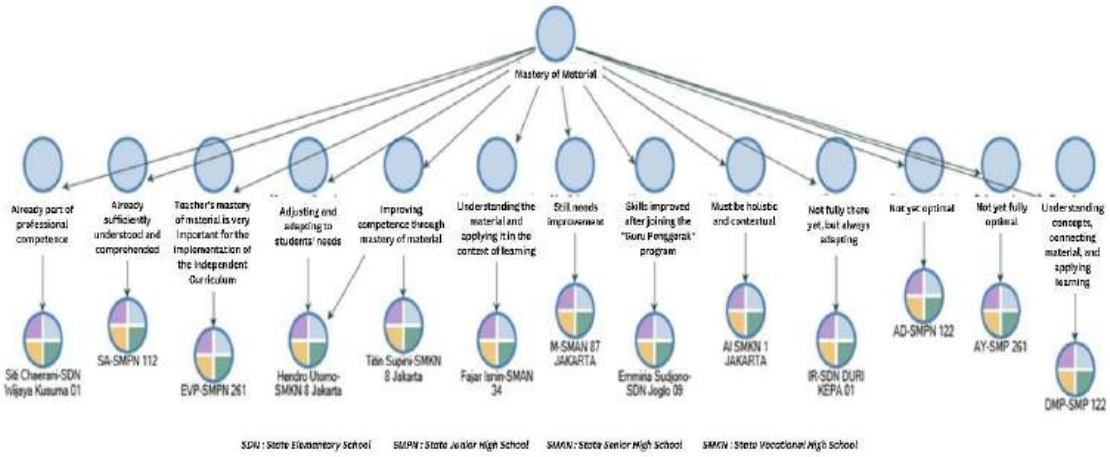

Figure 4.12: VPM of Professional Competence and Mastery of Materials in the Curriculum

The research findings presented in Figure 4.12 highlight the importance of professional competence, particularly in mastering the material within the Merdeka Curriculum. This finding indicates that teachers' mastery of teaching materials is a crucial element in the successful implementation of the Merdeka Curriculum.

SC emphasized that mastery of the material is an integral part of a teacher's professional competence. SA and EVP stressed that a sufficient and in-depth understanding of the material is essential for effectively implementing the Merdeka Curriculum. HU added that it is important for teachers to adjust and adapt materials to meet students' needs.

Teachers must also continually improve their competence in mastering the material, as noted by TS and FI, who highlighted the importance of understanding the context of learning. However, some teachers, such as M, acknowledged that mastery of the material still needs improvement, particularly in applying contextual and holistic learning, as expressed by AI.

Although some teachers, such as ES and IR, have demonstrated improved competence, others feel they are still in the process of adapting to the Merdeka Curriculum materials. AD and AY emphasized that their mastery of the material has not yet reached its full potential, although they are making efforts to improve.

DMP emphasized that understanding concepts, connecting materials, and applying learning are key components of the Merdeka Curriculum, requiring ongoing improvement and adjustment from teachers.

2. Use of Technology

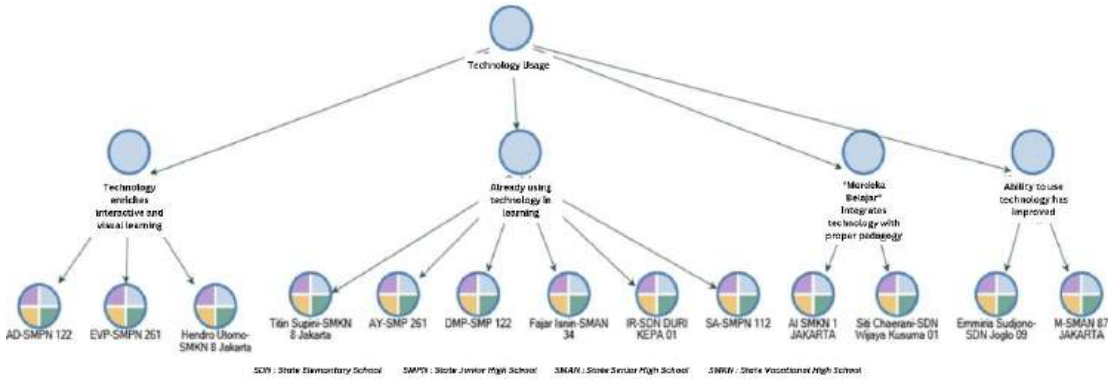

Figure 4.13: VPM on the Use of Technology in the Merdeka Curriculum

Figure 4.13 highlights the pivotal role technology plays in enriching learning, particularly within the context of the Merdeka Curriculum. According to AD, EVP, and H, technology has significantly contributed to creating more interactive learning experiences in the classroom. Additionally, it provides visually engaging learning experiences, which enhance students' comprehension of the material.

Many teachers, including TS, AY, and DMP, have integrated technology into their teaching methods, utilizing various platforms and tools to support the learning process. These educators have observed that the Merdeka Curriculum encourages them to blend technology with appropriate pedagogical strategies, as emphasized by AI and SC. This fusion enables a more holistic and relevant learning experience, catering to students' diverse needs and fostering a deeper understanding of the subject matter.

Moreover, teachers' ability to utilize technology has been steadily increasing, as indicated by ES and M. These educators have become more proficient in leveraging various digital tools that support project-based learning, collaborative efforts, and formative assessments. This growing technological competence is empowering teachers to create dynamic and flexible learning environments, reflecting the evolving demands of the modern educational landscape.

3. Self-Development

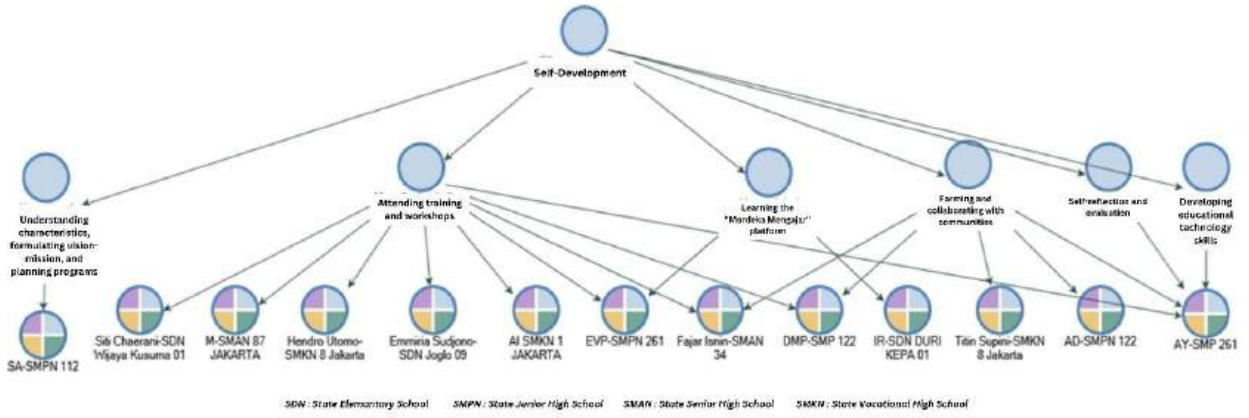

Figure 4.14: VPM of Self-Development in Enhancing Professional Competence within the Merdeka Curriculum

The research findings regarding professional competence focus on teacher self-development within the context of the Merdeka Curriculum. These findings highlight that self-development is a crucial factor in improving teachers' abilities and effectiveness in implementing the Merdeka Curriculum.

SA and SC emphasized the importance of understanding the characteristics of the education unit, developing a clear vision and mission, and planning appropriate learning programs. Teachers such as M, HU, and ES actively participate in training and workshops to enhance their professional competencies.

In addition to formal training, teachers also engage with the "Merdeka Mengajar" platform to better understand and apply Merdeka Curriculum concepts in the teaching and learning process. Teachers like FI and EVP use this platform to support classroom learning. Collaboration with professional communities is also considered vital by teachers such as IR and TS, who noted that such collaboration helps enrich learning insights and practices. Moreover, periodic self-reflection and evaluation, as highlighted by AD, enable teachers to continuously improve the quality of their teaching.

4.2 Discussion

4.2.1 Social Competence

The findings highlighted significant improvements in teachers' communication and adaptation skills under the Merdeka Curriculum. Teachers demonstrated increased flexibility in communication during collaboration, developed facilitation abilities, and responded more effectively to the diverse demands of students. The Merdeka Curriculum fosters an inclusive, equitable, and non-discriminatory learning environment, tailoring education to the individual competencies of each student. However, the adaptation process among teachers remains uneven, with some facing notable challenges. These findings echo broader concerns in curriculum implementation, as teachers' preparedness and ability to adapt to systemic changes vary widely (Caena & Vuorikari, 2022; Rencher et al., 1978). While the Merdeka Curriculum has led to positive changes in teachers' social competencies—especially in communication, adaptation, and inclusive behavior—future adjustments are necessary in certain areas.

The practical implications of these findings are significant for policymakers and educators. For policymakers, the research emphasizes the importance of targeted professional development programs and continuous support to ensure that teachers can effectively navigate these changes. While the Merdeka Curriculum offers a promising framework for inclusive education, the uneven pace at which teachers adapt suggests the need for more robust, localized support structures (Caena & Vuorikari, 2022; Cross, 1994). For educators, fostering an inclusive learning environment goes beyond implementing new teaching strategies; it involves mastering social competencies such as conflict management, team collaboration, and a deep understanding of student diversity. These skills are essential in creating a dynamic, responsive classroom that aligns with the goals of the Merdeka Curriculum.

Comparative studies from other global contexts offer additional perspective on these challenges. For example, studies in the United States and the United Kingdom have shown similar struggles in implementing inclusive curricula, particularly concerning the professional development of teachers and the integration of new technologies (Johansson et al., 2014). In both contexts, a key challenge has been the alignment of curriculum changes with teachers' pre-existing skills and the varying levels of institutional support available. While the Merdeka Curriculum has its own unique cultural and educational context, the global trend highlights that substantial teacher training and systemic support are critical in ensuring the success of inclusive education reforms.

Furthermore, the research findings emphasize the importance of teachers' ability to build strong networks within the educational ecosystem. Teachers in this study demonstrated improved social interaction skills with students, colleagues, and parents, contributing to a more inclusive and supportive environment. Teachers' social competence—including the ability to communicate effectively and manage conflict—plays a pivotal role in creating a collaborative and inclusive classroom (Pantiwati et al., 2023; Siri et al., 2020). Globally, studies on teachers' social competence, such as those by Caena and Vuorikari (2022), Lindström et al. (2024), and Reagan and Pratte (1973), underline that effective communication and teamwork are essential for fostering a harmonious learning environment. Teachers must act not only as instructors but also as facilitators of collaboration within the broader school community.

Considering these challenges and opportunities, while the Merdeka Curriculum has made notable strides in improving teachers' social competencies, further investments in professional development are crucial. Teachers need ongoing training to adapt to evolving pedagogical practices, manage new educational technologies, and respond to the diverse demands of students. This is particularly pertinent in a global context where educational reforms often encounter resistance due to inadequate training or a lack of support for teachers (Cross, 1994). Policymakers must prioritize the creation of support systems that equip educators to navigate these changes, ensuring that the goals of the Merdeka Curriculum are met and that inclusive, equitable education becomes a reality for all students.

4.2.2 Pedagogical Competence

The implementation of the Merdeka Curriculum poses a number of challenges that can impact its effectiveness. A major concern is the large class size, which hinders teachers' ability to provide individualized attention and tailor learning experiences to the diverse needs of students. This is a common issue not only in Indonesia but also in many other countries with limited resources, such as India and Brazil, where class sizes often exceed 40 students. Additionally, while the Merdeka Curriculum encourages a shift toward technology integration and student-centered learning, teachers often lack the necessary training and resources to make these transitions successfully. Short online training programs are insufficient in helping teachers adapt to these new methods, leaving many without the technological proficiency needed for effective implementation (Hartshorne et al., 2020; Hew et al., 2020; Mahmood, 2021). Furthermore, resource constraints,

such as insufficient teaching assistants and teaching tools, add to the difficulties teachers face in adapting their methods to large, diverse classrooms. These resource limitations prevent teachers from fully engaging with every student, reducing the overall effectiveness of the curriculum (Pantiwati et al., 2023).

The findings from the research offer several practical implications for policymakers and educators to improve the implementation of the Merdeka Curriculum. First, there is a clear need for policymakers to invest in continuous, accessible teacher training programs that focus on both pedagogical innovation and technological integration. Equipping instructors with the necessary resources to effectively engage students—primarily through project-based learning and technology-enhanced methods—can facilitate the successful realization of the curriculum's student-centered approach. Additionally, to address the challenge of large class sizes, class division strategies and the use of teaching assistants are practical solutions that could significantly enhance the quality of instruction. Policymakers should prioritize these strategies and allocate resources to ensure that teachers are supported in managing large classrooms. Another key implication is the shift toward holistic student assessments, which track not only academic progress but also socio-emotional development. Educators' assessment frameworks should incorporate a broader range of evaluative methods, such as portfolios and performance assessments, to reflect the diverse aspects of students' growth.

A comprehensive, global viewpoint indicates that the issues and solutions associated with implementing the Merdeka Curriculum are not exclusive to Indonesia. The prevalence of large class sizes is a significant concern in nations with constrained educational resources, such as India and Brazil. Overcoming this obstacle necessitates systematic support through resource allocation and the employment of teaching assistants—tactics that have been effectively executed in other nations confronting analogous issues (Mahmood, 2021). The global trend of integrating technology in education is apparent in numerous nations; nevertheless, its effectiveness is largely contingent upon the training and preparedness of educators. Finland has made substantial investments in digital tools and teacher professional development to facilitate efficient technology integration. This comparative analysis indicates that although the Merdeka Curriculum's emphasis on technology and student-centered learning corresponds with international best practices, local teacher readiness and infrastructure enhancements are essential for its complete efficacy.

Additionally, the worldwide transition toward comprehensive evaluations, particularly those emphasizing socio-emotional development, reinforces the trajectory of the Merdeka Curriculum. Countries such as Finland and Singapore have consistently adopted comprehensive evaluation models that monitor both academic and character development, a practice that aligns with the Pancasila Student Profile in Indonesia. The efficacy of such programs relies on adapting global techniques to local contexts, ensuring that the curriculum is culturally relevant and viable within current resource limitations.

4.2.3 Personality Competence

The research findings demonstrate that the effectiveness of teachers' personality competence within the Merdeka Curriculum is largely based on the rigorous application of norms and regulations in learning. Clearly defined and consistently enforced norms foster a conducive learning environment, which is vital for achieving the goals of the Merdeka Curriculum. Teachers must demonstrate adaptability, flexibility, and a positive attitude in applying these rules, ensuring that students understand and implement them effectively. To address diverse student needs, norms should be applied holistically and collaboratively, actively involving students in the learning process. Creativity and innovation on the part of teachers in managing classroom norms are essential, enabling students to develop a sense of shared responsibility in their education. Parental involvement and a safe, supportive learning environment are critical factors for success. Implementing the Merdeka Curriculum has positively influenced teacher motivation and professionalism, encouraging greater creativity and collaboration in nurturing students' potential. However, the increased workload for teachers highlights a significant challenge in implementation. Addressing this requires targeted efforts to enhance teachers' pedagogical and personal competencies to sustain the curriculum's focus on holistic student development.

From a global perspective, the challenges faced in implementing the Merdeka Curriculum align with similar reforms worldwide, where teachers are expected to balance traditional practices with progressive educational demands. For instance, curriculum reforms in Finland and Singapore also highlight the importance of teacher adaptability and student-centered learning, suggesting the necessity for ongoing professional development and institutional support. Policymakers should consider these international benchmarks to provide actionable strategies that alleviate teacher burdens while enhancing curriculum implementation.

The practical implications of these findings are profound for both policymakers and educators. Policymakers must address systemic challenges, such as teacher workload, by offering targeted training programs and additional resources to streamline curriculum demands. Integrating technology and collaborative teaching methods could further support teachers in managing classroom norms effectively. Educators, on the other hand, should focus on fostering professional learning communities where best practices and innovative strategies are shared. Such collaborative efforts would enhance teacher competencies and contribute to the sustainable implementation of the Merdeka Curriculum.

This study reinforces existing theories on the critical role of teacher personality competence in fostering conducive learning environments. Previous research by Ahmad et al. (2017) highlighted the importance of stable, authoritative, and responsible teacher personalities in shaping student character. Similarly, Prahastina et al. (2024) emphasized the need for consistency and flexibility in applying norms and rules, aligning with the adaptive and creative roles required of teachers under the Merdeka Curriculum. Furthermore, findings from Yoto et al. (2024) underscore the significance of collaborative approaches that actively engage students in learning, echoing the global shift toward participatory education. The role of teachers in building harmonious relationships with parents and the community, as noted by Pantiwati et al. (2023), further complements the findings of this study. Lastly, Rohmah et al. (2024) assert that teacher professionalism and integrity drive holistic student development, paralleling the positive outcomes observed under the Merdeka Curriculum.

By situating these findings within a broader context, the study provides valuable insights for both national and international education stakeholders. Comparative analyses highlight that, while the Merdeka Curriculum faces unique challenges, its emphasis on teacher creativity, collaboration, and adaptability reflects global trends in curriculum reform. Addressing these challenges requires systemic interventions that empower educators and prioritize student-centered learning as a shared responsibility among all stakeholders.

4.2.4 Professional Competence

The results indicate that educators' professional proficiency in understanding the Merdeka Curriculum is crucial to achieving learning success. A comprehensive and contextual understanding of the curriculum allows educators to effectively tailor education to meet the diverse

needs of students. It is imperative for educators to possess extensive subject knowledge to present content in an engaging and relevant manner (Tang et al., 2017). However, challenges remain in its implementation, as not all educators have equal access to professional development opportunities or the essential skills required to apply these methodologies consistently. Addressing inequities in teacher preparation and resource distribution is vital for overcoming these challenges.

A crucial element of this study is the focus on incorporating technology into the educational process, a fundamental principle of the Merdeka Curriculum. The research indicates that digitally proficient teachers enhance instructional effectiveness and student engagement. However, it also identifies obstacles, including unequal access to technology, insufficient digital literacy among even confident educators, and infrastructural limitations, particularly in rural areas. Technological competency is essential for contemporary education, although successful integration often requires systemic support, including investments in infrastructure and ongoing training (Andyani et al., 2020; Gudmundsdottir & Hatlevik, 2018).

The study emphasizes the importance of continuous professional development for educators, primarily through formal training, reflective practices, and collaboration. The "Merdeka Mengajar" platform and professional networks are valuable resources, yet their adoption is hindered by obstacles such as time constraints, insufficient institutional support, and varying levels of teacher motivation. Training must be accessible and tailored to address these implementation gaps (Hunaepi & Suharta, 2024).

The findings reflect issues encountered in similar educational transformations worldwide. Comparative analyses with countries using competency-based curricula, such as Finland and Singapore, indicate that professional development is most effective when integrated within a supportive policy framework that encourages collaboration, provides mentorship opportunities, and ensures equitable resource distribution. Policymakers should consider adopting best practices from these contexts, including incentivizing professional development and incorporating feedback systems to continuously improve teacher training programs.

The implications for policymakers and educators are clear: substantial investment is essential to enhance teacher competencies and ensure the equitable implementation of the Merdeka Curriculum. Policymakers must prioritize funding for teacher training, particularly in technology integration, while addressing infrastructural and equity challenges that hinder widespread access. Furthermore, educators should actively engage in opportunities for professional development,

utilizing platforms such as "Merdeka Mengajar" to adapt teaching methodologies to contemporary needs.

This study confirms that proficiency in teaching materials, effective use of technology, and a commitment to lifelong learning form the foundation of teachers' professional competence. These elements not only enhance the quality of instruction but also increase the curriculum's relevance to students' needs in an increasingly globalized and technology-driven world (Caena & Vuorikari, 2022). Addressing these challenges and leveraging the practical implications of these findings will significantly improve the effective implementation of the Merdeka Curriculum, aligning it with global educational advancements.

CONCLUSIONS

This research highlights the transformative influence of the Merdeka Curriculum on multiple aspects of teacher competencies, including social, educational, personal, and professional dimensions. Teachers demonstrated significant improvements in social competency, particularly in communication and adaptability. The results emphasize enhanced collaboration, inclusive practices, and greater attention to diverse student needs, fostering a more dynamic and equitable educational environment. However, while many educators successfully transitioned, some continue to face challenges, underscoring the need for ongoing support and adjustment strategies.

The pedagogical competency within the Merdeka Curriculum reflects a shift toward a more student-centered and flexible learning approach. Educators must utilize diagnostic and non-cognitive assessments to better understand students, while prioritizing project-based and active learning methodologies. Despite these advancements, challenges such as large class sizes and varying levels of technological proficiency persist, indicating the need for strategies like class segmentation, additional instructional support, and continuous professional development to improve educational outcomes.

The consistent application of norms and rules enhances personal competence, fostering an effective learning environment. Educators are expected to demonstrate adaptability, innovation, and a positive attitude, encouraging students' active participation in creating a collaborative classroom atmosphere. Parental involvement and a safe, nurturing environment are crucial for achieving the curriculum's objectives. The increased workload for educators highlights the need to balance responsibilities with opportunities for professional development.

Professional competence refers to educators' expertise in instructional content and the integration of technology. Despite noticeable progress, the need for more comprehensive and contextualized learning remains a challenge. Self-development activities, including formal training, collaborative practices, and the use of technological platforms such as "Merdeka Mengajar," are essential for enhancing teaching quality. Regular reflection and assessment further support professional growth, ensuring that teachers remain aligned with the curriculum's objectives.

Several limitations emerged during the study. The variability in teachers' adaptation to curricular changes suggests that the findings may not fully reflect all circumstances, particularly in regions with limited resources or restricted access to training. Additionally, while the research addresses technological integration, the extent of its impact on different classroom environments has not been extensively explored. The results are based on case studies, which may limit their generalizability to other educational systems or cultural contexts.

Future research could explore the impact of technology integration on student learning outcomes and teacher competence within the Merdeka Curriculum. Studies might investigate how digital technologies, such as interactive platforms and AI-driven assessments, enhance engagement and comprehension in various educational contexts. Additionally, evaluating the effectiveness of professional development programs in improving teachers' pedagogical and professional skills is essential. This includes examining the long-term effects of training on classroom management, new teaching techniques, and comprehensive learning strategies. Investigating the role of bidirectional communication between educators and students, as well as interprofessional collaboration among teachers, administrators, and parents, could provide valuable insights for creating a more supportive and effective educational environment. These areas of research will contribute to the successful implementation of the Merdeka Curriculum and support the continued development of Indonesia's educational system.

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Strengthening teacher competence for leading and sustaining the implementation of the Merdeka Curriculum

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ABSTRACT AQ1

The Merdeka Curriculum, implemented over the past three years, has highlighted a dynamic shift,

impacting both teachers and students. This study employs a phenomenological qualitative approach, based on Miles and Huberman's framework, to evaluate the impact of the Merdeka Curriculum on teacher competence in Indonesia. The research involved teachers and educational stakeholders, particularly in public schools. Data were collected through participant observation, in-depth interviews, and documentation studies across 56 public high schools affiliated with the first wave of driving schools. The study applied Interpretative Phenomenological Analysis (IPA) and NVivo software to explore how participants interpret their personal and social realities. The findings provide a comprehensive understanding of the Merdeka Curriculum's impact on teacher competence, especially in fostering 21st-century professionalism in teaching. This research offers valuable insights for evaluating educational policies, with the primary output being a policy brief for the Indonesian government.

~~*KEYWORDS*21st-century skills; educational policy evaluation; Merdeka curriculum; phenomenological approach; teacher competence~~

KEYWORDS

21st-century skills; Educational Policy Evaluation; Merdeka curriculum; Phenomenological Approach; Teacher Competence

SUBJECTS

Sustainability Education, Training & Leadership; Continuing Professional Development; Curriculum Studies; School Leadership, Management & Administration

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Introduction

The substantial size of the workforce in Indonesia presents both a significant challenge and a considerable opportunity for fostering economic growth. However, a scarcity of skilled graduates is

the primary cause of limited job absorption (Nugroho et al., 2018; Yeoh et al., 2017). This issue arises from the disparity between the knowledge and skills in the education sector and those required by the business sector. A comprehensive strategy that incorporates relevant knowledge and abilities is critical for preparing a higher-quality and more sustainable education system.

The biggest challenge in the current Indonesian education system is preparing skilled teachers to provide high-quality learning. Teachers, as professionals, are equipped with four competencies: social competency, pedagogical competency, personal competency, and professional competency (Nguyen et al., 2022; Siri et al., 2020). Through pedagogical and professional competencies, teachers can identify the skills that are urgently needed by students today, such as literacy, collaboration, creative thinking, and critical thinking—skills that support each other in improving the quality of students' abilities and workforce readiness. The personal abilities of teachers can motivate students to continue learning and developing with the times (König et al., 2020; Moser Opitz et al., 2020; Tran & O'Connor, 2024).

The facts on the ground that separate knowledge and skills have prompted the Indonesian government to innovate in order to close the gap. Several countries, including Germany, Finland, China, and Japan, have aligned learning with work-related skills (Farah & Ridge, 2009; Sakaue et al., 2024; Wermke et al., 2024; Zhao & Lee, 2024). The German curriculum prepares students with both learning and skills simultaneously, with the hope of integrating knowledge and skills so that students can adapt quickly (Szakács-Behling, 2022). Finland also provides many opportunities for students to continue growing by reducing the study load, with the hope of enabling students to further explore knowledge through their environment and life experiences (Wermke et al., 2015). The Japanese curriculum prepares students to instill competencies essential for realising a sustainable society by connecting global issues faced in everyday life with their solutions (Kondo et al., 2024; Sakaue et al., 2024; Urushibara-Miyachi et al., 2024). The United Arab Emirates is also transforming its curriculum by concentrating on improving students' abilities in various areas, enabling them to develop their full potential through integration with the business world (Farah & Ridge, 2009).

The Indonesian government has attempted to bring knowledge and skills closer together by

launching the Merdeka Curriculum. This curriculum is designed to integrate skills and knowledge with the aim of ensuring that Indonesian students are prepared to competently compete in the world of work, both nationally and internationally (Choppin et al., 2022). In its implementation, the Merdeka Curriculum also prepares teachers by focusing on four competencies, offering several teacher competency improvement programmes. The purpose of this study is to evaluate the extent of the impacts—both positive and negative—on the development of teacher competencies.

Merdeka Curriculum

Indonesia has implemented the Merdeka Curriculum as part of the government's transformation efforts to increase interest in reading, literacy, numeracy, and character development in students based on Pancasila values (Chen et al., 2021; Emawati et al., 2024). The Merdeka Curriculum focuses on the integration of knowledge with students' skills, with the aim that students can acquire better knowledge and skills. Additionally, the Merdeka Curriculum emphasises the importance of teacher professionalism in school implementation. In the implementation of the Merdeka Curriculum, teachers are provided with broad opportunities to use various sources of knowledge, not only textbooks but also information obtained through digital platforms and other related references (Wiryawan & Nurdin, 2024). The professional and personal competencies of teachers are greatly tested when obtaining additional information beyond textbooks, as teachers are required to read, search for, and find supplementary knowledge and information relevant to the lesson material to be taught (Hadi et al., 2023; Lemmrich & Ehmke, 2024; Susanto et al., 2022).

The Merdeka Curriculum is not only oriented towards achieving knowledge but also provides opportunities for students to develop their character in accordance with the concept of Pancasila. Student skills in problem-solving and collaboration are important elements in developing student character. Teachers who possess strong social and personal competencies will know how to take steps to develop student character (Cross, 1994). The important role of teachers in the implementation of the Merdeka Curriculum is supported by the government through various teacher competency development programmes, providing ample time for development. The impact of competency development among teachers in various regions of Indonesia is crucial to evaluate, as it

contributes to the history of Indonesian curriculum development. This study will focus on the impact of the implementation of the Merdeka Curriculum on teacher competencies, including personal competency, pedagogical competency, social competency, and professional competency.

Teacher competence

Teacher competence in providing education plays a crucial role (Lemmrich & Ehmke, 2024; Nurpitriyani et al., 2022). In the implementation of the Merdeka Curriculum, teachers, acting as facilitators, apply pedagogical competence. The teacher's ability to manage the learning process in accordance with the established scenario is an essential element. The teacher's personal and social competencies in classroom learning significantly influence the way teachers interact with students and colleagues (Ahmed et al., 2010; Tran & O'Connor, 2024). Teacher competence is described as a personal interpretation that can provide a positive example (Yang et al., 2021). The teacher's ability to maintain morals and provide a positive example significantly influences the formation of student character based on Pancasila values. The teacher's social competence is manifested in various actions that are directly experienced by students through coaching and social activities both inside and outside the classroom.

This study aims to measure the extent to which the implementation of the Merdeka Curriculum impacts the four teacher competencies. After the implementation of the Merdeka Curriculum, to what extent does the evaluation of the curriculum influence the improvement of teacher competence? If these competencies increase, the response from students and parents will lead to recognition, which may manifest in various forms of awards for schools and teachers. Over time, the enhancement of these teacher competencies has garnered attention from the government and school leaders. To what extent can schools provide recognition for this achievement? This positive effort needs to be sustained. What steps are schools taking to assess, maintain, and develop teacher competencies?

Research methods

This study employed a qualitative research methodology with a phenomenological approach to examine the relationship and impact of implementing the Merdeka Curriculum on teacher competencies. A qualitative design with a phenomenological approach was chosen because it allows

for an in-depth understanding of complex social phenomena, such as teacher behaviour in implementing the Merdeka Curriculum and the positive impacts that can influence teacher competence. This design is well-suited for exploring how the Merdeka Curriculum program affects teacher competence, provides valuable experiences, and changes the way teachers teach classroom lessons—an aspect that quantitative methods may not fully capture. The phenomenological approach is ideal for this study because it investigates a specific theme. This approach also allows for the examination of multiple data sources—such as interviews, observations, and document analysis—to provide a comprehensive view of the program and its impact on teacher competence.

Participants

The research was conducted in public schools across 10 provinces in Indonesia, including primary schools, junior high schools, senior high schools, and vocational schools, all of which have implemented the Merdeka Curriculum in their learning processes. To ensure equal representation from each type of school and category of teachers, this study established two primary criteria for selecting the research population: (1) schools must have implemented the Merdeka Curriculum for at least one year, and (2) schools must have at least five driving teachers to support the implementation of the Merdeka Curriculum in the learning process. Based on these criteria, 26 schools were selected, comprising five primary schools, eight junior high schools, seven senior high schools, and six vocational schools. The researchers selected five teachers from each school for in-depth interviews. This study employs a stratified random sampling technique to ensure diversity and balanced representation. Teachers are grouped according to their school levels—primary, junior high, senior high, and vocational schools. This technique is combined with simple random sampling to provide equal opportunities for each respondent to participate in the study.

Data collection

The research data collection was conducted using three methods: in-depth interviews, observations, and field notes, to ensure the triangulation of data sources and the validity and reliability of the findings. Data collection took place across 10 provinces in Indonesia. The selected schools met two

criteria: implementing the Merdeka Curriculum for at least one year and having a driving teacher. The research subjects were required to participate in the driving teacher training to understand the Merdeka Curriculum as set by the Ministry of Education and Culture.

Interviews were conducted with 52 teachers who voluntarily registered to share their experiences implementing the Merdeka Curriculum. They were selected using purposive sampling to ensure relevance to the research questions. The participants, aged between 24 and 50 years, represented a variety of educational backgrounds and teaching experiences. Interviews were conducted offline, with schedules arranged according to each participant's preference for comfort and privacy. Each interview lasted between 30 and 60 minutes, allowing for in-depth exploration of the participants' experiences. The interview protocol, developed based on existing educational frameworks, included open-ended questions to obtain detailed responses on participants' reasons for choosing the Merdeka Curriculum implementation program, the challenges faced, and its impact on teacher competency. In-depth interviews were selected to gain nuanced insights into participants' thoughts and experiences, enabling a comprehensive understanding of the motivations behind teachers' implementation of the Merdeka Curriculum and the positive impacts on various aspects of teacher competency.

Observations were conducted at schools to capture the dynamics of teacher interactions and active student involvement during the learning process. These observations took place over two weeks, focusing on the four teacher competencies being studied: social competence, pedagogical competence, personal competence, and professional competence. Participants in this process were teachers from schools that had met the previously established criteria. The selected teachers also possessed strong communication skills, making it easier for researchers to obtain comprehensive information. Observations complemented the interviews by providing real-time data on how the program was implemented. Various documents were examined for document analysis, such as lesson plans, student worksheets, and student responses related to the implementation of the Merdeka Curriculum. These documents were obtained directly from participants and each school. Document analysis provided additional data, offering insights into the significant impact of teacher competencies and helping to triangulate information obtained from the interviews and observations.

Data analysis

Data analysis was conducted in two phases. The initial phase involved thematic analysis, following the framework of Miles and Huberman (1994). This phase began with data reduction, which included transcribing interview data and identifying predetermined themes aligned with the four teacher competencies: social, pedagogical, personal, and professional competence, all influenced by the implementation of the Merdeka Curriculum. Subsequently, data visualization was used to organise themes and subthemes visually, enhancing the clarity and comprehensibility of the findings. This process culminated in verification and conclusion drawing, where themes were synthesised to determine the impact of Merdeka Curriculum implementation on teacher competencies within the school learning environment.

The second phase utilised the capabilities of NVivo software for in-depth data coding. Interview data was meticulously imported into NVivo, enabling researchers to conduct more nuanced coding procedures. The data was categorised into predetermined themes and subthemes corresponding to the four teacher competencies: social, pedagogical, personal, and professional competence. This cross-data coding facilitated a more refined analysis by enabling the identification of recurrent word patterns, providing deeper insights into the collected data. The identification of words with similar characteristics strengthened the thematic framework and offered a more nuanced perspective on how the implementation of the Merdeka Curriculum impacts teacher competencies.

Findings and discussion

Findings

Social competence

Communication skills

Figure 1 displays the results of data analysis regarding the impact of the Merdeka Curriculum on improving teachers' social competence in communication. Improved communication skills are highlighted as the main finding, with several specific findings emerging from the research. These findings include enhanced student achievement, adjustments in the implementation of the Merdeka Curriculum, encouragement for teachers to improve communication patterns—particularly in

implementing P5—and greater flexibility in communication during collaboration. Teachers are also expected to be effective facilitators in the learning process, with communication skills that support the achievement of educational goals. These results indicate that the Merdeka Curriculum brings positive changes to teachers' communication skills, both in guiding students and collaborating with other parties, although further adjustments are needed for broader application.

Figure 1. The impact of the Merdeka curriculum on teachers' communication skills (Project Maps).

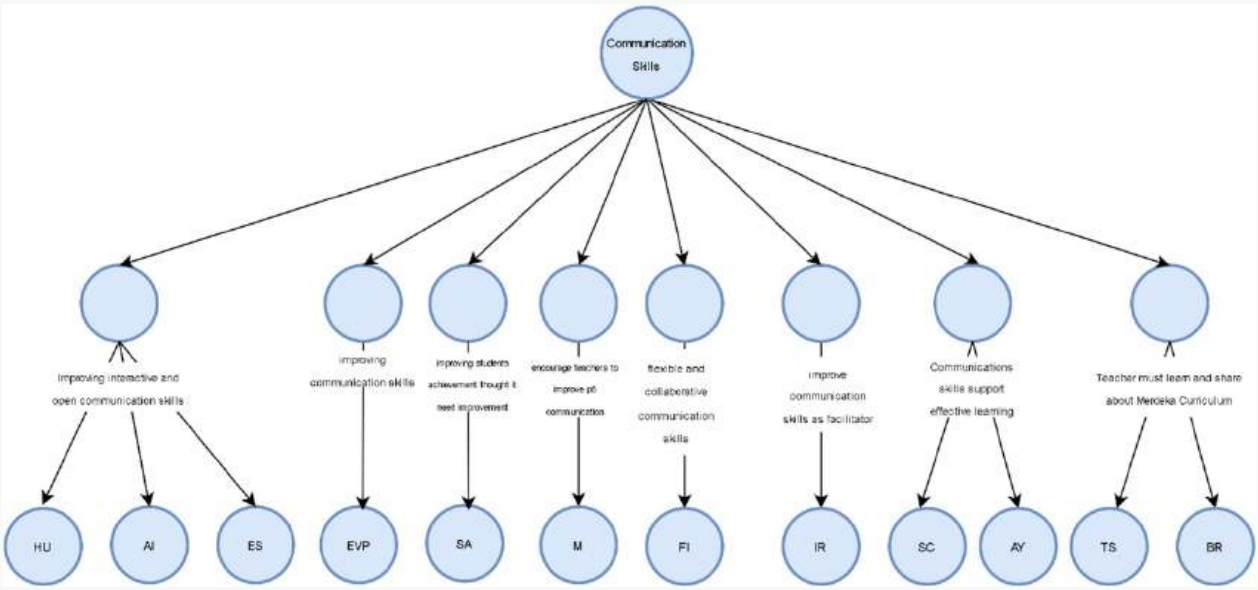
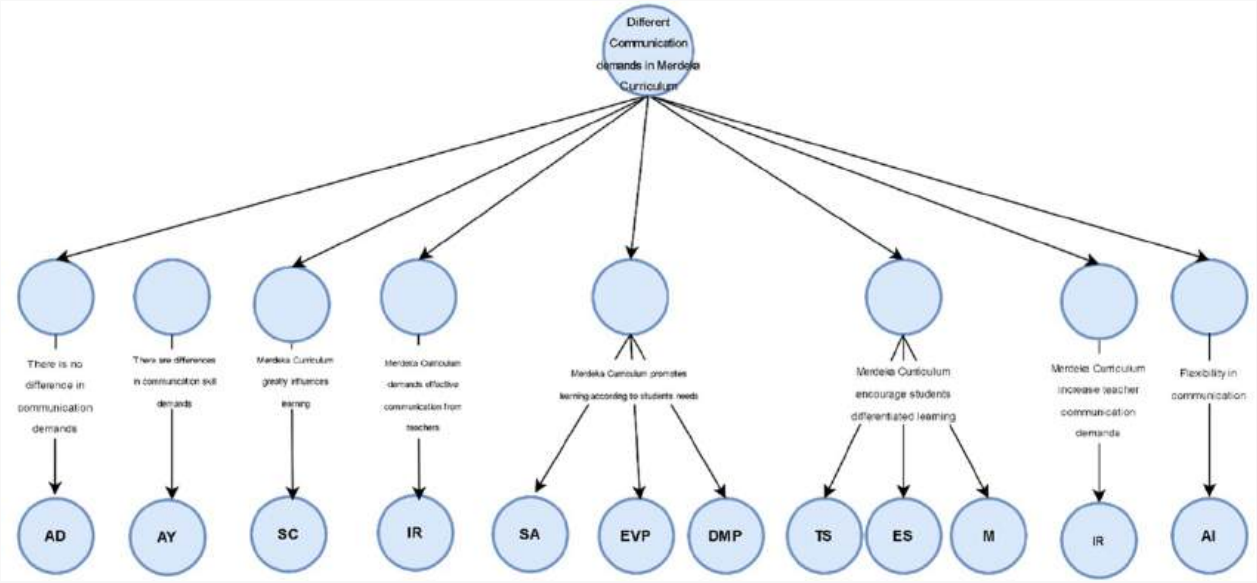


Figure 2 presents the results of data analysis regarding differences in communication demands in the Merdeka Curriculum. The research findings indicate that the Merdeka Curriculum introduces different communication demands compared to the previous curriculum. Some respondents, such as AD, reported no significant differences in communication demands. However, other respondents, including AY and SC, emphasized a significant change in communication demands, with the Merdeka Curriculum impacting overall learning and requiring more effective communication from IR.

Figure 2. Different communication demands in the Merdeka curriculum (VPM).



The following interview excerpts further support the research findings:

FI and SA noted that the Merdeka Curriculum increases the demands on teachers' communication skills, requiring them to be more flexible and focused on meeting student needs. This view is also supported by HU, who emphasized that the Merdeka Curriculum promotes learning that caters to students' individual needs. Additionally, EVP and DMP highlighted that differentiated learning is now prioritized, necessitating more responsive communication from teachers.

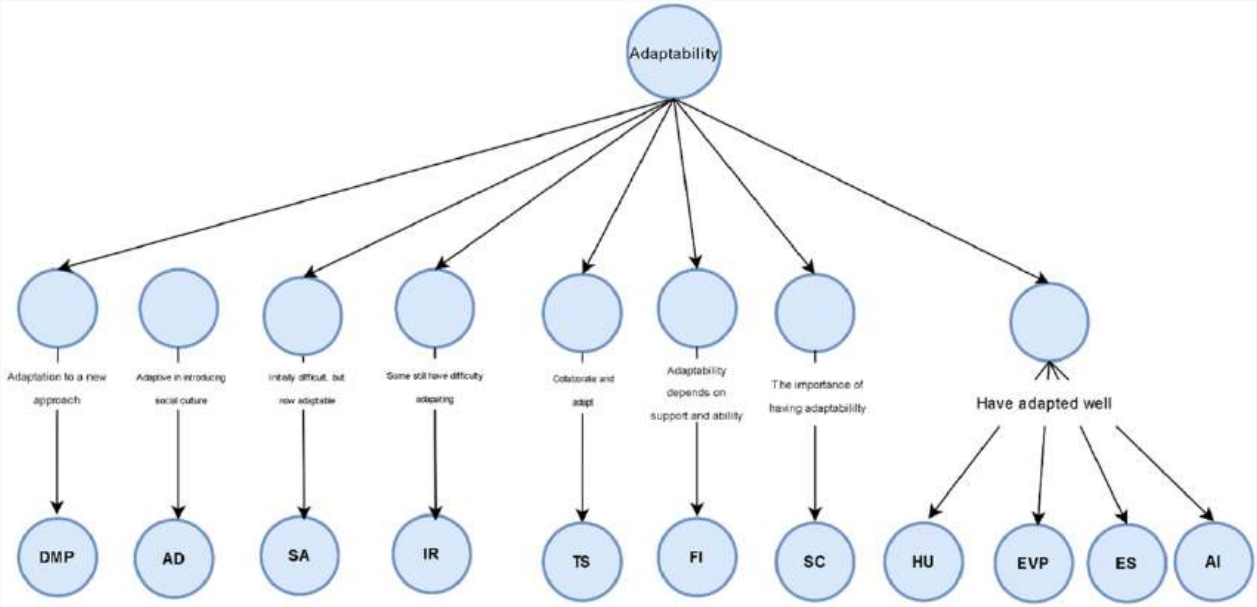
Furthermore, TS and ES emphasized the importance of teachers fostering two-way communication with students, while M and AI stressed the need for flexibility in communication to meet the demands of more effective learning under the Merdeka Curriculum. Overall, the study reveals that the Merdeka Curriculum introduces significant changes to the demands placed on teacher communication, which must now be more flexible, effective, and tailored to student needs.

The following excerpts are from the researcher's interview with the participant:

Adaptability

Figure 3 displays the results of data analysis related to adaptability in implementing the Merdeka Curriculum. The study found that teachers' adaptability to the Merdeka Curriculum varies. Some teachers, such as DMP, reported having successfully adapted to the new approach introduced by the curriculum. Meanwhile, AD and SA noted that their adaptation process also involved understanding the socio-cultural aspects of students, which they identified as key to success in the teaching and learning process.

Figure 3. VPM Adaptability in Implementing the Merdeka Curriculum.



Some teachers, such as IR, stated that although adapting to the changes introduced by the Merdeka Curriculum was initially challenging, they have now successfully adjusted. However, findings from TS and FI indicate that some teachers continue to face difficulties in meeting the new demands. This suggests that the adaptation process is not uniform across all settings.

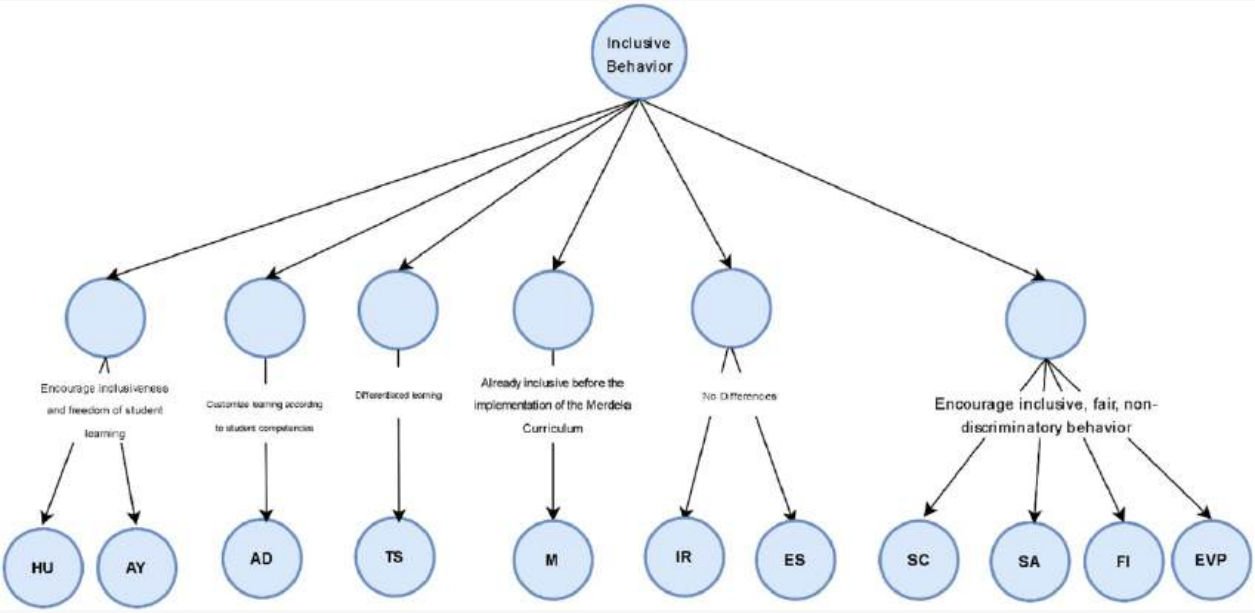
Additionally, the importance of support and collaboration in the adaptation process was emphasized by respondents such as SC and M, who noted that adaptability is strongly influenced by a supportive work environment and an individual's willingness to continue learning. Teachers like HU

and EVP stated that they have successfully adapted, while other interviewees, such as ES and AI, highlighted the significance of being adaptable when facing curriculum changes.

Inclusive behavior

Figure 4 presents the results of the research analysis regarding differences in inclusive and non-discriminatory behavior exhibited by teachers in implementing the Merdeka Curriculum. The findings show that the Merdeka Curriculum fosters inclusive, fair, and non-discriminatory behavior within the educational environment. Teachers such as SC, SA, and FI confirmed that the curriculum motivates them to adopt more inclusive and equitable practices, ensuring no discrimination toward students.

Figure 4. VPM for inclusive behavior in implementing the Merdeka curriculum.



Furthermore, HU and AI pointed out that the Merdeka Curriculum encourages inclusiveness and greater learning freedom for students, with learning tailored to each individual's competencies and needs, as noted by AY and AD. TS highlighted that differentiated learning is a crucial component of the Merdeka Curriculum, where teachers give greater attention to diverse learning needs. Meanwhile, M revealed that inclusive behavior had been practiced even before the implementation

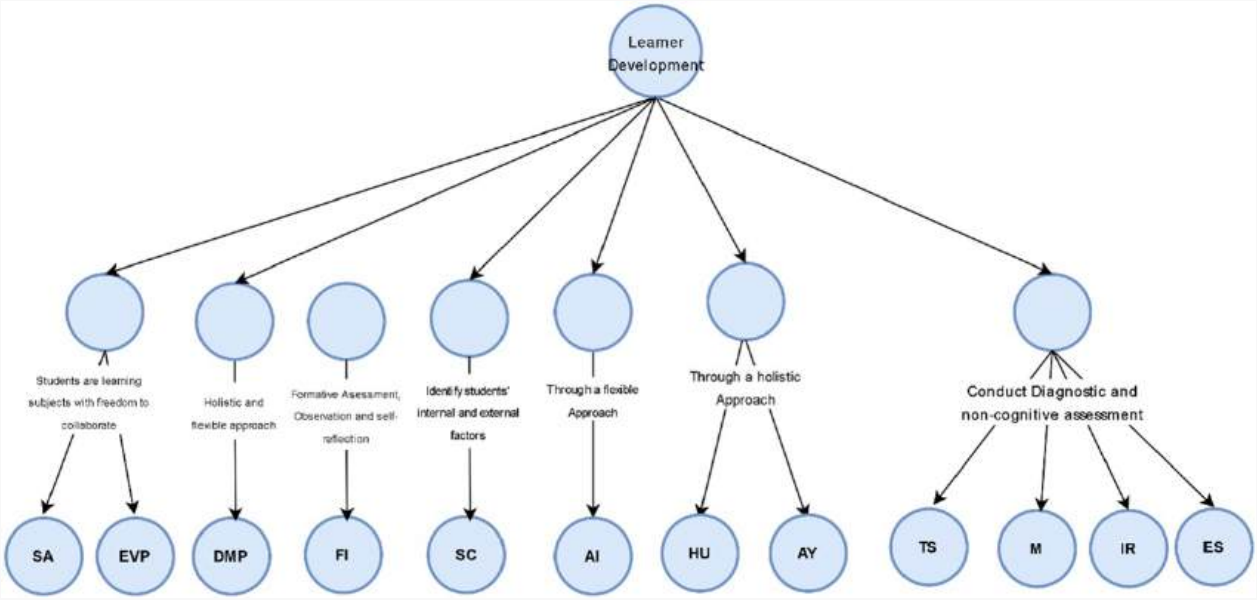
of the Merdeka Curriculum, and IR and ES stated that there was no significant change in inclusive behavior since its implementation.

Pedagogical competence

Learner development

Figure 5 displays the research findings related to learner development in the Merdeka Curriculum. The results show that learner development within this curriculum is approached through various strategies. Teachers such as TS and M emphasize the importance of conducting diagnostic and non-cognitive assessments to understand students' overall development. Additionally, ES and AI stress the need for a flexible learning approach to meet the individual needs of students.

Figure 5. VPM for the impact of the Merdeka Curriculum on learner development.



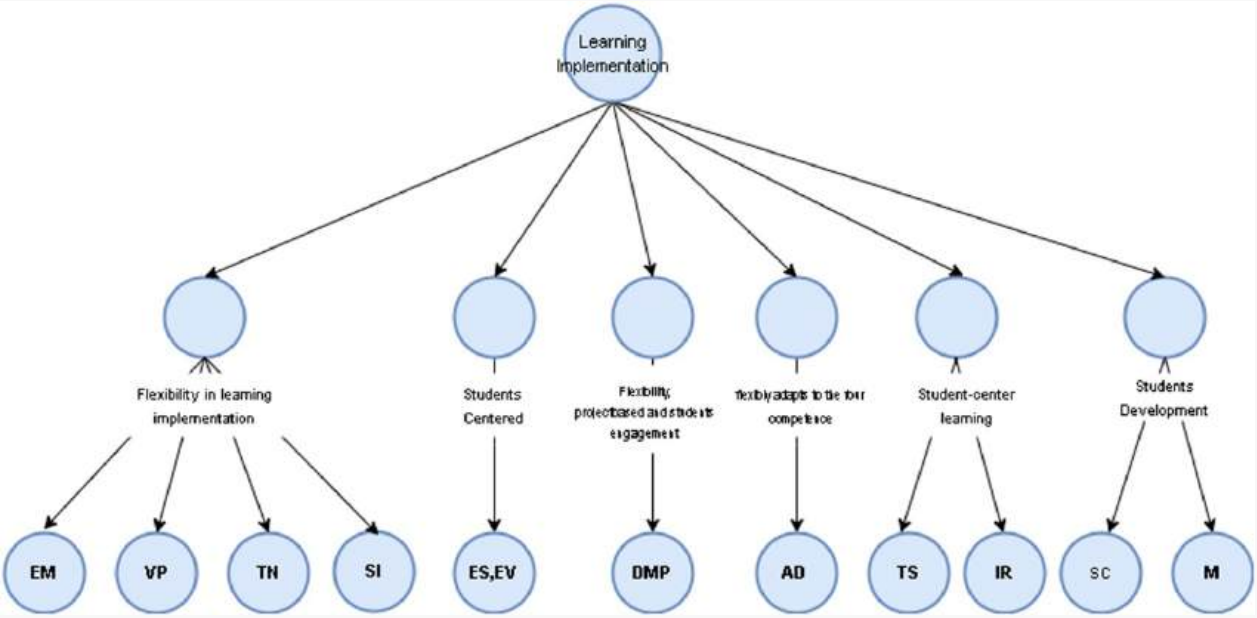
A holistic approach to understanding students, as emphasized by HU, is crucial for developing learners, where both academic and non-academic aspects are equally considered. Teachers like AY also recognize the importance of understanding students' internal and external factors to provide more tailored support in learning.

Students are seen as active participants in the learning process with the freedom to collaborate, as reported by SA, where they are given more autonomy in determining how they learn. Additionally, the holistic and flexible approach to learning, highlighted by EVP and DMP, underscores the importance of adapting teaching methods to enhance student engagement. According to FI, formative assessments, observations, and self-reflection are integral to the learning process, while AD suggested that short evaluations at the end of lessons are an effective way to assess students' achievements and progress.

Learning implementation

Figure 6 presents the results of the research findings regarding the implementation of learning in the Merdeka Curriculum. These findings indicate that the Merdeka Curriculum offers greater flexibility compared to the previous curriculum. Teachers such as AY, EVP, and FI emphasized that this flexibility allows for the adjustment of materials based on students' needs and the learning context. Additionally, HU and SA revealed that learning is more student-centered, with students given greater autonomy to determine how they learn based on their interests and abilities.

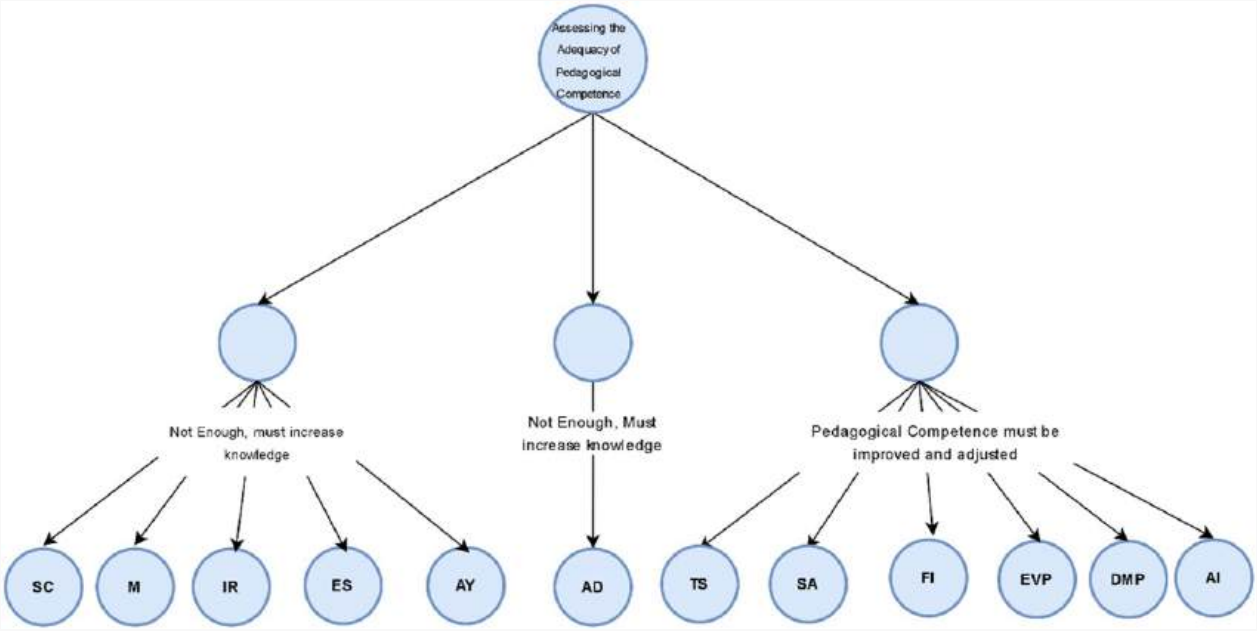
Figure 6. VPM for the implementation of Merdeka curriculum learning.



Project-based approaches and active student engagement in learning are also key focuses of the Merdeka Curriculum, as shared by AI and ES. Teachers such as DMP and AD emphasized the importance of adjusting learning to the four competencies—spiritual, social, knowledge, and skills—flexibly, considering time and students' learning needs. TS and IR highlighted that learning in the Merdeka Curriculum is tailored to students' individual needs, enabling a more personalized approach. Finally, the development of student competencies is the primary goal of this learning implementation, as expressed by SC and M.

Figure 7 presents the results of the research analysis regarding the assessment of the adequacy of teachers' pedagogical competence in implementing the Merdeka Curriculum. The findings of this study reveal three key insights.

Figure 7. VPM in assessing pedagogical competence adequacy in the Merdeka curriculum.



First, the pedagogical competence that teachers currently possess is considered insufficient, primarily because they need to expand their knowledge and skills, as noted by SC, M, and IR.

The second finding indicates that pedagogical competence is severely limited when the number of students in a class exceeds a reasonable capacity, as stated by AY and AD. This situation necessitates strategies such as class division or additional supporting teachers to manage students effectively.

The third finding highlights the importance of improving and adjusting pedagogical competencies to meet the demands of the Merdeka Curriculum. Teachers such as TS, FI, and HU emphasized that integrating technology and adapting teaching methods are essential to accommodate the needs of more flexible and project-based learning.

Learning evaluation

Figure 8 presents the results of the research findings regarding learning evaluation in the Merdeka Curriculum. The research indicates that learning evaluation in the Merdeka Curriculum is carried out through various approaches that are more flexible and diverse compared to the previous curriculum. Portfolio-based evaluation, assignments, and tests are among the primary methods. Additionally, project-based formative evaluations, portfolios, and performance assessments are used to assess students' overall skills, as revealed by DMP and SA.

Figure 8. VPM for learning evaluation in the Merdeka curriculum.

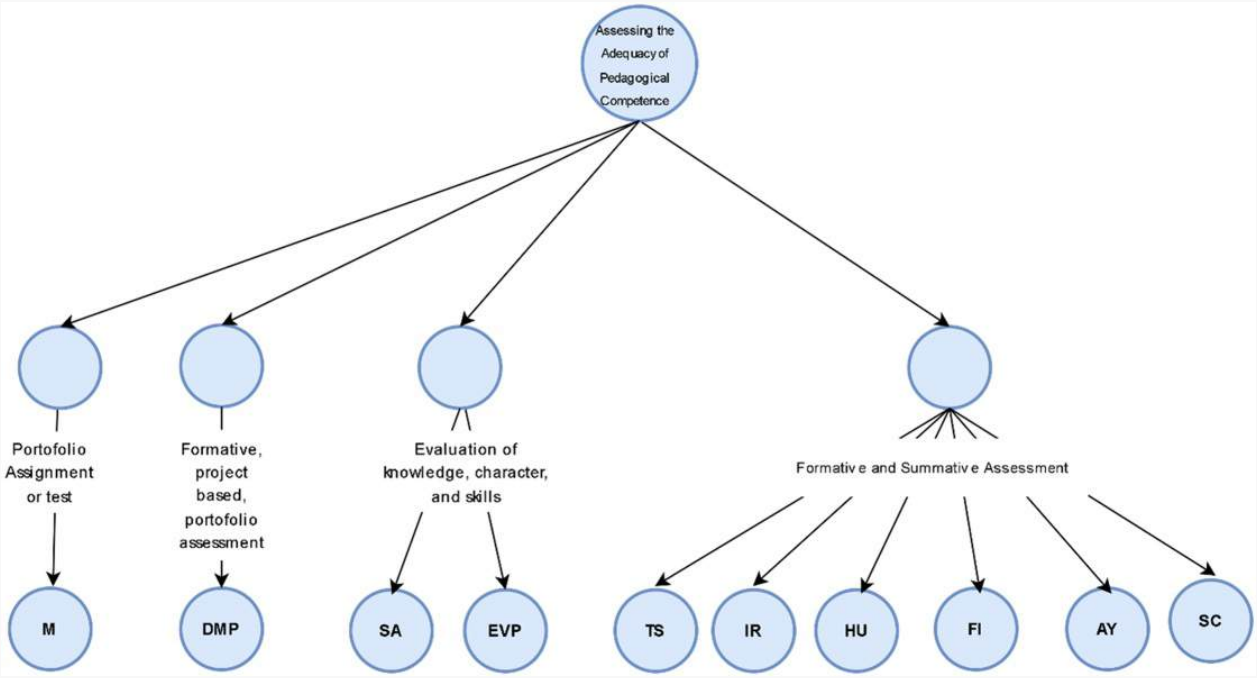


Figure 9. VPM in addressing norms and rules in the curriculum.

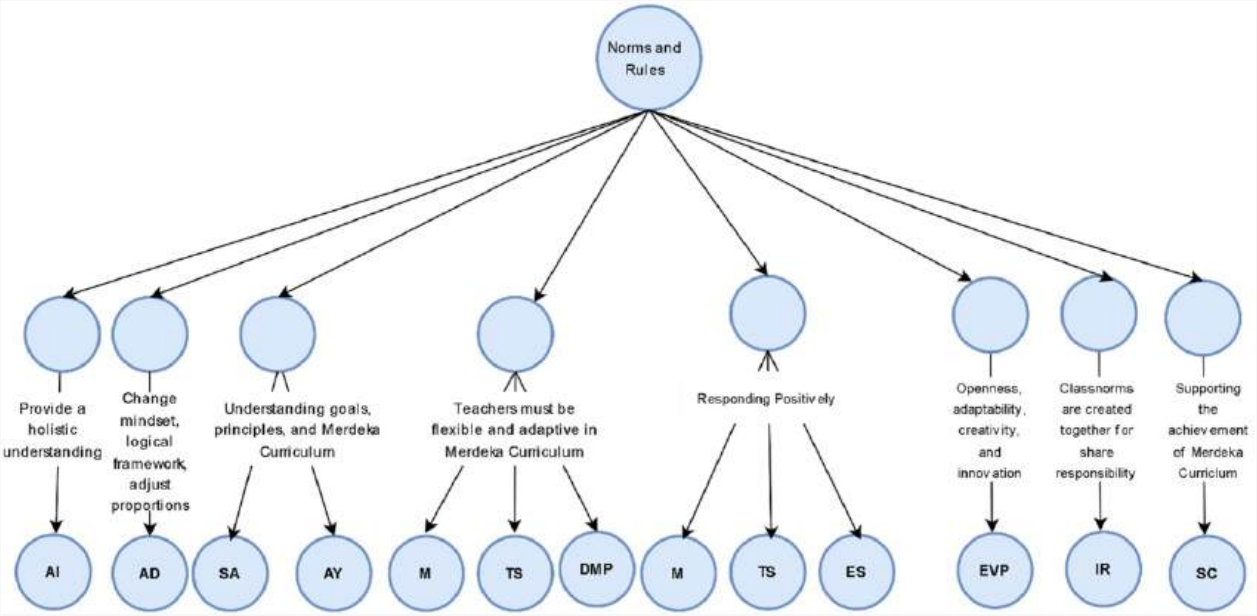


Figure 10. VPM attitudes teachers must demonstrate in implementing the Merdeka Curriculum.

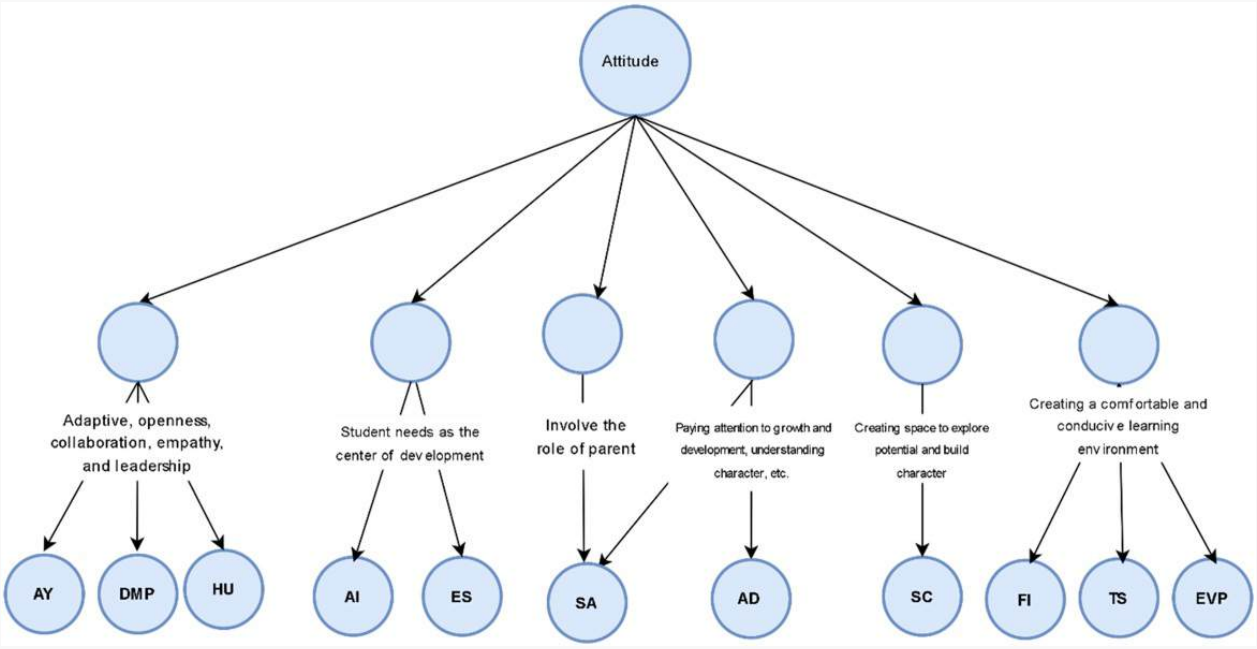
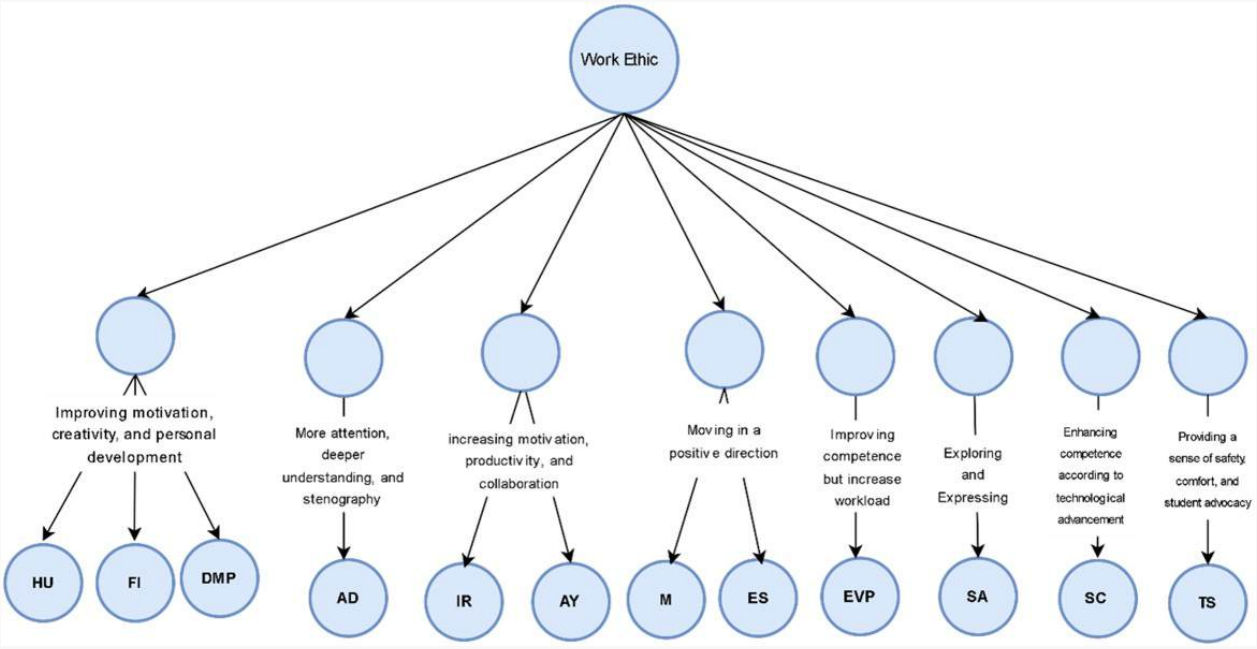


Figure 11. VPM of the impact of implementing the Merdeka curriculum on work ethics.



Evaluation in the Merdeka Curriculum emphasizes a holistic assessment that includes knowledge, character, and skills, as described by EVP. Both formative and summative assessments are also key components of the evaluation process, as noted by TS, IR, and HU, with a focus on continuous monitoring of student development.

Furthermore, the research highlights the importance of diagnostic, formative, and summative assessments in providing a comprehensive picture of student achievement, as expressed by SC, ES, and AD.

Personality competence

Norms and rules

The research findings regarding personality competence related to norms and rules in learning reveal that norms and rules play a crucial role in fostering a learning environment that supports the achievement of Merdeka Curriculum goals. AI emphasized the importance of providing students with

a holistic understanding of the rules, while AD highlighted the need for mental shifts and logical adjustments when applying rules and learning proportions. Understanding the principles and objectives of the Merdeka Curriculum, as noted by SA and AY, serves as an important foundation for adjusting AQ10 classroom norms (Figure 9).

Teachers must be flexible and adaptive in implementing the Merdeka Curriculum, as stated by HU and FI, ensuring that norms and rules remain effective. DMP from SMPN 122 added that adopting a positive attitude toward the rules can enhance their effectiveness, a sentiment echoed by M and TS.

Openness, adaptation, creativity, and innovation in managing classroom norms with students, as explained by ES and EVP, foster a sense of shared responsibility. Additionally, clear and consistent norms are essential for achieving learning objectives, as expressed by IR and SC.

Attitude

The findings highlight several key aspects of teacher attitudes necessary to support effective learning within the Merdeka Curriculum. First and foremost, teachers must demonstrate adaptability, openness, collaboration, empathy, and leadership skills, as emphasized by AY, DMP, HU, and IR. These qualities are essential for fostering dynamic learning environments that prioritize students' needs and promote engagement and motivation (Figure 10).

Additionally, it is crucial to consider the development of students, as the focal point of the educational process. AI and ES stress that learning should be directed toward meeting the diverse needs and unlocking the potential of each student. This individualized approach ensures that every learner is given the opportunity to thrive based on their abilities and interests.

Moreover, the role of parents in the learning process cannot be overlooked. Active involvement from parents, as highlighted by SA, is essential for creating a supportive and collaborative educational ecosystem. Teachers must also closely monitor students' growth and development, understand their unique characteristics, and provide the necessary support for their overall well-being, as noted by AD.

Furthermore, teachers are encouraged to create learning spaces that facilitate student exploration

and character development. As SC explains, these spaces should foster creativity and critical thinking. In addition, teachers must ensure that the learning environment is comfortable and supportive, as mentioned by FI, TS, and EVP, as this is vital for sustaining students' engagement and enhancing the effectiveness of the learning process.

Work ethic

This finding shows that the implementation of the Merdeka Curriculum has a significant impact on increasing teacher motivation, creativity, and professional development. HU, FI, and DMP reported that the Merdeka Curriculum encourages teachers to be more creative and engaged in professional development (Figure 11).

Teachers are also placing greater emphasis on understanding students' needs and deepening skills, such as stenography, to take notes more effectively, as shared by AI and AD. Improved motivation, productivity, and collaboration were also reflected in the findings of IR and AY, who indicated that the Merdeka Curriculum fosters better cooperation between teachers and students.

Positive impacts were also observed in the improvement of work ethic, with many teachers reporting positive changes in their teaching approaches, as expressed by M and ES. However, some teachers, such as EVP, revealed that the increase in teacher competencies also resulted in an increased workload.

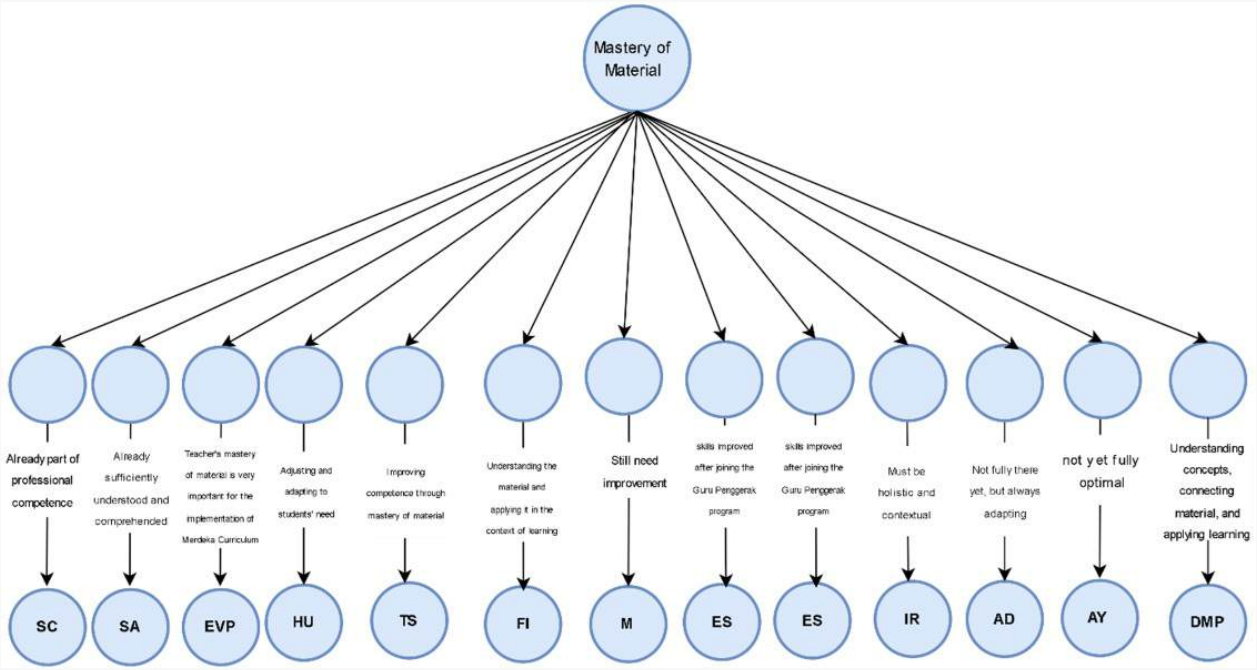
Teachers like SA and SC noted that the Merdeka Curriculum offers opportunities to explore and adapt to technological developments and adjust competencies in line with current times. Additionally, the Merdeka Curriculum encourages teachers to create a safe and comfortable learning environment that benefits students, as stated by TS.

Professional competence

Material mastery

The research findings presented in Figure 12 highlight the importance of professional competence, particularly in mastering the material within the Merdeka Curriculum. This finding indicates that teachers' mastery of teaching materials is a crucial element in the successful implementation of the Merdeka Curriculum.

Figure 12. VPM of professional competence and mastery of materials in the curriculum.



SC emphasized that mastery of the material is an integral part of a teacher's professional competence. SA and EVP stressed that a sufficient and in-depth understanding of the material is essential for effectively implementing the Merdeka Curriculum. HU added that it is important for teachers to adjust and adapt materials to meet students' needs.

Teachers must also continually improve their competence in mastering the material, as noted by TS and FI, who highlighted the importance of understanding the context of learning. However, some teachers, such as M, acknowledged that mastery of the material still needs improvement, particularly in applying contextual and holistic learning, as expressed by AI.

Although some teachers, such as ES and IR, have demonstrated improved competence, others feel they are still in the process of adapting to the Merdeka Curriculum materials. AD and AY emphasized that their mastery of the material has not yet reached its full potential, although they are making

efforts to improve.

DMP emphasized that understanding concepts, connecting materials, and applying learning are key components of the Merdeka Curriculum, requiring ongoing improvement and adjustment from teachers.

Use of technology

Figure 13 highlights the pivotal role technology plays in enriching learning, particularly within the context of the Merdeka Curriculum. According to AD, EVP, and H, technology has significantly contributed to creating more interactive learning experiences in the classroom. Additionally, it provides visually engaging learning experiences, which enhance students' comprehension of the material.

Figure 13. VPM on the use of technology in the Merdeka Curriculum.

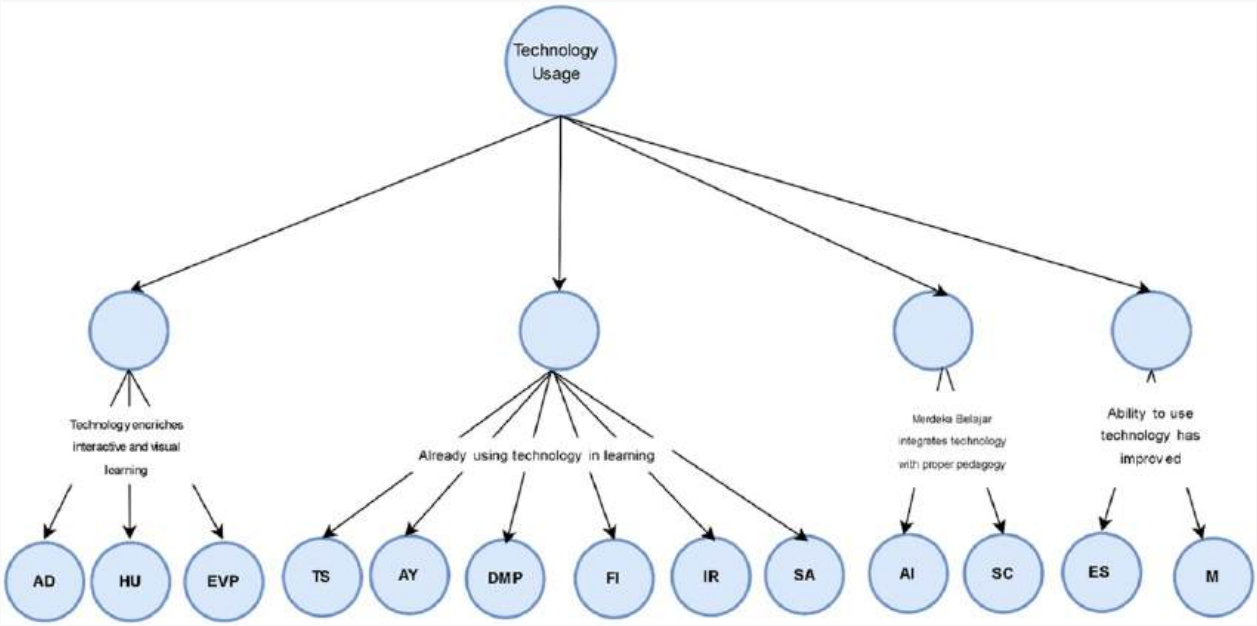
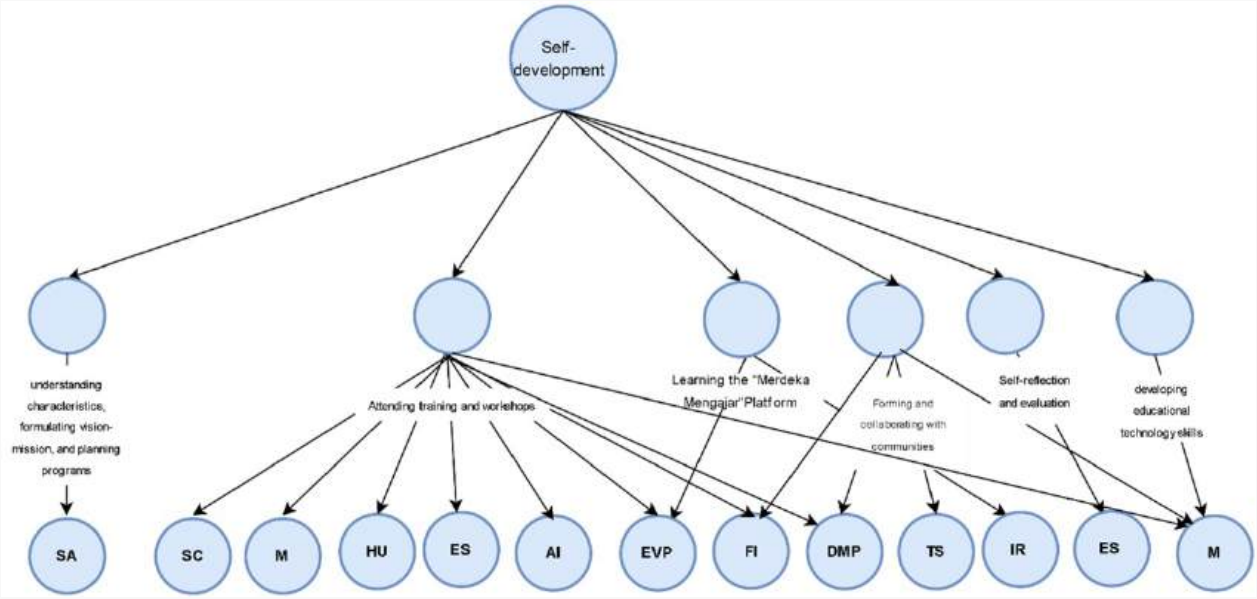


Figure 14. VPM of self-development in enhancing professional competence within the Merdeka curriculum.



Many teachers, including TS, AY, and DMP, have integrated technology into their teaching methods, utilizing various platforms and tools to support the learning process. These educators have observed that the Merdeka Curriculum encourages them to blend technology with appropriate pedagogical strategies, as emphasized by AI and SC. This fusion enables a more holistic and relevant learning experience, catering to students' diverse needs and fostering a deeper understanding of the subject matter.

Moreover, teachers' ability to utilize technology has been steadily increasing, as indicated by ES and M. These educators have become more proficient in leveraging various digital tools that support project-based learning, collaborative efforts, and formative assessments. This growing technological competence is empowering teachers to create dynamic and flexible learning environments, reflecting the evolving demands of the modern educational landscape.

Self-development

The research findings regarding professional competence focus on teacher self-development within

the context of the Merdeka Curriculum. These findings highlight that self-development is a crucial factor in improving teachers' abilities and effectiveness in implementing the Merdeka Curriculum (Figure 14).

SA and SC emphasized the importance of understanding the characteristics of the education unit, developing a clear vision and mission, and planning appropriate learning programs. Teachers such as M, HU, and ES actively participate in training and workshops to enhance their professional competencies.

In addition to formal training, teachers also engage with the "Merdeka Mengajar" platform to better understand and apply Merdeka Curriculum concepts in the teaching and learning process. Teachers like FI and EVP use this platform to support classroom learning. Collaboration with professional communities is also considered vital by teachers such as IR and TS, who noted that such collaboration helps enrich learning insights and practices. Moreover, periodic self-reflection and evaluation, as highlighted by AD, enable teachers to continuously improve the quality of their teaching.

Discussion

Social competence

The findings highlighted significant improvements in teachers' communication and adaptation skills under the Merdeka Curriculum. Teachers demonstrated increased flexibility in communication during collaboration, developed facilitation abilities, and responded more effectively to the diverse demands of students. The Merdeka Curriculum fosters an inclusive, equitable, and non-discriminatory learning environment, tailoring education to the individual competencies of each student. However, the adaptation process among teachers remains uneven, with some facing notable challenges. These findings echo broader concerns in curriculum implementation, as teachers' preparedness and ability to adapt to systemic changes vary widely (Caena & Vuorikari, 2022; Rencher et al., 1978). While the Merdeka Curriculum has led to positive changes in teachers' social competencies—especially in communication, adaptation, and inclusive behavior—future adjustments are necessary in certain areas.

The practical implications of these findings are significant for policymakers and educators. For policymakers, the research emphasizes the importance of targeted professional development programs and continuous support to ensure that teachers can effectively navigate these changes. While the Merdeka Curriculum offers a promising framework for inclusive education, the uneven pace at which teachers adapt suggests the need for more robust, localized support structures (Caena & Vuorikari, 2022; Cross, 1994). For educators, fostering an inclusive learning environment goes beyond implementing new teaching strategies; it involves mastering social competencies such as conflict management, team collaboration, and a deep understanding of student diversity. These skills are essential in creating a dynamic, responsive classroom that aligns with the goals of the Merdeka Curriculum.

Comparative studies from other global contexts offer additional perspective on these challenges. For example, studies in the United States and the United Kingdom have shown similar struggles in implementing inclusive curricula, particularly concerning the professional development of teachers and the integration of new technologies (Johansson et al., 2014). In both contexts, a key challenge has been the alignment of curriculum changes with teachers' pre-existing skills and the varying levels of institutional support available. While the Merdeka Curriculum has its own unique cultural and educational context, the global trend highlights that substantial teacher training and systemic support are critical in ensuring the success of inclusive education reforms.

Furthermore, the research findings emphasize the importance of teachers' ability to build strong networks within the educational ecosystem. Teachers in this study demonstrated improved social interaction skills with students, colleagues, and parents, contributing to a more inclusive and supportive environment. Teachers' social competence—including the ability to communicate effectively and manage conflict—plays a pivotal role in creating a collaborative and inclusive classroom (Pantiwati et al., 2023; Siri et al., 2020). Globally, studies on teachers' social competence, such as those by Caena and Vuorikari (2022), Lindström et al. (2024), and Reagan and Pratte (1973), underline that effective communication and teamwork are essential for fostering a harmonious learning environment. Teachers must act not only as instructors but also as facilitators of collaboration within the broader school community.

Considering these challenges and opportunities, while the Merdeka Curriculum has made notable strides in improving teachers' social competencies, further investments in professional development are crucial. Teachers need ongoing training to adapt to evolving pedagogical practices, manage new educational technologies, and respond to the diverse demands of students. This is particularly pertinent in a global context where educational reforms often encounter resistance due to inadequate training or a lack of support for teachers (Cross, 1994). Policymakers must prioritize the creation of support systems that equip educators to navigate these changes, ensuring that the goals of the Merdeka Curriculum are met and that inclusive, equitable education becomes a reality for all students.

Pedagogical competence

The implementation of the Merdeka Curriculum poses a number of challenges that can impact its effectiveness. A major concern is the large class size, which hinders teachers' ability to provide individualized attention and tailor learning experiences to the diverse needs of students. This is a common issue not only in Indonesia but also in many other countries with limited resources, such as India and Brazil, where class sizes often exceed 40 students. Additionally, while the Merdeka Curriculum encourages a shift toward technology integration and student-centered learning, teachers often lack the necessary training and resources to make these transitions successfully. Short online training programs are insufficient in helping teachers adapt to these new methods, leaving many without the technological proficiency needed for effective implementation (Hartshorne et al., 2020; Hew et al., 2020; Mahmood, 2021). Furthermore, resource constraints, such as insufficient teaching assistants and teaching tools, add to the difficulties teachers face in adapting their methods to large, diverse classrooms. These resource limitations prevent teachers from fully engaging with every student, reducing the overall effectiveness of the curriculum (Pantiwati et al., 2023).

The findings from the research offer several practical implications for policymakers and educators to improve the implementation of the Merdeka Curriculum. First, there is a clear need for policymakers to invest in continuous, accessible teacher training programs that focus on both pedagogical innovation and technological integration. Equipping instructors with the necessary resources to

effectively engage students—primarily through project-based learning and technology-enhanced methods—can facilitate the successful realization of the curriculum's student-centered approach. Additionally, to address the challenge of large class sizes, class division strategies and the use of teaching assistants are practical solutions that could significantly enhance the quality of instruction. Policymakers should prioritize these strategies and allocate resources to ensure that teachers are supported in managing large classrooms. Another key implication is the shift toward holistic student assessments, which track not only academic progress but also socio-emotional development. Educators' assessment frameworks should incorporate a broader range of evaluative methods, such as portfolios and performance assessments, to reflect the diverse aspects of students' growth.

A comprehensive, global viewpoint indicates that the issues and solutions associated with implementing the Merdeka Curriculum are not exclusive to Indonesia. The prevalence of large class sizes is a significant concern in nations with constrained educational resources, such as India and Brazil. Overcoming this obstacle necessitates systematic support through resource allocation and the employment of teaching assistants—tactics that have been effectively executed in other nations confronting analogous issues (Mahmood, 2021). The global trend of integrating technology in education is apparent in numerous nations; nevertheless, its effectiveness is largely contingent upon the training and preparedness of educators. Finland has made substantial investments in digital tools and teacher professional development to facilitate efficient technology integration. This comparative analysis indicates that although the Merdeka Curriculum's emphasis on technology and student-centered learning corresponds with international best practices, local teacher readiness and infrastructure enhancements are essential for its complete efficacy.

Additionally, the worldwide transition toward comprehensive evaluations, particularly those emphasizing socio-emotional development, reinforces the trajectory of the Merdeka Curriculum. Countries such as Finland and Singapore have consistently adopted comprehensive evaluation models that monitor both academic and character development, a practice that aligns with the Pancasila Student Profile in Indonesia. The efficacy of such programs relies on adapting global techniques to local contexts, ensuring that the curriculum is culturally relevant and viable within current resource limitations.

Personality competence

The research findings demonstrate that the effectiveness of teachers' personality competence within the Merdeka Curriculum is largely based on the rigorous application of norms and regulations in learning. Clearly defined and consistently enforced norms foster a conducive learning environment, which is vital for achieving the goals of the Merdeka Curriculum. Teachers must demonstrate adaptability, flexibility, and a positive attitude in applying these rules, ensuring that students understand and implement them effectively. To address diverse student needs, norms should be applied holistically and collaboratively, actively involving students in the learning process. Creativity and innovation on the part of teachers in managing classroom norms are essential, enabling students to develop a sense of shared responsibility in their education. Parental involvement and a safe, supportive learning environment are critical factors for success. Implementing the Merdeka Curriculum has positively influenced teacher motivation and professionalism, encouraging greater creativity and collaboration in nurturing students' potential. However, the increased workload for teachers highlights a significant challenge in implementation. Addressing this requires targeted efforts to enhance teachers' pedagogical and personal competencies to sustain the curriculum's focus on holistic student development.

From a global perspective, the challenges faced in implementing the Merdeka Curriculum align with similar reforms worldwide, where teachers are expected to balance traditional practices with progressive educational demands. For instance, curriculum reforms in Finland and Singapore also highlight the importance of teacher adaptability and student-centered learning, suggesting the necessity for ongoing professional development and institutional support. Policymakers should consider these international benchmarks to provide actionable strategies that alleviate teacher burdens while enhancing curriculum implementation.

The practical implications of these findings are profound for both policymakers and educators. Policymakers must address systemic challenges, such as teacher workload, by offering targeted training programs and additional resources to streamline curriculum demands. Integrating technology and collaborative teaching methods could further support teachers in managing classroom norms effectively. Educators, on the other hand, should focus on fostering professional learning

communities where best practices and innovative strategies are shared. Such collaborative efforts would enhance teacher competencies and contribute to the sustainable implementation of the Merdeka Curriculum.

This study reinforces existing theories on the critical role of teacher personality competence in fostering conducive learning environments. Previous research by Ahmad et al. (2017) highlighted the importance of stable, authoritative, and responsible teacher personalities in shaping student character. Similarly, Prahastina et al. (2024) emphasized the need for consistency and flexibility in applying norms and rules, aligning with the adaptive and creative roles required of teachers under the Merdeka Curriculum. Furthermore, findings from Yoto et al. (2024) underscore the significance of collaborative approaches that actively engage students in learning, echoing the global shift toward participatory education. The role of teachers in building harmonious relationships with parents and the community, as noted by Pantiwati et al. (2023), further complements the findings of this study. Lastly, Rohmah et al. (2024) assert that teacher professionalism and integrity drive holistic student development, paralleling the positive outcomes observed under the Merdeka Curriculum.

By situating these findings within a broader context, the study provides valuable insights for both national and international education stakeholders. Comparative analyses highlight that, while the Merdeka Curriculum faces unique challenges, its emphasis on teacher creativity, collaboration, and adaptability reflects global trends in curriculum reform. Addressing these challenges requires systemic interventions that empower educators and prioritize student-centered learning as a shared responsibility among all stakeholders.

Professional competence

The results indicate that educators' professional proficiency in understanding the Merdeka Curriculum is crucial to achieving learning success. A comprehensive and contextual understanding of the curriculum allows educators to effectively tailor education to meet the diverse needs of students. It is imperative for educators to possess extensive subject knowledge to present content in an engaging and relevant manner (Tang et al., 2017). However, challenges remain in its implementation, as not all educators have equal access to professional development opportunities or the essential skills required to apply these methodologies consistently. Addressing inequities in

teacher preparation and resource distribution is vital for overcoming these challenges.

A crucial element of this study is the focus on incorporating technology into the educational process, a fundamental principle of the Merdeka Curriculum. The research indicates that digitally proficient teachers enhance instructional effectiveness and student engagement. However, it also identifies obstacles, including unequal access to technology, insufficient digital literacy among even confident educators, and infrastructural limitations, particularly in rural areas. Technological competency is essential for contemporary education, although successful integration often requires systemic support, including investments in infrastructure and ongoing training (Andyani et al., 2020; Gudmundsdottir & Hatlevik, 2018).

The study emphasizes the importance of continuous professional development for educators, primarily through formal training, reflective practices, and collaboration. The “Merdeka Mengajar“ platform and professional networks are valuable resources, yet their adoption is hindered by obstacles such as time constraints, insufficient institutional support, and varying levels of teacher motivation. Training must be accessible and tailored to address these implementation gaps (Hunaepi & Suharta, 2024).

The findings reflect issues encountered in similar educational transformations worldwide. Comparative analyses with countries using competency-based curricula, such as Finland and Singapore, indicate that professional development is most effective when integrated within a supportive policy framework that encourages collaboration, provides mentorship opportunities, and ensures equitable resource distribution. Policymakers should consider adopting best practices from these contexts, including incentivizing professional development and incorporating feedback systems to continuously improve teacher training programs.

The implications for policymakers and educators are clear: substantial investment is essential to enhance teacher competencies and ensure the equitable implementation of the Merdeka Curriculum. Policymakers must prioritize funding for teacher training, particularly in technology integration, while addressing infrastructural and equity challenges that hinder widespread access. Furthermore, educators should actively engage in opportunities for professional development, utilizing platforms

such as “Merdeka Mengajar“ to adapt teaching methodologies to contemporary needs.

This study confirms that proficiency in teaching materials, effective use of technology, and a commitment to lifelong learning form the foundation of teachers’ professional competence. These elements not only enhance the quality of instruction but also increase the curriculum’s relevance to students’ needs in an increasingly globalized and technology-driven world (Caena & Vuorikari, 2022). Addressing these challenges and leveraging the practical implications of these findings will significantly improve the effective implementation of the Merdeka Curriculum, aligning it with global educational advancements.

Conclusions

This research highlights the transformative influence of the Merdeka Curriculum on multiple aspects of teacher competencies, including social, educational, personal, and professional dimensions. Teachers demonstrated significant improvements in social competency, particularly in communication and adaptability. The results emphasize enhanced collaboration, inclusive practices, and greater attention to diverse student needs, fostering a more dynamic and equitable educational environment. However, while many educators successfully transitioned, some continue to face challenges, underscoring the need for ongoing support and adjustment strategies.

The pedagogical competency within the Merdeka Curriculum reflects a shift toward a more student-centered and flexible learning approach. Educators must utilize diagnostic and non-cognitive assessments to better understand students, while prioritizing project-based and active learning methodologies. Despite these advancements, challenges such as large class sizes and varying levels of technological proficiency persist, indicating the need for strategies like class segmentation, additional instructional support, and continuous professional development to improve educational outcomes.

The consistent application of norms and rules enhances personal competence, fostering an effective learning environment. Educators are expected to demonstrate adaptability, innovation, and a positive attitude, encouraging students’ active participation in creating a collaborative classroom atmosphere. Parental involvement and a safe, nurturing environment are crucial for achieving the curriculum’s

objectives. The increased workload for educators highlights the need to balance responsibilities with opportunities for professional development.

Professional competence refers to educators' expertise in instructional content and the integration of technology. Despite noticeable progress, the need for more comprehensive and contextualized learning remains a challenge. Self-development activities, including formal training, collaborative practices, and the use of technological platforms such as "Merdeka Mengajar," are essential for enhancing teaching quality. Regular reflection and assessment further support professional growth, ensuring that teachers remain aligned with the curriculum's objectives.

Several limitations emerged during the study. The variability in teachers' adaptation to curricular changes suggests that the findings may not fully reflect all circumstances, particularly in regions with limited resources or restricted access to training. Additionally, while the research addresses technological integration, the extent of its impact on different classroom environments has not been extensively explored. The results are based on case studies, which may limit their generalizability to other educational systems or cultural contexts.

Future research could explore the impact of technology integration on student learning outcomes and teacher competence within the Merdeka Curriculum. Studies might investigate how digital technologies, such as interactive platforms and AI-driven assessments, enhance engagement and comprehension in various educational contexts. Additionally, evaluating the effectiveness of professional development programs in improving teachers' pedagogical and professional skills is essential. This includes examining the long-term effects of training on classroom management, new teaching techniques, and comprehensive learning strategies. Investigating the role of bidirectional communication between educators and students, as well as interprofessional collaboration among teachers, administrators, and parents, could provide valuable insights for creating a more supportive and effective educational environment. These areas of research will contribute to the successful implementation of the Merdeka Curriculum and support the continued development of Indonesia's educational system.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Strengthening teacher competence for leading and sustaining the implementation of the Merdeka Curriculum

Erna Kusumawati and Khoerul Umam

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Strengthening teacher competence for leading and sustaining the implementation of the Merdeka Curriculum

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ABSTRACT

The Merdeka Curriculum, implemented over the past three years, has highlighted a dynamic shift, impacting both teachers and students. This study employs a phenomenological qualitative approach, based on Miles and Huberman's framework, to evaluate the impact of the Merdeka Curriculum on teacher competence in Indonesia. The research involved teachers and educational stakeholders, particularly in public schools. Data were collected through participant observation, in-depth interviews, and documentation studies across 56 public high schools affiliated with the first wave of driving schools. The study applied Interpretative Phenomenological Analysis (IPA) and NVivo software to explore how participants interpret their personal and social realities. The findings provide a comprehensive understanding of the Merdeka Curriculum's impact on teacher competence, especially in fostering 21st-century professionalism in teaching. This research offers valuable insights for evaluating educational policies, with the primary output being a policy brief for the Indonesian government.

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Introduction

The substantial size of the workforce in Indonesia presents both a significant challenge and a considerable opportunity for fostering economic growth. However, a scarcity of skilled graduates is the primary cause of limited job absorption (Nugroho et al., 2018; Yeoh et al., 2017). This issue arises from the disparity between the knowledge and skills in the education sector and those required by the business sector. A comprehensive strategy that incorporates relevant knowledge and abilities is critical for preparing a higher-quality and more sustainable education system.

The biggest challenge in the current Indonesian education system is preparing skilled teachers to provide high-quality learning. Teachers, as professionals, are equipped with four competencies: social competency, pedagogical competency, personal competency, and professional competency (Nguyen et al., 2022; Siri et al., 2020). Through pedagogical and professional competencies, teachers can identify the skills that are urgently needed by students today, such as literacy, collaboration, creative thinking, and critical thinking—skills that support each other in improving the quality of students' abilities and workforce readiness. The personal abilities of teachers can motivate students to continue learning and developing with the times (König et al., 2020; Moser Opitz et al., 2020; Tran & O'Connor, 2024).

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The facts on the ground that separate knowledge and skills have prompted the Indonesian government to innovate in order to close the gap. Several countries, including Germany, Finland, China, and Japan, have aligned learning with work-related skills (Farah & Ridge, 2009; Sakaue et al., 2024; Wermke et al., 2024; Zhao & Lee, 2024). The German curriculum prepares students with both learning and skills simultaneously, with the hope of integrating knowledge and skills so that students can adapt quickly (Szakács-Behling, 2022). Finland also provides many opportunities for students to continue growing by reducing the study load, with the hope of enabling students to further explore knowledge through their environment and life experiences (Wermke et al., 2015). The Japanese curriculum prepares students to instill competencies essential for realising a sustainable society by connecting global issues faced in everyday life with their solutions (Kondo et al., 2024; Sakaue et al., 2024; Urushibara-Miyachi et al., 2024). The United Arab Emirates is also transforming its curriculum by concentrating on improving students' abilities in various areas, enabling them to develop their full potential through integration with the business world (Farah & Ridge, 2009).

The Indonesian government has attempted to bring knowledge and skills closer together by launching the Merdeka Curriculum. This curriculum is designed to integrate skills and knowledge with the aim of ensuring that Indonesian students are prepared to competently compete in the world of work, both nationally and internationally (Choppin et al., 2022). In its implementation, the Merdeka Curriculum also prepares teachers by focusing on four competencies, offering several teacher competency improvement programmes. The purpose of this study is to evaluate the extent of the impacts—both positive and negative—on the development of teacher competencies.

Merdeka Curriculum

Indonesia has implemented the Merdeka Curriculum as part of the government's transformation efforts to increase interest in reading, literacy, numeracy, and character development in students based on Pancasila values (Chen et al., 2021; Emawati et al., 2024). The Merdeka Curriculum focuses on the integration of knowledge with students' skills, with the aim that students can acquire better knowledge and skills. Additionally, the Merdeka Curriculum emphasises the importance of teacher professionalism in school implementation. In the implementation of the Merdeka Curriculum, teachers are provided with broad opportunities to use various sources of knowledge, not only textbooks but also information obtained through digital platforms and other related references (Wiryawan & Nurdin, 2024). The professional and personal competencies of teachers are greatly tested when obtaining additional information beyond textbooks, as teachers are required to read, search for, and find supplementary knowledge and information relevant to the lesson material to be taught (Hadi et al., 2023; Lemmrich & Ehmke, 2024; Susanto et al., 2022).

The Merdeka Curriculum is not only oriented towards achieving knowledge but also provides opportunities for students to develop their character in accordance with the concept of Pancasila. Student skills in problem-solving and collaboration are important elements in developing student character. Teachers who possess strong social and personal competencies will know how to take steps to develop student character (Cross, 1994). The important role of teachers in the implementation of the Merdeka Curriculum is supported by the government through various teacher competency development programmes, providing ample time for development. The impact of competency development among teachers in various regions of Indonesia is crucial to evaluate, as it contributes to the history of Indonesian curriculum development. This study will focus on the impact of the implementation of the Merdeka Curriculum on teacher competencies, including personal competency, pedagogical competency, social competency, and professional competency.

Teacher competence

Teacher competence in providing education plays a crucial role (Lemmrich & Ehmke, 2024; Nurpitriyani et al., 2022). In the implementation of the Merdeka Curriculum, teachers, acting as facilitators, apply pedagogical competence. The teacher's ability to manage the learning process in accordance with the established scenario is an essential element. The teacher's personal and social competencies in

classroom learning significantly influence the way teachers interact with students and colleagues (Ahmed et al., 2010; Tran & O'Connor, 2024). Teacher competence is described as a personal interpretation that can provide a positive example (Yang et al., 2021). The teacher's ability to maintain morals and provide a positive example significantly influences the formation of student character based on Pancasila values. The teacher's social competence is manifested in various actions that are directly experienced by students through coaching and social activities both inside and outside the classroom.

This study aims to measure the extent to which the implementation of the Merdeka Curriculum impacts the four teacher competencies. After the implementation of the Merdeka Curriculum, to what extent does the evaluation of the curriculum influence the improvement of teacher competence? If these competencies increase, the response from students and parents will lead to recognition, which may manifest in various forms of awards for schools and teachers. Over time, the enhancement of these teacher competencies has garnered attention from the government and school leaders. To what extent can schools provide recognition for this achievement? This positive effort needs to be sustained. What steps are schools taking to assess, maintain, and develop teacher competencies?

Research methods

This study employed a qualitative research methodology with a phenomenological approach to examine the relationship and impact of implementing the Merdeka Curriculum on teacher competencies. A qualitative design with a phenomenological approach was chosen because it allows for an in-depth understanding of complex social phenomena, such as teacher behaviour in implementing the Merdeka Curriculum and the positive impacts that can influence teacher competence. This design is well-suited for exploring how the Merdeka Curriculum program affects teacher competence, provides valuable experiences, and changes the way teachers teach classroom lessons—an aspect that quantitative methods may not fully capture. The phenomenological approach is ideal for this study because it investigates a specific theme. This approach also allows for the examination of multiple data sources—such as interviews, observations, and document analysis—to provide a comprehensive view of the program and its impact on teacher competence.

Participants

The research was conducted in public schools across 10 provinces in Indonesia, including primary schools, junior high schools, senior high schools, and vocational schools, all of which have implemented the Merdeka Curriculum in their learning processes. To ensure equal representation from each type of school and category of teachers, this study established two primary criteria for selecting the research population: (1) schools must have implemented the Merdeka Curriculum for at least one year, and (2) schools must have at least five driving teachers to support the implementation of the Merdeka Curriculum in the learning process. Based on these criteria, 26 schools were selected, comprising five primary schools, eight junior high schools, seven senior high schools, and six vocational schools. The researchers selected five teachers from each school for in-depth interviews. This study employs a stratified random sampling technique to ensure diversity and balanced representation. Teachers are grouped according to their school levels—primary, junior high, senior high, and vocational schools. This technique is combined with simple random sampling to provide equal opportunities for each respondent to participate in the study.

Data collection

The research data collection was conducted using three methods: in-depth interviews, observations, and field notes, to ensure the triangulation of data sources and the validity and reliability of the findings. Data collection took place across 10 provinces in Indonesia. The selected schools met two criteria: implementing the Merdeka Curriculum for at least one year and having a driving teacher. The research subjects were required to participate in the driving teacher training to understand the Merdeka Curriculum as set by the Ministry of Education and Culture.

Interviews were conducted with 52 teachers who voluntarily registered to share their experiences implementing the Merdeka Curriculum. They were selected using purposive sampling to ensure relevance to the research questions. The participants, aged between 24 and 50 years, represented a variety of educational backgrounds and teaching experiences. Interviews were conducted offline, with schedules arranged according to each participant's preference for comfort and privacy. Each interview lasted between 30 and 60 minutes, allowing for in-depth exploration of the participants' experiences. The interview protocol, developed based on existing educational frameworks, included open-ended questions to obtain detailed responses on participants' reasons for choosing the Merdeka Curriculum implementation program, the challenges faced, and its impact on teacher competency. In-depth interviews were selected to gain nuanced insights into participants' thoughts and experiences, enabling a comprehensive understanding of the motivations behind teachers' implementation of the Merdeka Curriculum and the positive impacts on various aspects of teacher competency.

Observations were conducted at schools to capture the dynamics of teacher interactions and active student involvement during the learning process. These observations took place over two weeks, focusing on the four teacher competencies being studied: social competence, pedagogical competence, personal competence, and professional competence. Participants in this process were teachers from schools that had met the previously established criteria. The selected teachers also possessed strong communication skills, making it easier for researchers to obtain comprehensive information. Observations complemented the interviews by providing real-time data on how the program was implemented. Various documents were examined for document analysis, such as lesson plans, student worksheets, and student responses related to the implementation of the Merdeka Curriculum. These documents were obtained directly from participants and each school. Document analysis provided additional data, offering insights into the significant impact of teacher competencies and helping to triangulate information obtained from the interviews and observations.

Data analysis

Data analysis was conducted in two phases. The initial phase involved thematic analysis, following the framework of Miles and Huberman (1994). This phase began with data reduction, which included transcribing interview data and identifying predetermined themes aligned with the four teacher competencies: social, pedagogical, personal, and professional competence, all influenced by the implementation of the Merdeka Curriculum. Subsequently, data visualization was used to organise themes and subthemes visually, enhancing the clarity and comprehensibility of the findings. This process culminated in verification and conclusion drawing, where themes were synthesised to determine the impact of Merdeka Curriculum implementation on teacher competencies within the school learning environment.

The second phase utilised the capabilities of NVivo software for in-depth data coding. Interview data was meticulously imported into NVivo, enabling researchers to conduct more nuanced coding procedures. The data was categorised into predetermined themes and subthemes corresponding to the four teacher competencies: social, pedagogical, personal, and professional competence. This cross-data coding facilitated a more refined analysis by enabling the identification of recurrent word patterns, providing deeper insights into the collected data. The identification of words with similar characteristics strengthened the thematic framework and offered a more nuanced perspective on how the implementation of the Merdeka Curriculum impacts teacher competencies.

Findings and discussion

Findings

Social competence

Communication skills. Figure 1 displays the results of data analysis regarding the impact of the Merdeka Curriculum on improving teachers' social competence in communication. Improved communication skills are highlighted as the main finding, with several specific findings emerging from the research. These findings include enhanced student achievement, adjustments in the implementation of

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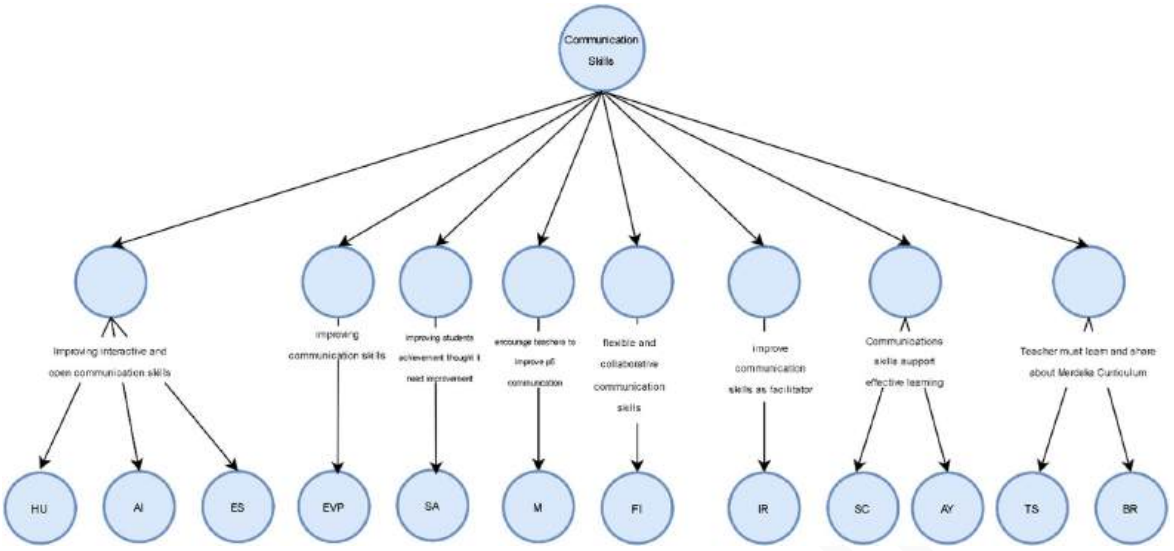

Figure 1. The impact of the Merdeka curriculum on teachers' communication skills (Project Maps).

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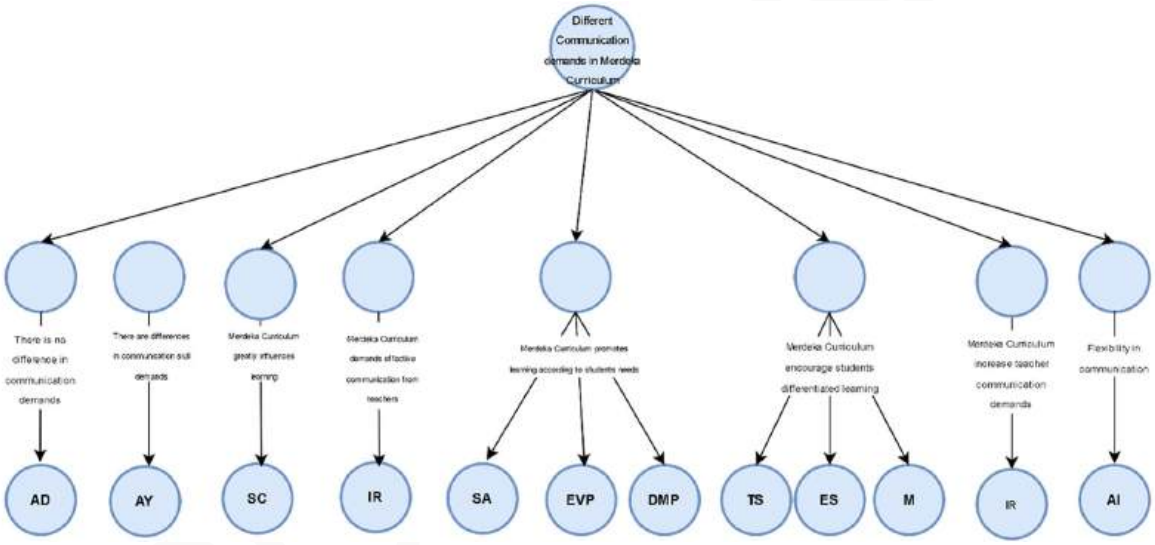

Figure 2. Different communication demands in the Merdeka curriculum (VPM).

the Merdeka Curriculum, encouragement for teachers to improve communication patterns—particularly in implementing P5—and greater flexibility in communication during collaboration. Teachers are also expected to be effective facilitators in the learning process, with communication skills that support the achievement of educational goals. These results indicate that the Merdeka Curriculum brings positive changes to teachers' communication skills, both in guiding students and collaborating with other parties, although further adjustments are needed for broader application.

Figure 2 presents the results of data analysis regarding differences in communication demands in the Merdeka Curriculum. The research findings indicate that the Merdeka Curriculum introduces different communication demands compared to the previous curriculum. Some respondents, such as AD, reported no significant differences in communication demands. However, other respondents, including AY and SC, emphasized a significant change in communication demands, with the Merdeka Curriculum impacting overall learning and requiring more effective communication from IR.

The following interview excerpts further support the research findings:

FI and SA noted that the Merdeka Curriculum increases the demands on teachers' communication skills, requiring them to be more flexible and focused on meeting student needs. This view is also supported by HU, who emphasized that the Merdeka Curriculum promotes learning that caters to students'

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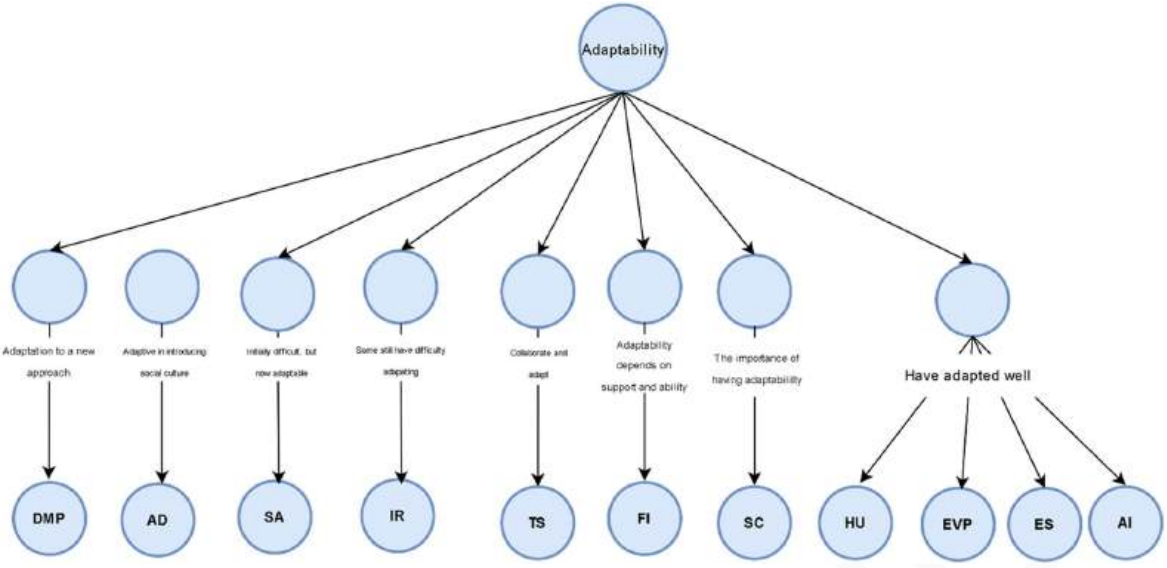

Figure 3. VPM Adaptability in Implementing the Merdeka Curriculum.

individual needs. Additionally, EVP and DMP highlighted that differentiated learning is now prioritized, necessitating more responsive communication from teachers.

Furthermore, TS and ES emphasized the importance of teachers fostering two-way communication with students, while M and AI stressed the need for flexibility in communication to meet the demands of more effective learning under the Merdeka Curriculum. Overall, the study reveals that the Merdeka Curriculum introduces significant changes to the demands placed on teacher communication, which must now be more flexible, effective, and tailored to student needs.

The following excerpts are from the researcher's interview with the participant:

Adaptability. Figure 3 displays the results of data analysis related to adaptability in implementing the Merdeka Curriculum. The study found that teachers' adaptability to the Merdeka Curriculum varies. Some teachers, such as DMP, reported having successfully adapted to the new approach introduced by the curriculum. Meanwhile, AD and SA noted that their adaptation process also involved understanding the socio-cultural aspects of students, which they identified as key to success in the teaching and learning process.

Some teachers, such as IR, stated that although adapting to the changes introduced by the Merdeka Curriculum was initially challenging, they have now successfully adjusted. However, findings from TS and FI indicate that some teachers continue to face difficulties in meeting the new demands. This suggests that the adaptation process is not uniform across all settings.

Additionally, the importance of support and collaboration in the adaptation process was emphasized by respondents such as SC and M, who noted that adaptability is strongly influenced by a supportive work environment and an individual's willingness to continue learning. Teachers like HU and EVP stated that they have successfully adapted, while other interviewees, such as ES and AI, highlighted the significance of being adaptable when facing curriculum changes.

Inclusive behavior. Figure 4 presents the results of the research analysis regarding differences in inclusive and non-discriminatory behavior exhibited by teachers in implementing the Merdeka Curriculum. The findings show that the Merdeka Curriculum fosters inclusive, fair, and non-discriminatory behavior within the educational environment. Teachers such as SC, SA, and FI confirmed that the curriculum motivates them to adopt more inclusive and equitable practices, ensuring no discrimination toward students.

Furthermore, HU and AI pointed out that the Merdeka Curriculum encourages inclusiveness and greater learning freedom for students, with learning tailored to each individual's competencies and needs, as noted by AY and AD. TS highlighted that differentiated learning is a crucial component of the

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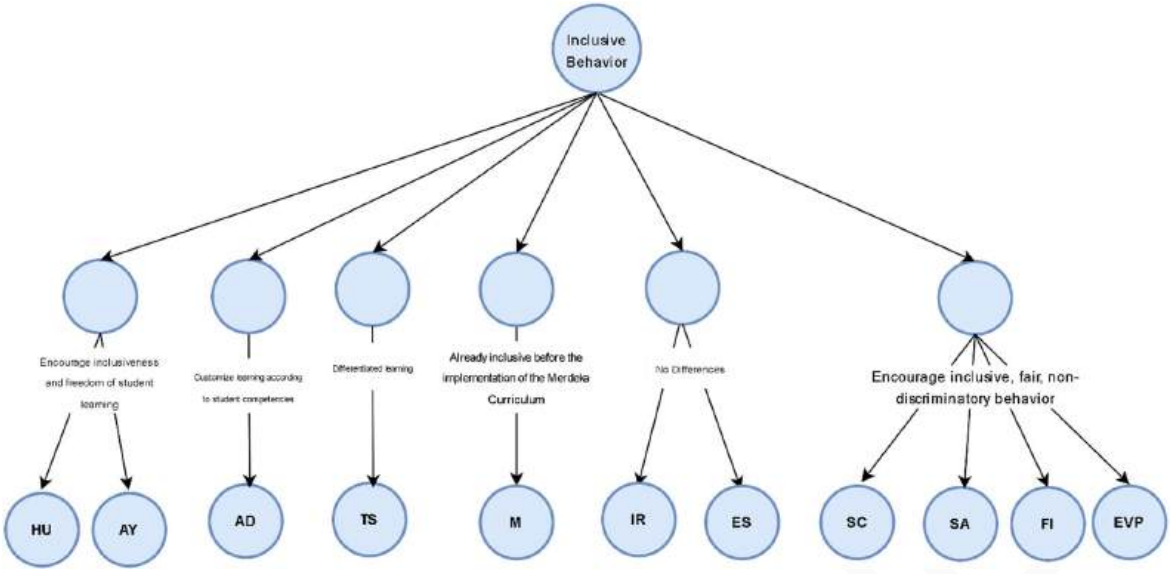

Figure 4. VPM for inclusive behavior in implementing the Merdeka curriculum.

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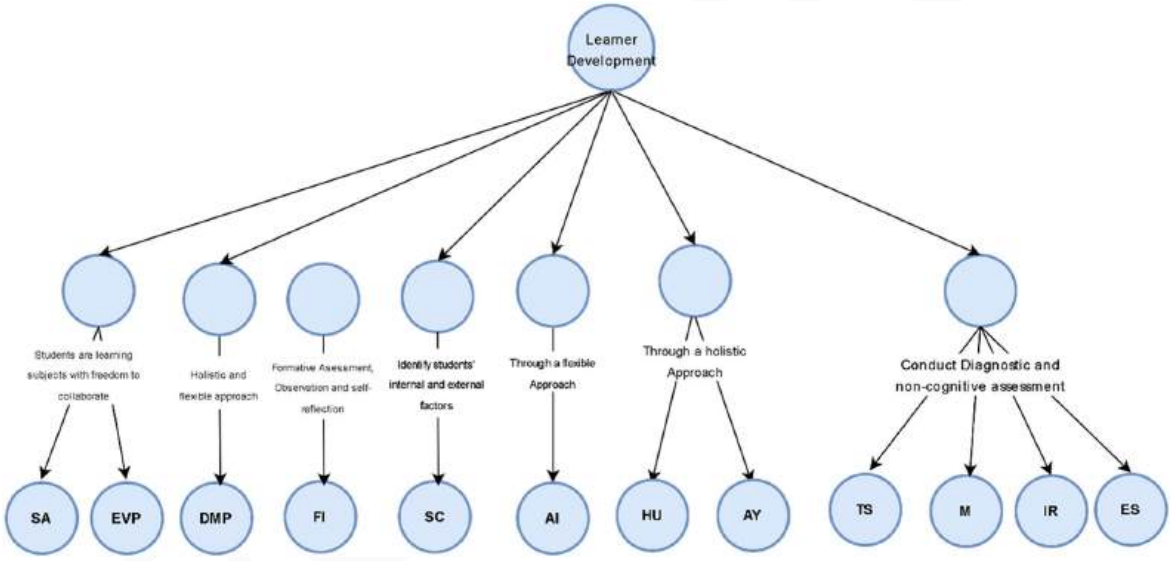

Figure 5. VPM for the impact of the Merdeka Curriculum on learner development.

Merdeka Curriculum, where teachers give greater attention to diverse learning needs. Meanwhile, M revealed that inclusive behavior had been practiced even before the implementation of the Merdeka Curriculum, and IR and ES stated that there was no significant change in inclusive behavior since its implementation.

Pedagogical competence

Learner development. Figure 5 displays the research findings related to learner development in the Merdeka Curriculum. The results show that learner development within this curriculum is approached through various strategies. Teachers such as TS and M emphasize the importance of conducting diagnostic and non-cognitive assessments to understand students' overall development. Additionally, ES and AI stress the need for a flexible learning approach to meet the individual needs of students.

A holistic approach to understanding students, as emphasized by HU, is crucial for developing learners, where both academic and non-academic aspects are equally considered. Teachers like AY also recognize the importance of understanding students' internal and external factors to provide more tailored support in learning.

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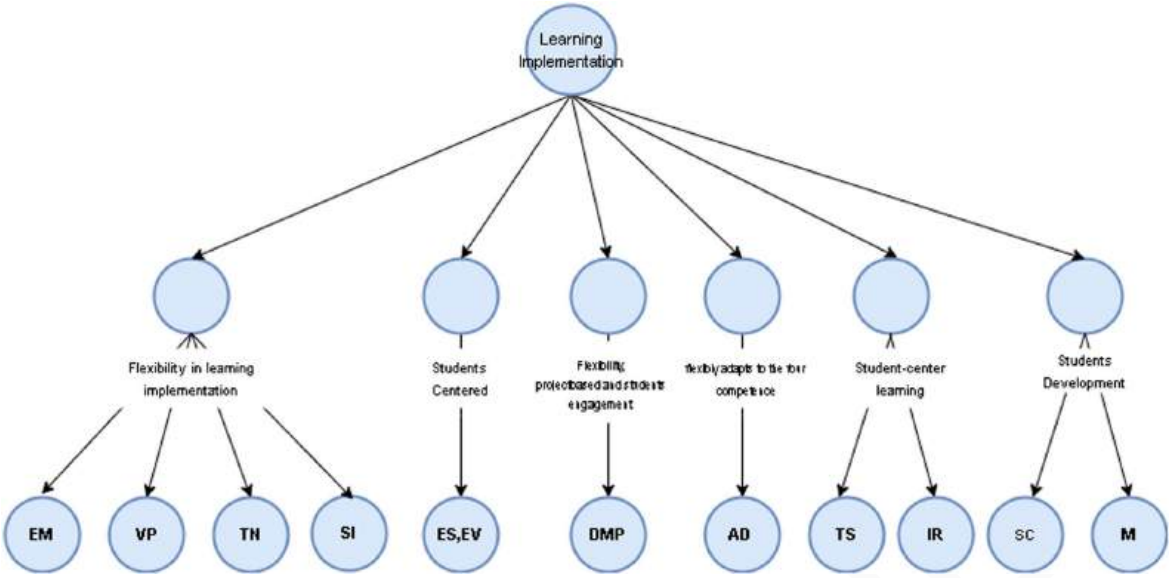

Figure 6. VPM for the implementation of Merdeka curriculum learning.

Students are seen as active participants in the learning process with the freedom to collaborate, as reported by SA, where they are given more autonomy in determining how they learn. Additionally, the holistic and flexible approach to learning, highlighted by EVP and DMP, underscores the importance of adapting teaching methods to enhance student engagement. According to FI, formative assessments, observations, and self-reflection are integral to the learning process, while AD suggested that short evaluations at the end of lessons are an effective way to assess students' achievements and progress.

Learning implementation. Figure 6 presents the results of the research findings regarding the implementation of learning in the Merdeka Curriculum. These findings indicate that the Merdeka Curriculum offers greater flexibility compared to the previous curriculum. Teachers such as AY, EVP, and FI emphasized that this flexibility allows for the adjustment of materials based on students' needs and the learning context. Additionally, HU and SA revealed that learning is more student-centered, with students given greater autonomy to determine how they learn based on their interests and abilities.

Project-based approaches and active student engagement in learning are also key focuses of the Merdeka Curriculum, as shared by AI and ES. Teachers such as DMP and AD emphasized the importance of adjusting learning to the four competencies—spiritual, social, knowledge, and skills—flexibly, considering time and students' learning needs. TS and IR highlighted that learning in the Merdeka Curriculum is tailored to students' individual needs, enabling a more personalized approach. Finally, the development of student competencies is the primary goal of this learning implementation, as expressed by SC and M.

Figure 7 presents the results of the research analysis regarding the assessment of the adequacy of teachers' pedagogical competence in implementing the Merdeka Curriculum. The findings of this study reveal three key insights.

First, the pedagogical competence that teachers currently possess is considered insufficient, primarily because they need to expand their knowledge and skills, as noted by SC, M, and IR.

The second finding indicates that pedagogical competence is severely limited when the number of students in a class exceeds a reasonable capacity, as stated by AY and AD. This situation necessitates strategies such as class division or additional supporting teachers to manage students effectively.

The third finding highlights the importance of improving and adjusting pedagogical competencies to meet the demands of the Merdeka Curriculum. Teachers such as TS, FI, and HU emphasized that integrating technology and adapting teaching methods are essential to accommodate the needs of more flexible and project-based learning.

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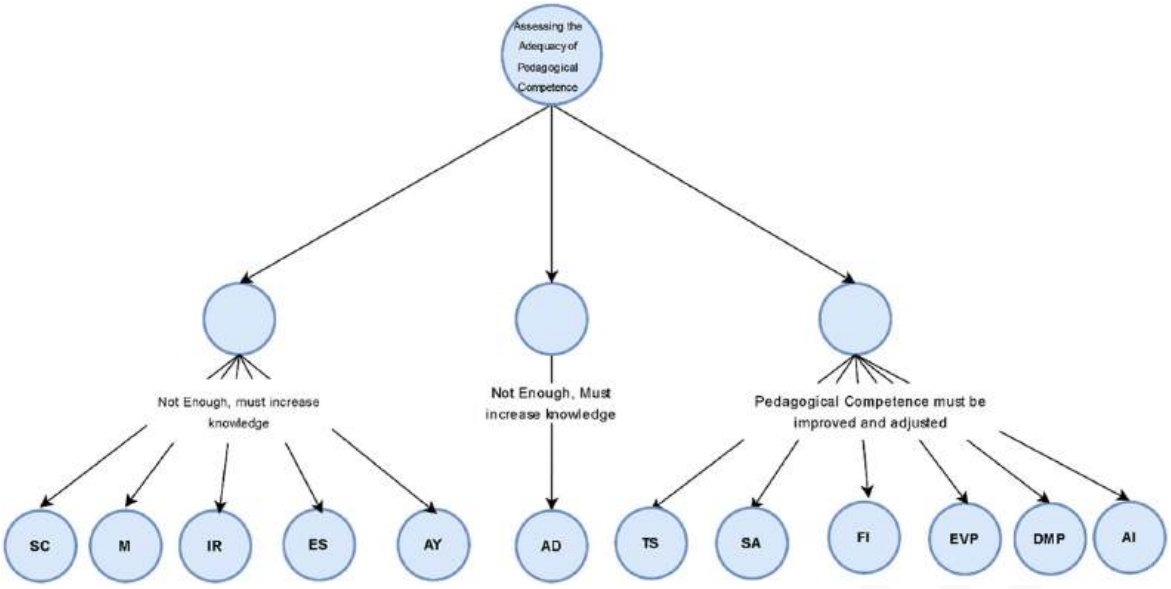

Figure 7. VPM in assessing pedagogical competence adequacy in the Merdeka curriculum.

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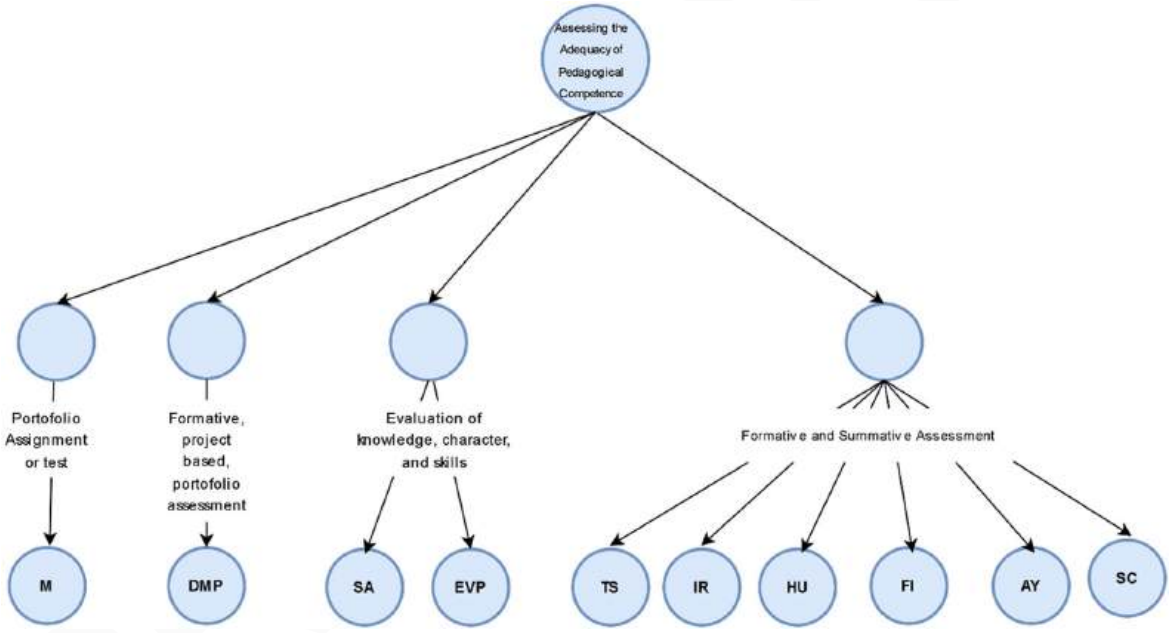

Figure 8. VPM for learning evaluation in the Merdeka curriculum.

Learning evaluation. Figure 8 presents the results of the research findings regarding learning evaluation in the Merdeka Curriculum. The research indicates that learning evaluation in the Merdeka Curriculum is carried out through various approaches that are more flexible and diverse compared to the previous curriculum. Portfolio-based evaluation, assignments, and tests are among the primary methods. Additionally, project-based formative evaluations, portfolios, and performance assessments are used to assess students' overall skills, as revealed by DMP and SA.

Evaluation in the Merdeka Curriculum emphasizes a holistic assessment that includes knowledge, character, and skills, as described by EVP. Both formative and summative assessments are also key components of the evaluation process, as noted by TS, IR, and HU, with a focus on continuous monitoring of student development.

Furthermore, the research highlights the importance of diagnostic, formative, and summative assessments in providing a comprehensive picture of student achievement, as expressed by SC, ES, and AD.

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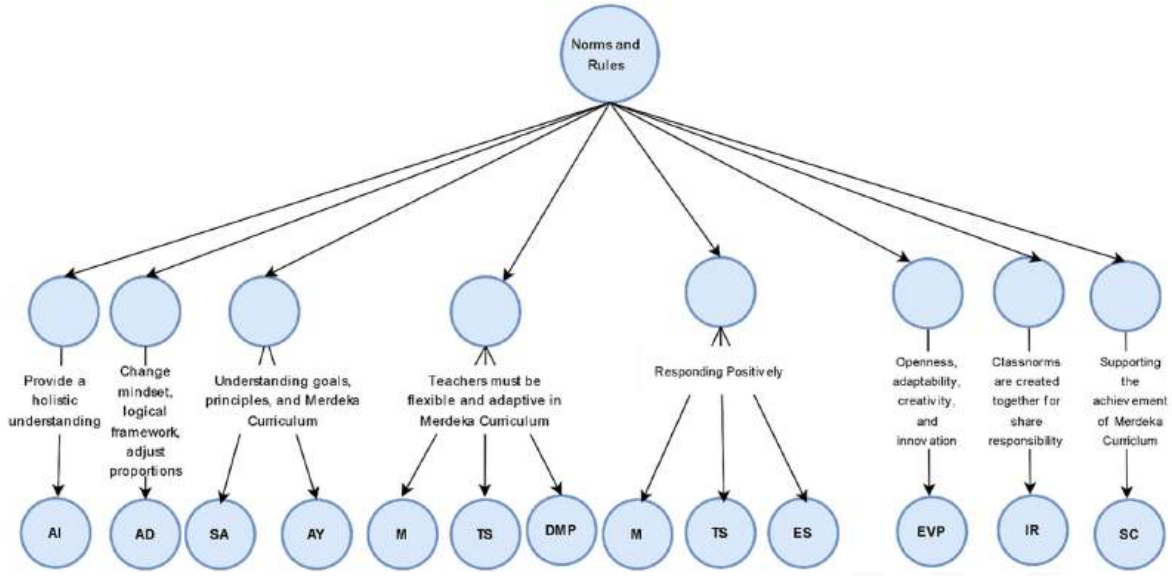

Figure 9. VPM in addressing norms and rules in the curriculum.

Personality competence

Norms and rules. The research findings regarding personality competence related to norms and rules in learning reveal that norms and rules play a crucial role in fostering a learning environment that supports the achievement of Merdeka Curriculum goals. AI emphasized the importance of providing students with a holistic understanding of the rules, while AD highlighted the need for mental shifts and logical adjustments when applying rules and learning proportions. Understanding the principles and objectives of the Merdeka Curriculum, as noted by SA and AY, serves as an important foundation for adjusting classroom norms (Figure 9).

Teachers must be flexible and adaptive in implementing the Merdeka Curriculum, as stated by HU and FI, ensuring that norms and rules remain effective. DMP from SMPN 122 added that adopting a positive attitude toward the rules can enhance their effectiveness, a sentiment echoed by M and TS.

Openness, adaptation, creativity, and innovation in managing classroom norms with students, as explained by ES and EVP, foster a sense of shared responsibility. Additionally, clear and consistent norms are essential for achieving learning objectives, as expressed by IR and SC.

Attitude. The findings highlight several key aspects of teacher attitudes necessary to support effective learning within the Merdeka Curriculum. First and foremost, teachers must demonstrate adaptability, openness, collaboration, empathy, and leadership skills, as emphasized by AY, DMP, HU, and IR. These qualities are essential for fostering dynamic learning environments that prioritize students' needs and promote engagement and motivation (Figure 10).

Additionally, it is crucial to consider the development of students, as the focal point of the educational process. AI and ES stress that learning should be directed toward meeting the diverse needs and unlocking the potential of each student. This individualized approach ensures that every learner is given the opportunity to thrive based on their abilities and interests.

Moreover, the role of parents in the learning process cannot be overlooked. Active involvement from parents, as highlighted by SA, is essential for creating a supportive and collaborative educational ecosystem. Teachers must also closely monitor students' growth and development, understand their unique characteristics, and provide the necessary support for their overall well-being, as noted by AD.

Furthermore, teachers are encouraged to create learning spaces that facilitate student exploration and character development. As SC explains, these spaces should foster creativity and critical thinking. In addition, teachers must ensure that the learning environment is comfortable and supportive, as mentioned by FI, TS, and EVP, as this is vital for sustaining students' engagement and enhancing the effectiveness of the learning process.

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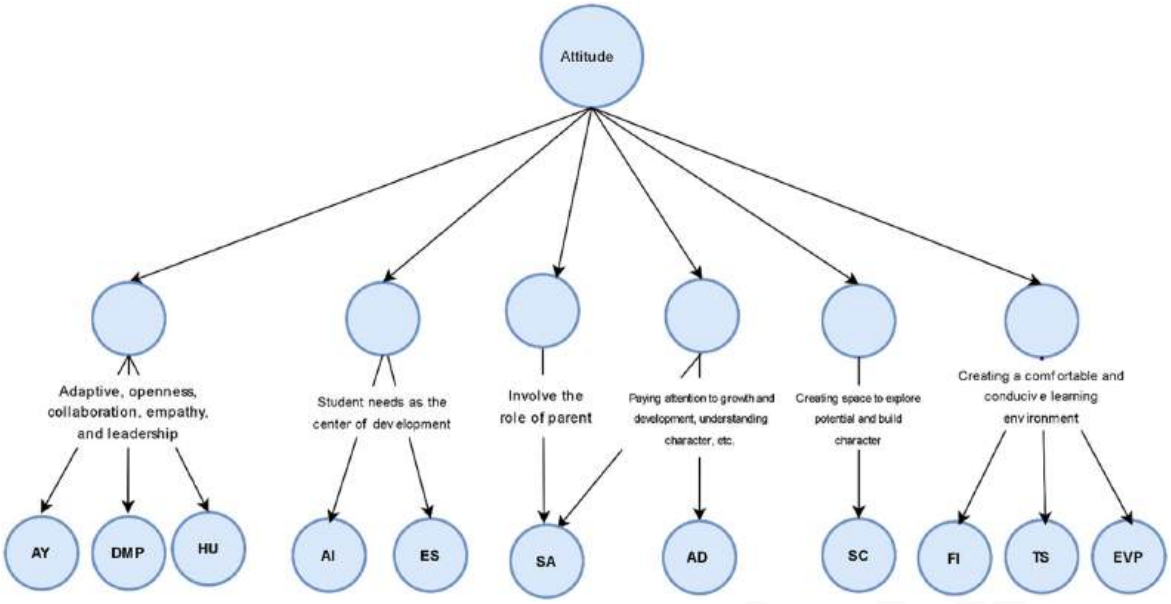

Figure 10. VPM attitudes teachers must demonstrate in implementing the Merdeka Curriculum.

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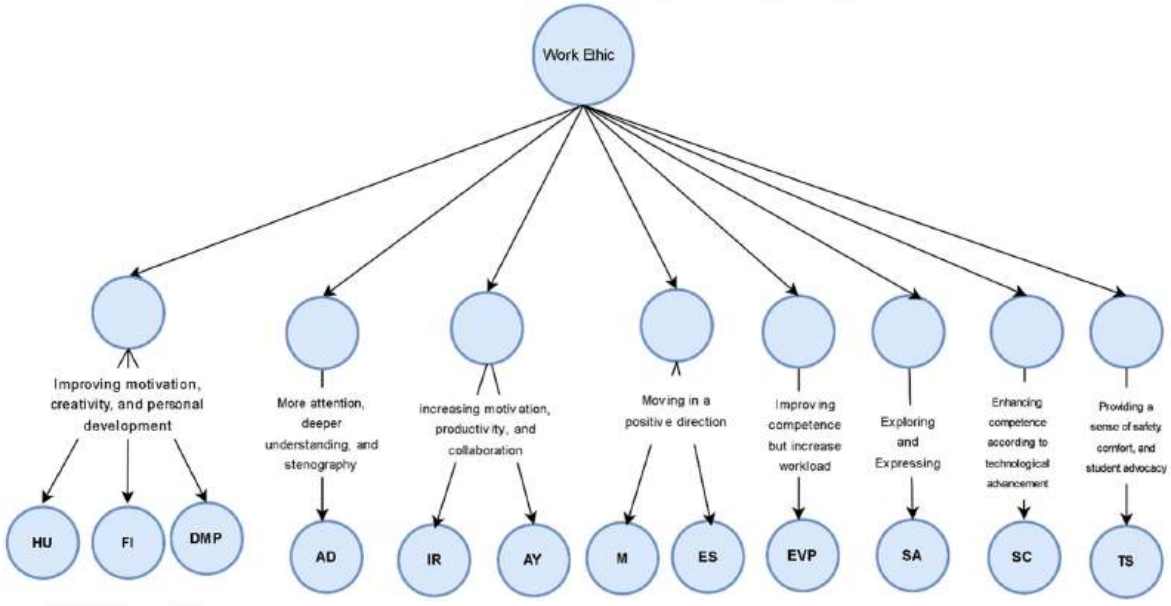

Figure 11. VPM of the impact of implementing the Merdeka curriculum on work ethics.

Work ethic. This finding shows that the implementation of the Merdeka Curriculum has a significant impact on increasing teacher motivation, creativity, and professional development. HU, FI, and DMP reported that the Merdeka Curriculum encourages teachers to be more creative and engaged in professional development (Figure 11).

Teachers are also placing greater emphasis on understanding students' needs and deepening skills, such as stenography, to take notes more effectively, as shared by AI and AD. Improved motivation, productivity, and collaboration were also reflected in the findings of IR and AY, who indicated that the Merdeka Curriculum fosters better cooperation between teachers and students.

Positive impacts were also observed in the improvement of work ethic, with many teachers reporting positive changes in their teaching approaches, as expressed by M and ES. However, some teachers, such as EVP, revealed that the increase in teacher competencies also resulted in an increased workload.

Teachers like SA and SC noted that the Merdeka Curriculum offers opportunities to explore and adapt to technological developments and adjust competencies in line with current times. Additionally, the Merdeka Curriculum encourages teachers to create a safe and comfortable learning environment that benefits students, as stated by TS.

Professional competence

Material mastery. The research findings presented in Figure 12 highlight the importance of professional competence, particularly in mastering the material within the Merdeka Curriculum. This finding indicates that teachers' mastery of teaching materials is a crucial element in the successful implementation of the Merdeka Curriculum.

SC emphasized that mastery of the material is an integral part of a teacher's professional competence. SA and EVP stressed that a sufficient and in-depth understanding of the material is essential for effectively implementing the Merdeka Curriculum. HU added that it is important for teachers to adjust and adapt materials to meet students' needs.

Teachers must also continually improve their competence in mastering the material, as noted by TS and FI, who highlighted the importance of understanding the context of learning. However, some teachers, such as M, acknowledged that mastery of the material still needs improvement, particularly in applying contextual and holistic learning, as expressed by AI.

Although some teachers, such as ES and IR, have demonstrated improved competence, others feel they are still in the process of adapting to the Merdeka Curriculum materials. AD and AY emphasized that their mastery of the material has not yet reached its full potential, although they are making efforts to improve.

DMP emphasized that understanding concepts, connecting materials, and applying learning are key components of the Merdeka Curriculum, requiring ongoing improvement and adjustment from teachers.

Use of technology

Figure 13 highlights the pivotal role technology plays in enriching learning, particularly within the context of the Merdeka Curriculum. According to AD, EVP, and H, technology has significantly contributed to creating more interactive learning experiences in the classroom. Additionally, it provides visually engaging learning experiences, which enhance students' comprehension of the material.

Many teachers, including TS, AY, and DMP, have integrated technology into their teaching methods, utilizing various platforms and tools to support the learning process. These educators have observed

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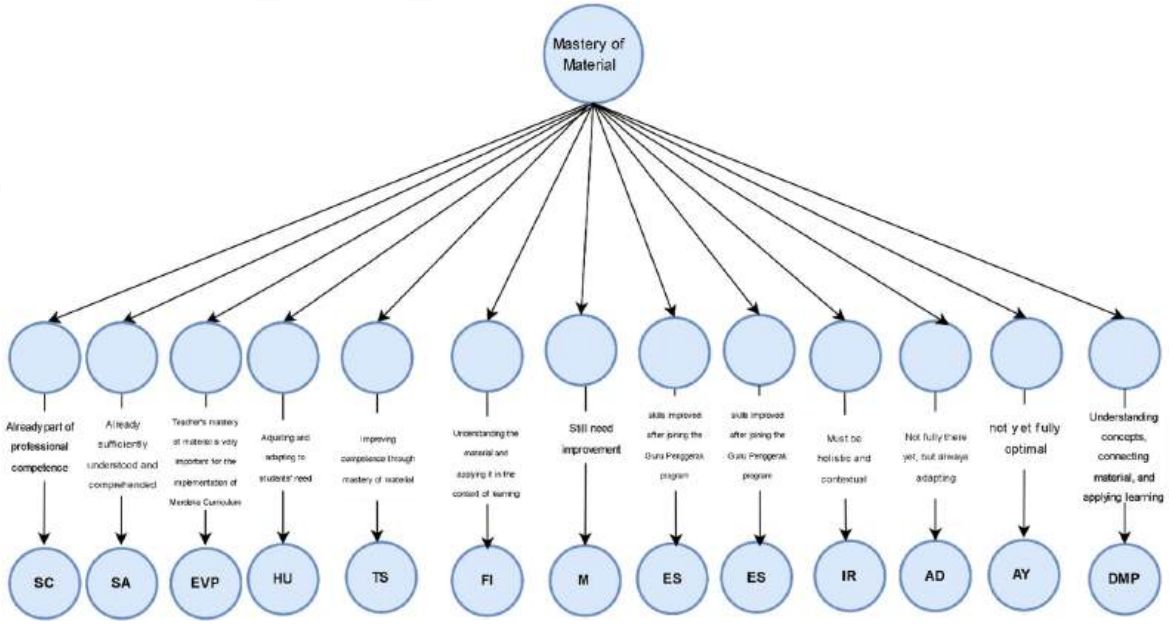

Figure 12. VPM of professional competence and mastery of materials in the curriculum.

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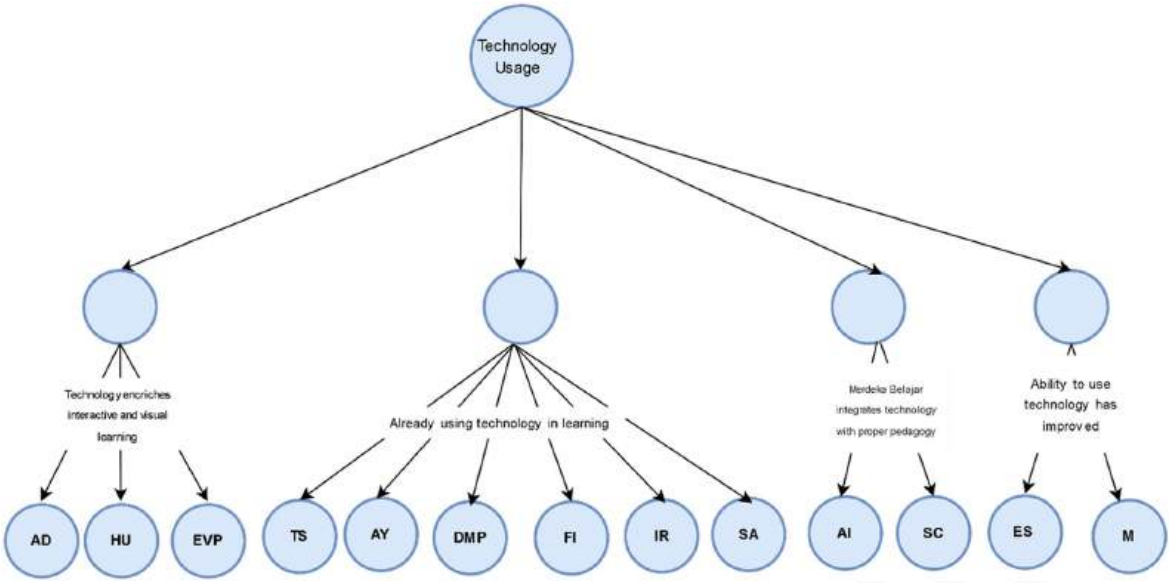

Figure 13. VPM on the use of technology in the Merdeka Curriculum.

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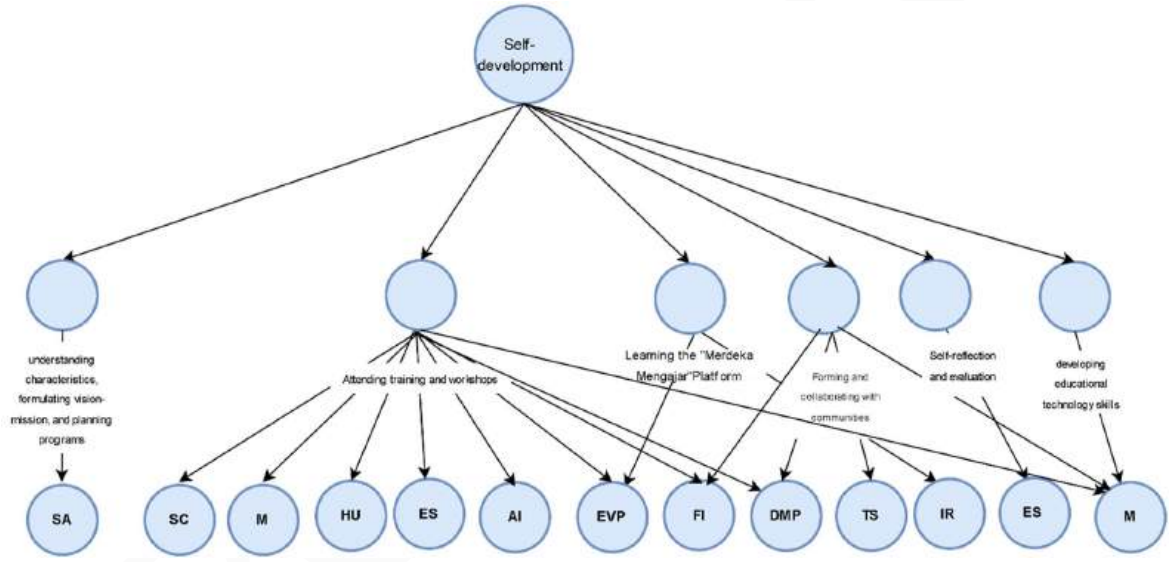

Figure 14. VPM of self-development in enhancing professional competence within the Merdeka curriculum.

that the Merdeka Curriculum encourages them to blend technology with appropriate pedagogical strategies, as emphasized by AI and SC. This fusion enables a more holistic and relevant learning experience, catering to students' diverse needs and fostering a deeper understanding of the subject matter.

Moreover, teachers' ability to utilize technology has been steadily increasing, as indicated by ES and M. These educators have become more proficient in leveraging various digital tools that support project-based learning, collaborative efforts, and formative assessments. This growing technological competence is empowering teachers to create dynamic and flexible learning environments, reflecting the evolving demands of the modern educational landscape.

Self-development. The research findings regarding professional competence focus on teacher self-development within the context of the Merdeka Curriculum. These findings highlight that self-development is a crucial factor in improving teachers' abilities and effectiveness in implementing the Merdeka Curriculum (Figure 14).

SA and SC emphasized the importance of understanding the characteristics of the education unit, developing a clear vision and mission, and planning appropriate learning programs. Teachers such as M, HU, and ES actively participate in training and workshops to enhance their professional competencies.

In addition to formal training, teachers also engage with the "Merdeka Mengajar" platform to better understand and apply Merdeka Curriculum concepts in the teaching and learning process. Teachers like FI and EVP use this platform to support classroom learning. Collaboration with professional communities is also considered vital by teachers such as IR and TS, who noted that such collaboration helps enrich learning insights and practices. Moreover, periodic self-reflection and evaluation, as highlighted by AD, enable teachers to continuously improve the quality of their teaching.

Discussion

Social competence

The findings highlighted significant improvements in teachers' communication and adaptation skills under the Merdeka Curriculum. Teachers demonstrated increased flexibility in communication during collaboration, developed facilitation abilities, and responded more effectively to the diverse demands of students. The Merdeka Curriculum fosters an inclusive, equitable, and non-discriminatory learning environment, tailoring education to the individual competencies of each student. However, the adaptation process among teachers remains uneven, with some facing notable challenges. These findings echo broader concerns in curriculum implementation, as teachers' preparedness and ability to adapt to systemic changes vary widely (Caena & Vuorikari, 2022; Rencher et al., 1978). While the Merdeka Curriculum has led to positive changes in teachers' social competencies—especially in communication, adaptation, and inclusive behavior—future adjustments are necessary in certain areas.

The practical implications of these findings are significant for policymakers and educators. For policymakers, the research emphasizes the importance of targeted professional development programs and continuous support to ensure that teachers can effectively navigate these changes. While the Merdeka Curriculum offers a promising framework for inclusive education, the uneven pace at which teachers adapt suggests the need for more robust, localized support structures (Caena & Vuorikari, 2022; Cross, 1994). For educators, fostering an inclusive learning environment goes beyond implementing new teaching strategies; it involves mastering social competencies such as conflict management, team collaboration, and a deep understanding of student diversity. These skills are essential in creating a dynamic, responsive classroom that aligns with the goals of the Merdeka Curriculum.

Comparative studies from other global contexts offer additional perspective on these challenges. For example, studies in the United States and the United Kingdom have shown similar struggles in implementing inclusive curricula, particularly concerning the professional development of teachers and the integration of new technologies (Johansson et al., 2014). In both contexts, a key challenge has been the alignment of curriculum changes with teachers' pre-existing skills and the varying levels of institutional support available. While the Merdeka Curriculum has its own unique cultural and educational context, the global trend highlights that substantial teacher training and systemic support are critical in ensuring the success of inclusive education reforms.

Furthermore, the research findings emphasize the importance of teachers' ability to build strong networks within the educational ecosystem. Teachers in this study demonstrated improved social interaction skills with students, colleagues, and parents, contributing to a more inclusive and supportive environment. Teachers' social competence—including the ability to communicate effectively and manage conflict—plays a pivotal role in creating a collaborative and inclusive classroom (Pantiwati et al., 2023; Siri et al., 2020). Globally, studies on teachers' social competence, such as those by Caena and Vuorikari (2022), Lindström et al. (2024), and Reagan and Pratte (1973), underline that effective communication and teamwork are essential for fostering a harmonious learning environment. Teachers must act not only as instructors but also as facilitators of collaboration within the broader school community.

Considering these challenges and opportunities, while the Merdeka Curriculum has made notable strides in improving teachers' social competencies, further investments in professional development are crucial. Teachers need ongoing training to adapt to evolving pedagogical practices, manage new educational technologies, and respond to the diverse demands of students. This is particularly pertinent in a global context where educational reforms often encounter resistance due to inadequate training or a lack of support for teachers (Cross, 1994). Policymakers must prioritize the creation of support systems

that equip educators to navigate these changes, ensuring that the goals of the Merdeka Curriculum are met and that inclusive, equitable education becomes a reality for all students.

Pedagogical competence

The implementation of the Merdeka Curriculum poses a number of challenges that can impact its effectiveness. A major concern is the large class size, which hinders teachers' ability to provide individualized attention and tailor learning experiences to the diverse needs of students. This is a common issue not only in Indonesia but also in many other countries with limited resources, such as India and Brazil, where class sizes often exceed 40 students. Additionally, while the Merdeka Curriculum encourages a shift toward technology integration and student-centered learning, teachers often lack the necessary training and resources to make these transitions successfully. Short online training programs are insufficient in helping teachers adapt to these new methods, leaving many without the technological proficiency needed for effective implementation (Hartshorne et al., 2020; Hew et al., 2020; Mahmood, 2021). Furthermore, resource constraints, such as insufficient teaching assistants and teaching tools, add to the difficulties teachers face in adapting their methods to large, diverse classrooms. These resource limitations prevent teachers from fully engaging with every student, reducing the overall effectiveness of the curriculum (Pantiwati et al., 2023).

The findings from the research offer several practical implications for policymakers and educators to improve the implementation of the Merdeka Curriculum. First, there is a clear need for policymakers to invest in continuous, accessible teacher training programs that focus on both pedagogical innovation and technological integration. Equipping instructors with the necessary resources to effectively engage students—primarily through project-based learning and technology-enhanced methods—can facilitate the successful realization of the curriculum's student-centered approach. Additionally, to address the challenge of large class sizes, class division strategies and the use of teaching assistants are practical solutions that could significantly enhance the quality of instruction. Policymakers should prioritize these strategies and allocate resources to ensure that teachers are supported in managing large classrooms. Another key implication is the shift toward holistic student assessments, which track not only academic progress but also socio-emotional development. Educators' assessment frameworks should incorporate a broader range of evaluative methods, such as portfolios and performance assessments, to reflect the diverse aspects of students' growth.

A comprehensive, global viewpoint indicates that the issues and solutions associated with implementing the Merdeka Curriculum are not exclusive to Indonesia. The prevalence of large class sizes is a significant concern in nations with constrained educational resources, such as India and Brazil. Overcoming this obstacle necessitates systematic support through resource allocation and the employment of teaching assistants—tactics that have been effectively executed in other nations confronting analogous issues (Mahmood, 2021). The global trend of integrating technology in education is apparent in numerous nations; nevertheless, its effectiveness is largely contingent upon the training and preparedness of educators. Finland has made substantial investments in digital tools and teacher professional development to facilitate efficient technology integration. This comparative analysis indicates that although the Merdeka Curriculum's emphasis on technology and student-centered learning corresponds with international best practices, local teacher readiness and infrastructure enhancements are essential for its complete efficacy.

Additionally, the worldwide transition toward comprehensive evaluations, particularly those emphasizing socio-emotional development, reinforces the trajectory of the Merdeka Curriculum. Countries such as Finland and Singapore have consistently adopted comprehensive evaluation models that monitor both academic and character development, a practice that aligns with the Pancasila Student Profile in Indonesia. The efficacy of such programs relies on adapting global techniques to local contexts, ensuring that the curriculum is culturally relevant and viable within current resource limitations.

Personality competence

The research findings demonstrate that the effectiveness of teachers' personality competence within the Merdeka Curriculum is largely based on the rigorous application of norms and regulations in learning. Clearly defined and consistently enforced norms foster a conducive learning environment, which is vital

for achieving the goals of the Merdeka Curriculum. Teachers must demonstrate adaptability, flexibility, and a positive attitude in applying these rules, ensuring that students understand and implement them effectively. To address diverse student needs, norms should be applied holistically and collaboratively, actively involving students in the learning process. Creativity and innovation on the part of teachers in managing classroom norms are essential, enabling students to develop a sense of shared responsibility in their education. Parental involvement and a safe, supportive learning environment are critical factors for success. Implementing the Merdeka Curriculum has positively influenced teacher motivation and professionalism, encouraging greater creativity and collaboration in nurturing students' potential. However, the increased workload for teachers highlights a significant challenge in implementation. Addressing this requires targeted efforts to enhance teachers' pedagogical and personal competencies to sustain the curriculum's focus on holistic student development.

From a global perspective, the challenges faced in implementing the Merdeka Curriculum align with similar reforms worldwide, where teachers are expected to balance traditional practices with progressive educational demands. For instance, curriculum reforms in Finland and Singapore also highlight the importance of teacher adaptability and student-centered learning, suggesting the necessity for ongoing professional development and institutional support. Policymakers should consider these international benchmarks to provide actionable strategies that alleviate teacher burdens while enhancing curriculum implementation.

The practical implications of these findings are profound for both policymakers and educators. Policymakers must address systemic challenges, such as teacher workload, by offering targeted training programs and additional resources to streamline curriculum demands. Integrating technology and collaborative teaching methods could further support teachers in managing classroom norms effectively. Educators, on the other hand, should focus on fostering professional learning communities where best practices and innovative strategies are shared. Such collaborative efforts would enhance teacher competencies and contribute to the sustainable implementation of the Merdeka Curriculum.

This study reinforces existing theories on the critical role of teacher personality competence in fostering conducive learning environments. Previous research by Ahmad et al. (2017) highlighted the importance of stable, authoritative, and responsible teacher personalities in shaping student character. Similarly, Prahastina et al. (2024) emphasized the need for consistency and flexibility in applying norms and rules, aligning with the adaptive and creative roles required of teachers under the Merdeka Curriculum. Furthermore, findings from Yoto et al. (2024) underscore the significance of collaborative approaches that actively engage students in learning, echoing the global shift toward participatory education. The role of teachers in building harmonious relationships with parents and the community, as noted by Pantiwati et al. (2023), further complements the findings of this study. Lastly, Rohmah et al. (2024) assert that teacher professionalism and integrity drive holistic student development, paralleling the positive outcomes observed under the Merdeka Curriculum.

By situating these findings within a broader context, the study provides valuable insights for both national and international education stakeholders. Comparative analyses highlight that, while the Merdeka Curriculum faces unique challenges, its emphasis on teacher creativity, collaboration, and adaptability reflects global trends in curriculum reform. Addressing these challenges requires systemic interventions that empower educators and prioritize student-centered learning as a shared responsibility among all stakeholders.

Professional competence

The results indicate that educators' professional proficiency in understanding the Merdeka Curriculum is crucial to achieving learning success. A comprehensive and contextual understanding of the curriculum allows educators to effectively tailor education to meet the diverse needs of students. It is imperative for educators to possess extensive subject knowledge to present content in an engaging and relevant manner (Tang et al., 2017). However, challenges remain in its implementation, as not all educators have equal access to professional development opportunities or the essential skills required to apply these methodologies consistently. Addressing inequities in teacher preparation and resource distribution is vital for overcoming these challenges.

A crucial element of this study is the focus on incorporating technology into the educational process, a fundamental principle of the Merdeka Curriculum. The research indicates that digitally proficient teachers enhance instructional effectiveness and student engagement. However, it also identifies obstacles, including unequal access to technology, insufficient digital literacy among even confident educators, and infrastructural limitations, particularly in rural areas. Technological competency is essential for contemporary education, although successful integration often requires systemic support, including investments in infrastructure and ongoing training (Andyani et al., 2020; Gudmundsdottir & Hatlevik, 2018).

The study emphasizes the importance of continuous professional development for educators, primarily through formal training, reflective practices, and collaboration. The "Merdeka Mengajar" platform and professional networks are valuable resources, yet their adoption is hindered by obstacles such as time constraints, insufficient institutional support, and varying levels of teacher motivation. Training must be accessible and tailored to address these implementation gaps (Hunaepi & Suharta, 2024).

The findings reflect issues encountered in similar educational transformations worldwide. Comparative analyses with countries using competency-based curricula, such as Finland and Singapore, indicate that professional development is most effective when integrated within a supportive policy framework that encourages collaboration, provides mentorship opportunities, and ensures equitable resource distribution. Policymakers should consider adopting best practices from these contexts, including incentivizing professional development and incorporating feedback systems to continuously improve teacher training programs.

The implications for policymakers and educators are clear: substantial investment is essential to enhance teacher competencies and ensure the equitable implementation of the Merdeka Curriculum. Policymakers must prioritize funding for teacher training, particularly in technology integration, while addressing infrastructural and equity challenges that hinder widespread access. Furthermore, educators should actively engage in opportunities for professional development, utilizing platforms such as "Merdeka Mengajar" to adapt teaching methodologies to contemporary needs.

This study confirms that proficiency in teaching materials, effective use of technology, and a commitment to lifelong learning form the foundation of teachers' professional competence. These elements not only enhance the quality of instruction but also increase the curriculum's relevance to students' needs in an increasingly globalized and technology-driven world (Caena & Vuorikari, 2022). Addressing these challenges and leveraging the practical implications of these findings will significantly improve the effective implementation of the Merdeka Curriculum, aligning it with global educational advancements.

Conclusions

This research highlights the transformative influence of the Merdeka Curriculum on multiple aspects of teacher competencies, including social, educational, personal, and professional dimensions. Teachers demonstrated significant improvements in social competency, particularly in communication and adaptability. The results emphasize enhanced collaboration, inclusive practices, and greater attention to diverse student needs, fostering a more dynamic and equitable educational environment. However, while many educators successfully transitioned, some continue to face challenges, underscoring the need for ongoing support and adjustment strategies.

The pedagogical competency within the Merdeka Curriculum reflects a shift toward a more student-centered and flexible learning approach. Educators must utilize diagnostic and non-cognitive assessments to better understand students, while prioritizing project-based and active learning methodologies. Despite these advancements, challenges such as large class sizes and varying levels of technological proficiency persist, indicating the need for strategies like class segmentation, additional instructional support, and continuous professional development to improve educational outcomes.

The consistent application of norms and rules enhances personal competence, fostering an effective learning environment. Educators are expected to demonstrate adaptability, innovation, and a positive attitude, encouraging students' active participation in creating a collaborative classroom atmosphere. Parental involvement and a safe, nurturing environment are crucial for achieving the curriculum's objectives. The increased workload for educators highlights the need to balance responsibilities with opportunities for professional development.

Professional competence refers to educators' expertise in instructional content and the integration of technology. Despite noticeable progress, the need for more comprehensive and contextualized learning remains a challenge. Self-development activities, including formal training, collaborative practices, and the use of technological platforms such as "Merdeka Mengajar," are essential for enhancing teaching quality. Regular reflection and assessment further support professional growth, ensuring that teachers remain aligned with the curriculum's objectives.

Several limitations emerged during the study. The variability in teachers' adaptation to curricular changes suggests that the findings may not fully reflect all circumstances, particularly in regions with limited resources or restricted access to training. Additionally, while the research addresses technological integration, the extent of its impact on different classroom environments has not been extensively explored. The results are based on case studies, which may limit their generalizability to other educational systems or cultural contexts.

Future research could explore the impact of technology integration on student learning outcomes and teacher competence within the Merdeka Curriculum. Studies might investigate how digital technologies, such as interactive platforms and AI-driven assessments, enhance engagement and comprehension in various educational contexts. Additionally, evaluating the effectiveness of professional development programs in improving teachers' pedagogical and professional skills is essential. This includes examining the long-term effects of training on classroom management, new teaching techniques, and comprehensive learning strategies. Investigating the role of bidirectional communication between educators and students, as well as interprofessional collaboration among teachers, administrators, and parents, could provide valuable insights for creating a more supportive and effective educational environment. These areas of research will contribute to the successful implementation of the Merdeka Curriculum and support the continued development of Indonesia's educational system.

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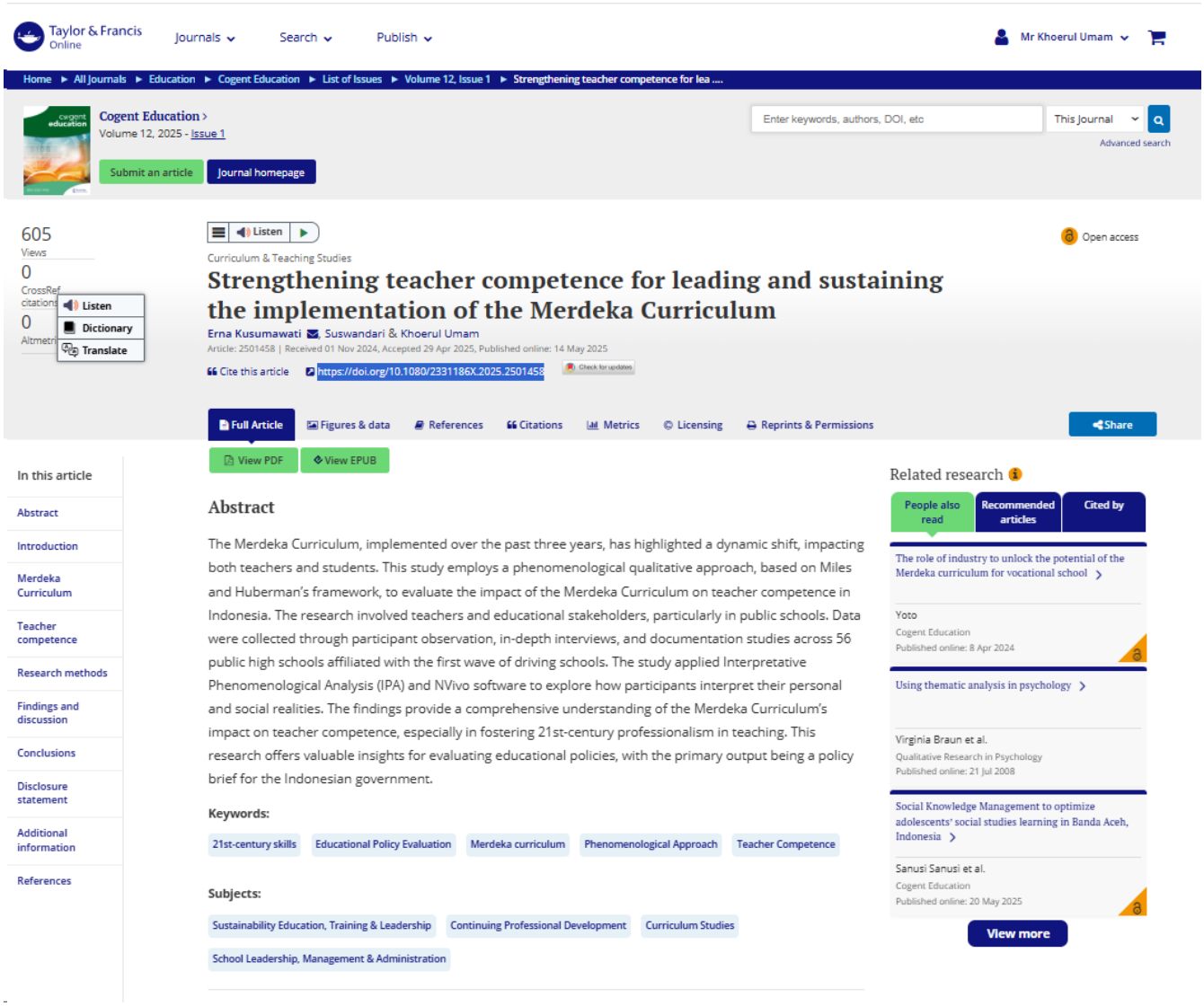

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Erna Kusumawati, Suswandari & Khoerul Umam

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Strengthening teacher competence for leading and sustaining the implementation of the Merdeka Curriculum

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ABSTRACT

The Merdeka Curriculum, implemented over the past three years, has highlighted a dynamic shift, impacting both teachers and students. This study employs a phenomenological qualitative approach, based on Miles and Huberman's framework, to evaluate the impact of the Merdeka Curriculum on teacher competence in Indonesia. The research involved teachers and educational stakeholders, particularly in public schools. Data were collected through participant observation, in-depth interviews, and documentation studies across 56 public high schools affiliated with the first wave of driving schools. The study applied Interpretative Phenomenological Analysis (IPA) and NVivo software to explore how participants interpret their personal and social realities. The findings provide a comprehensive understanding of the Merdeka Curriculum's impact on teacher competence, especially in fostering 21st-century professionalism in teaching. This research offers valuable insights for evaluating educational policies, with the primary output being a policy brief for the Indonesian government.

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Introduction

The substantial size of the workforce in Indonesia presents both a significant challenge and a considerable opportunity for fostering economic growth. However, a scarcity of skilled graduates is the primary cause of limited job absorption (Nugroho et al., 2018; Yeoh et al., 2017). This issue arises from the disparity between the knowledge and skills in the education sector and those required by the business sector. A comprehensive strategy that incorporates relevant knowledge and abilities is critical for preparing a higher-quality and more sustainable education system.

The biggest challenge in the current Indonesian education system is preparing skilled teachers to provide high-quality learning. Teachers, as professionals, are equipped with four competencies: social competency, pedagogical competency, personal competency, and professional competency (Nguyen et al., 2022; Siri et al., 2020). Through pedagogical and professional competencies, teachers can identify the skills that are urgently needed by students today, such as literacy, collaboration, creative thinking, and critical thinking—skills that support each other in improving the quality of students' abilities and workforce readiness. The personal abilities of teachers can motivate students to continue learning and developing with the times (König et al., 2020; Moser Opitz et al., 2020; Tran & O'Connor, 2024).

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The facts on the ground that separate knowledge and skills have prompted the Indonesian government to innovate in order to close the gap. Several countries, including Germany, Finland, China, and Japan, have aligned learning with work-related skills (Farah & Ridge, 2009; Sakaue et al., 2024; Wermke et al., 2024; Zhao & Lee, 2024). The German curriculum prepares students with both learning and skills simultaneously, with the hope of integrating knowledge and skills so that students can adapt quickly (Szakács-Behling, 2022). Finland also provides many opportunities for students to continue growing by reducing the study load, with the hope of enabling students to further explore knowledge through their environment and life experiences (Wermke et al., 2015). The Japanese curriculum prepares students to instill competencies essential for realising a sustainable society by connecting global issues faced in everyday life with their solutions (Kondo et al., 2024; Sakaue et al., 2024; Urushibara-Miyachi et al., 2024). The United Arab Emirates is also transforming its curriculum by concentrating on improving students' abilities in various areas, enabling them to develop their full potential through integration with the business world (Farah & Ridge, 2009).

The Indonesian government has attempted to bring knowledge and skills closer together by launching the Merdeka Curriculum. This curriculum is designed to integrate skills and knowledge with the aim of ensuring that Indonesian students are prepared to competently compete in the world of work, both nationally and internationally (Choppin et al., 2022). In its implementation, the Merdeka Curriculum also prepares teachers by focusing on four competencies, offering several teacher competency improvement programmes. The purpose of this study is to evaluate the extent of the impacts—both positive and negative—on the development of teacher competencies.

Merdeka Curriculum

Indonesia has implemented the Merdeka Curriculum as part of the government's transformation efforts to increase interest in reading, literacy, numeracy, and character development in students based on Pancasila values (Chen et al., 2021; Emawati et al., 2024). The Merdeka Curriculum focuses on the integration of knowledge with students' skills, with the aim that students can acquire better knowledge and skills. Additionally, the Merdeka Curriculum emphasises the importance of teacher professionalism in school implementation. In the implementation of the Merdeka Curriculum, teachers are provided with broad opportunities to use various sources of knowledge, not only textbooks but also information obtained through digital platforms and other related references (Wiryawan & Nurdin, 2024). The professional and personal competencies of teachers are greatly tested when obtaining additional information beyond textbooks, as teachers are required to read, search for, and find supplementary knowledge and information relevant to the lesson material to be taught (Hadi et al., 2023; Lemmrich & Ehmke, 2024; Susanto et al., 2022).

The Merdeka Curriculum is not only oriented towards achieving knowledge but also provides opportunities for students to develop their character in accordance with the concept of Pancasila. Student skills in problem-solving and collaboration are important elements in developing student character. Teachers who possess strong social and personal competencies will know how to take steps to develop student character (Cross, 1994). The important role of teachers in the implementation of the Merdeka Curriculum is supported by the government through various teacher competency development programmes, providing ample time for development. The impact of competency development among teachers in various regions of Indonesia is crucial to evaluate, as it contributes to the history of Indonesian curriculum development. This study will focus on the impact of the implementation of the Merdeka Curriculum on teacher competencies, including personal competency, pedagogical competency, social competency, and professional competency.

Teacher competence

Teacher competence in providing education plays a crucial role (Lemmrich & Ehmke, 2024; Nurpitriyani et al., 2022). In the implementation of the Merdeka Curriculum, teachers, acting as facilitators, apply pedagogical competence. The teacher's ability to manage the learning process in accordance with the established scenario is an essential element. The teacher's personal and social competencies in

classroom learning significantly influence the way teachers interact with students and colleagues (Ahmed et al., 2010; Tran & O'Connor, 2024). Teacher competence is described as a personal interpretation that can provide a positive example (Yang et al., 2021). The teacher's ability to maintain morals and provide a positive example significantly influences the formation of student character based on Pancasila values. The teacher's social competence is manifested in various actions that are directly experienced by students through coaching and social activities both inside and outside the classroom.

This study aims to measure the extent to which the implementation of the Merdeka Curriculum impacts the four teacher competencies. After the implementation of the Merdeka Curriculum, to what extent does the evaluation of the curriculum influence the improvement of teacher competence? If these competencies increase, the response from students and parents will lead to recognition, which may manifest in various forms of awards for schools and teachers. Over time, the enhancement of these teacher competencies has garnered attention from the government and school leaders. To what extent can schools provide recognition for this achievement? This positive effort needs to be sustained. What steps are schools taking to assess, maintain, and develop teacher competencies?

Research methods

This study employed a qualitative research methodology with a phenomenological approach to examine the relationship and impact of implementing the Merdeka Curriculum on teacher competencies. A qualitative design with a phenomenological approach was chosen because it allows for an in-depth understanding of complex social phenomena, such as teacher behaviour in implementing the Merdeka Curriculum and the positive impacts that can influence teacher competence. This design is well-suited for exploring how the Merdeka Curriculum program affects teacher competence, provides valuable experiences, and changes the way teachers teach classroom lessons—an aspect that quantitative methods may not fully capture. The phenomenological approach is ideal for this study because it investigates a specific theme. This approach also allows for the examination of multiple data sources—such as interviews, observations, and document analysis—to provide a comprehensive view of the program and its impact on teacher competence.

Participants

The research was conducted in public schools across 10 provinces in Indonesia, including primary schools, junior high schools, senior high schools, and vocational schools, all of which have implemented the Merdeka Curriculum in their learning processes. To ensure equal representation from each type of school and category of teachers, this study established two primary criteria for selecting the research population: (1) schools must have implemented the Merdeka Curriculum for at least one year, and (2) schools must have at least five driving teachers to support the implementation of the Merdeka Curriculum in the learning process. Based on these criteria, 26 schools were selected, comprising five primary schools, eight junior high schools, seven senior high schools, and six vocational schools. The researchers selected five teachers from each school for in-depth interviews. This study employs a stratified random sampling technique to ensure diversity and balanced representation. Teachers are grouped according to their school levels—primary, junior high, senior high, and vocational schools. This technique is combined with simple random sampling to provide equal opportunities for each respondent to participate in the study.

Data collection

The research data collection was conducted using three methods: in-depth interviews, observations, and field notes, to ensure the triangulation of data sources and the validity and reliability of the findings. Data collection took place across 10 provinces in Indonesia. The selected schools met two criteria: implementing the Merdeka Curriculum for at least one year and having a driving teacher. The research subjects were required to participate in the driving teacher training to understand the Merdeka Curriculum as set by the Ministry of Education and Culture.

Interviews were conducted with 52 teachers who voluntarily registered to share their experiences implementing the Merdeka Curriculum. They were selected using purposive sampling to ensure relevance to the research questions. The participants, aged between 24 and 50 years, represented a variety of educational backgrounds and teaching experiences. Interviews were conducted offline, with schedules arranged according to each participant's preference for comfort and privacy. Each interview lasted between 30 and 60 minutes, allowing for in-depth exploration of the participants' experiences. The interview protocol, developed based on existing educational frameworks, included open-ended questions to obtain detailed responses on participants' reasons for choosing the Merdeka Curriculum implementation program, the challenges faced, and its impact on teacher competency. In-depth interviews were selected to gain nuanced insights into participants' thoughts and experiences, enabling a comprehensive understanding of the motivations behind teachers' implementation of the Merdeka Curriculum and the positive impacts on various aspects of teacher competency.

Observations were conducted at schools to capture the dynamics of teacher interactions and active student involvement during the learning process. These observations took place over two weeks, focusing on the four teacher competencies being studied: social competence, pedagogical competence, personal competence, and professional competence. Participants in this process were teachers from schools that had met the previously established criteria. The selected teachers also possessed strong communication skills, making it easier for researchers to obtain comprehensive information. Observations complemented the interviews by providing real-time data on how the program was implemented. Various documents were examined for document analysis, such as lesson plans, student worksheets, and student responses related to the implementation of the Merdeka Curriculum. These documents were obtained directly from participants and each school. Document analysis provided additional data, offering insights into the significant impact of teacher competencies and helping to triangulate information obtained from the interviews and observations.

Data analysis

Data analysis was conducted in two phases. The initial phase involved thematic analysis, following the framework of Miles and Huberman (1994). This phase began with data reduction, which included transcribing interview data and identifying predetermined themes aligned with the four teacher competencies: social, pedagogical, personal, and professional competence, all influenced by the implementation of the Merdeka Curriculum. Subsequently, data visualization was used to organise themes and subthemes visually, enhancing the clarity and comprehensibility of the findings. This process culminated in verification and conclusion drawing, where themes were synthesised to determine the impact of Merdeka Curriculum implementation on teacher competencies within the school learning environment.

The second phase utilised the capabilities of NVivo software for in-depth data coding. Interview data was meticulously imported into NVivo, enabling researchers to conduct more nuanced coding procedures. The data was categorised into predetermined themes and subthemes corresponding to the four teacher competencies: social, pedagogical, personal, and professional competence. This cross-data coding facilitated a more refined analysis by enabling the identification of recurrent word patterns, providing deeper insights into the collected data. The identification of words with similar characteristics strengthened the thematic framework and offered a more nuanced perspective on how the implementation of the Merdeka Curriculum impacts teacher competencies.

Findings and discussion

Findings

Social competence

Communication skills. Figure 1 displays the results of data analysis regarding the impact of the Merdeka Curriculum on improving teachers' social competence in communication. Improved communication skills are highlighted as the main finding, with several specific findings emerging from the research. These findings include enhanced student achievement, adjustments in the implementation of

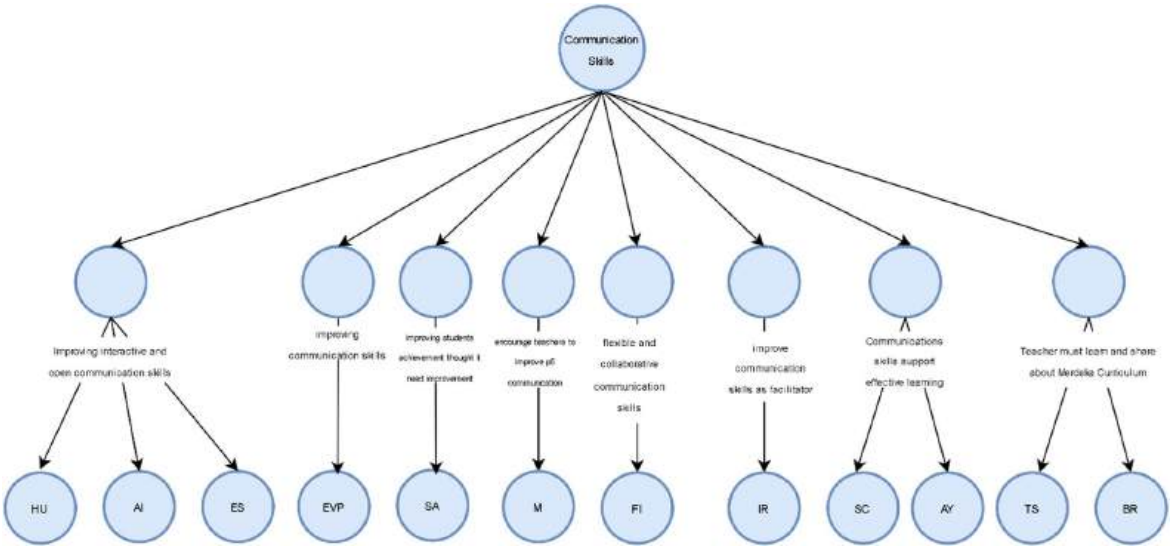

Figure 1. The impact of the Merdeka curriculum on teachers' communication skills (Project Maps).

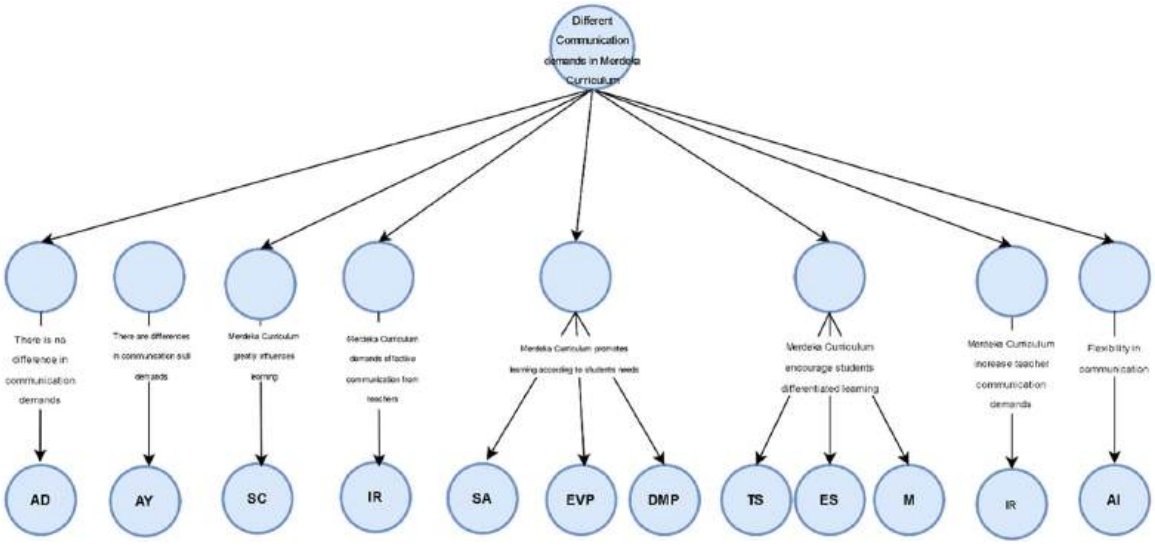

Figure 2. Different communication demands in the Merdeka curriculum (VPM).

the Merdeka Curriculum, encouragement for teachers to improve communication patterns—particularly in implementing P5—and greater flexibility in communication during collaboration. Teachers are also expected to be effective facilitators in the learning process, with communication skills that support the achievement of educational goals. These results indicate that the Merdeka Curriculum brings positive changes to teachers' communication skills, both in guiding students and collaborating with other parties, although further adjustments are needed for broader application.

Figure 2 presents the results of data analysis regarding differences in communication demands in the Merdeka Curriculum. The research findings indicate that the Merdeka Curriculum introduces different communication demands compared to the previous curriculum. Some respondents, such as AD, reported no significant differences in communication demands. However, other respondents, including AY and SC, emphasized a significant change in communication demands, with the Merdeka Curriculum impacting overall learning and requiring more effective communication from IR.

The following interview excerpts further support the research findings:

FI and SA noted that the Merdeka Curriculum increases the demands on teachers' communication skills, requiring them to be more flexible and focused on meeting student needs. This view is also supported by HU, who emphasized that the Merdeka Curriculum promotes learning that caters to students'

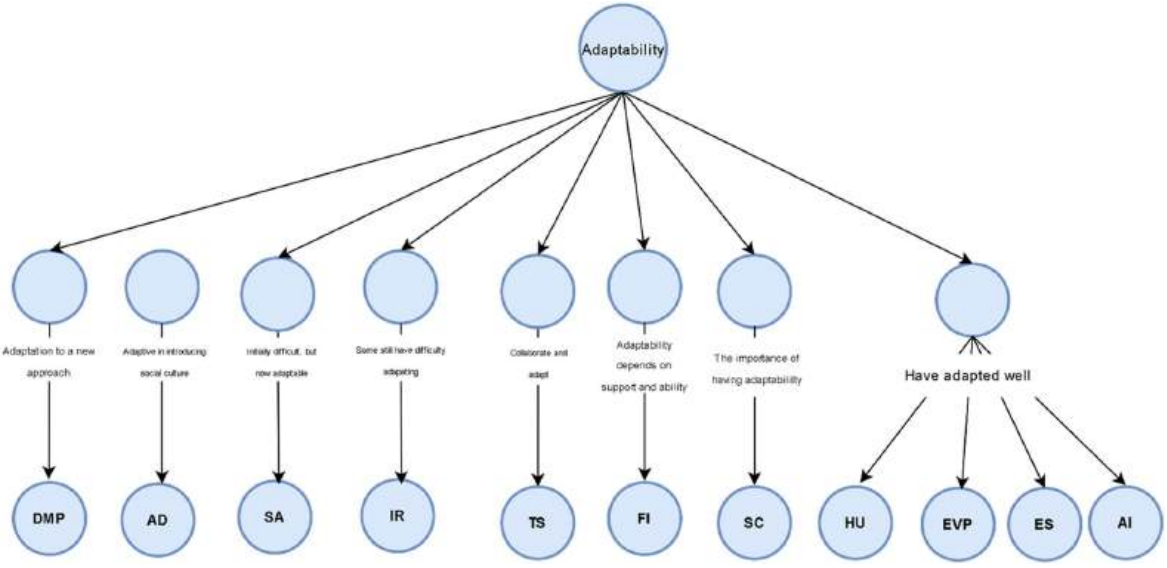

Figure 3. VPM Adaptability in Implementing the Merdeka Curriculum.

individual needs. Additionally, EVP and DMP highlighted that differentiated learning is now prioritized, necessitating more responsive communication from teachers.

Furthermore, TS and ES emphasized the importance of teachers fostering two-way communication with students, while M and AI stressed the need for flexibility in communication to meet the demands of more effective learning under the Merdeka Curriculum. Overall, the study reveals that the Merdeka Curriculum introduces significant changes to the demands placed on teacher communication, which must now be more flexible, effective, and tailored to student needs.

The following excerpts are from the researcher's interview with the participant:

Adaptability. Figure 3 displays the results of data analysis related to adaptability in implementing the Merdeka Curriculum. The study found that teachers' adaptability to the Merdeka Curriculum varies. Some teachers, such as DMP, reported having successfully adapted to the new approach introduced by the curriculum. Meanwhile, AD and SA noted that their adaptation process also involved understanding the socio-cultural aspects of students, which they identified as key to success in the teaching and learning process.

Some teachers, such as IR, stated that although adapting to the changes introduced by the Merdeka Curriculum was initially challenging, they have now successfully adjusted. However, findings from TS and FI indicate that some teachers continue to face difficulties in meeting the new demands. This suggests that the adaptation process is not uniform across all settings.

Additionally, the importance of support and collaboration in the adaptation process was emphasized by respondents such as SC and M, who noted that adaptability is strongly influenced by a supportive work environment and an individual's willingness to continue learning. Teachers like HU and EVP stated that they have successfully adapted, while other interviewees, such as ES and AI, highlighted the significance of being adaptable when facing curriculum changes.

Inclusive behavior. Figure 4 presents the results of the research analysis regarding differences in inclusive and non-discriminatory behavior exhibited by teachers in implementing the Merdeka Curriculum. The findings show that the Merdeka Curriculum fosters inclusive, fair, and non-discriminatory behavior within the educational environment. Teachers such as SC, SA, and FI confirmed that the curriculum motivates them to adopt more inclusive and equitable practices, ensuring no discrimination toward students.

Furthermore, HU and AI pointed out that the Merdeka Curriculum encourages inclusiveness and greater learning freedom for students, with learning tailored to each individual's competencies and needs, as noted by AY and AD. TS highlighted that differentiated learning is a crucial component of the

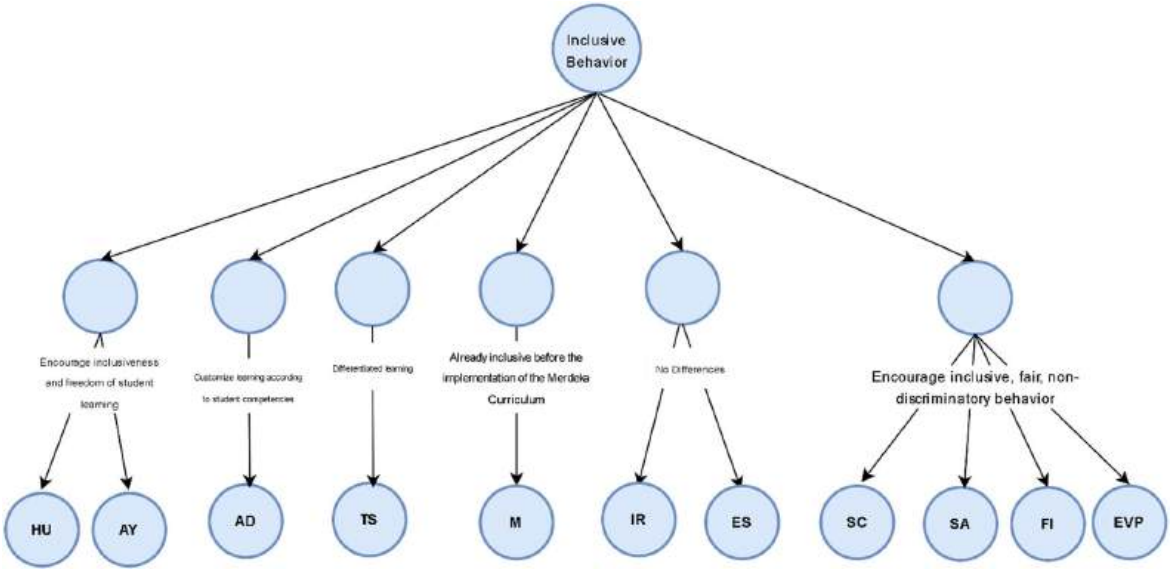

Figure 4. VPM for inclusive behavior in implementing the Merdeka curriculum.

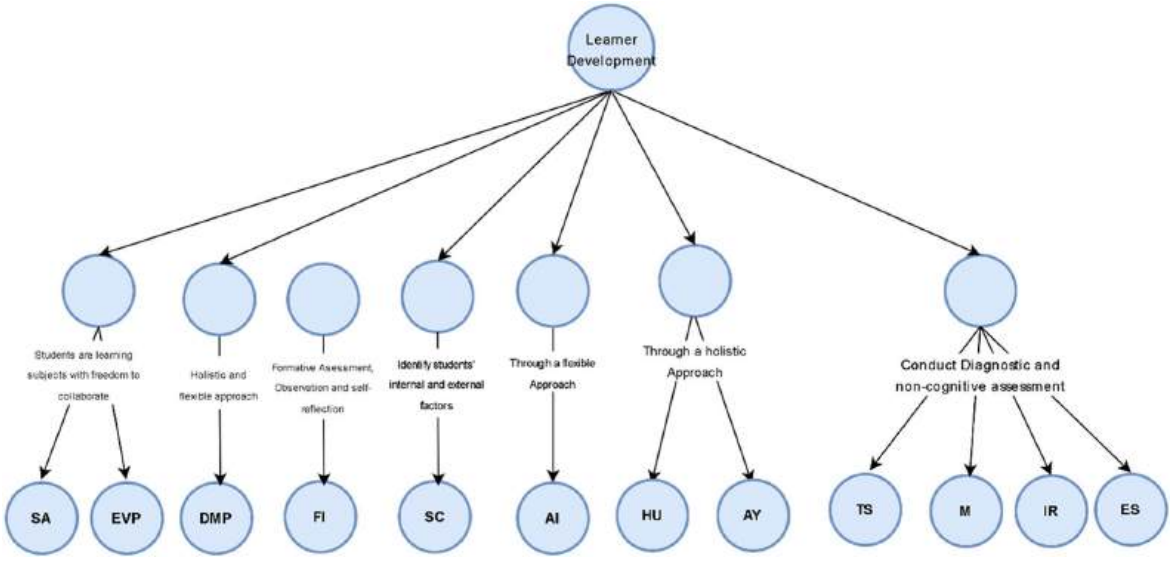

Figure 5. VPM for the impact of the Merdeka Curriculum on learner development.

Merdeka Curriculum, where teachers give greater attention to diverse learning needs. Meanwhile, M revealed that inclusive behavior had been practiced even before the implementation of the Merdeka Curriculum, and IR and ES stated that there was no significant change in inclusive behavior since its implementation.

Pedagogical competence

Learner development. Figure 5 displays the research findings related to learner development in the Merdeka Curriculum. The results show that learner development within this curriculum is approached through various strategies. Teachers such as TS and M emphasize the importance of conducting diagnostic and non-cognitive assessments to understand students' overall development. Additionally, ES and AI stress the need for a flexible learning approach to meet the individual needs of students.

A holistic approach to understanding students, as emphasized by HU, is crucial for developing learners, where both academic and non-academic aspects are equally considered. Teachers like AY also recognize the importance of understanding students' internal and external factors to provide more tailored support in learning.

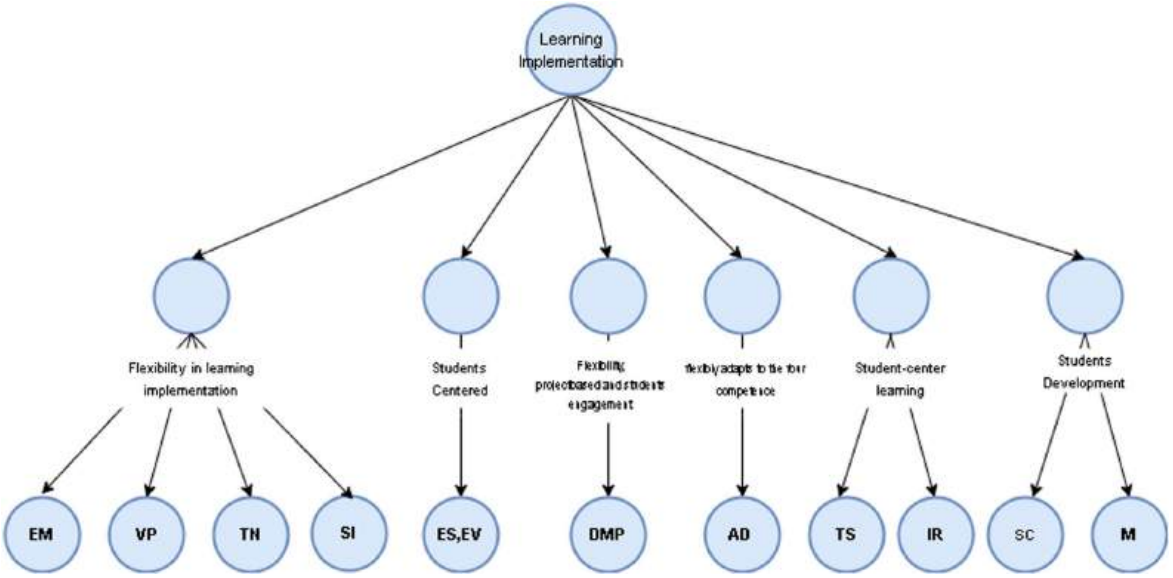

Figure 6. VPM for the implementation of Merdeka curriculum learning.

Students are seen as active participants in the learning process with the freedom to collaborate, as reported by SA, where they are given more autonomy in determining how they learn. Additionally, the holistic and flexible approach to learning, highlighted by EVP and DMP, underscores the importance of adapting teaching methods to enhance student engagement. According to FI, formative assessments, observations, and self-reflection are integral to the learning process, while AD suggested that short evaluations at the end of lessons are an effective way to assess students' achievements and progress.

Learning implementation. Figure 6 presents the results of the research findings regarding the implementation of learning in the Merdeka Curriculum. These findings indicate that the Merdeka Curriculum offers greater flexibility compared to the previous curriculum. Teachers such as AY, EVP, and FI emphasized that this flexibility allows for the adjustment of materials based on students' needs and the learning context. Additionally, HU and SA revealed that learning is more student-centered, with students given greater autonomy to determine how they learn based on their interests and abilities.

Project-based approaches and active student engagement in learning are also key focuses of the Merdeka Curriculum, as shared by AI and ES. Teachers such as DMP and AD emphasized the importance of adjusting learning to the four competencies—spiritual, social, knowledge, and skills—flexibly, considering time and students' learning needs. TS and IR highlighted that learning in the Merdeka Curriculum is tailored to students' individual needs, enabling a more personalized approach. Finally, the development of student competencies is the primary goal of this learning implementation, as expressed by SC and M.

Figure 7 presents the results of the research analysis regarding the assessment of the adequacy of teachers' pedagogical competence in implementing the Merdeka Curriculum. The findings of this study reveal three key insights.

First, the pedagogical competence that teachers currently possess is considered insufficient, primarily because they need to expand their knowledge and skills, as noted by SC, M, and IR.

The second finding indicates that pedagogical competence is severely limited when the number of students in a class exceeds a reasonable capacity, as stated by AY and AD. This situation necessitates strategies such as class division or additional supporting teachers to manage students effectively.

The third finding highlights the importance of improving and adjusting pedagogical competencies to meet the demands of the Merdeka Curriculum. Teachers such as TS, FI, and HU emphasized that integrating technology and adapting teaching methods are essential to accommodate the needs of more flexible and project-based learning.

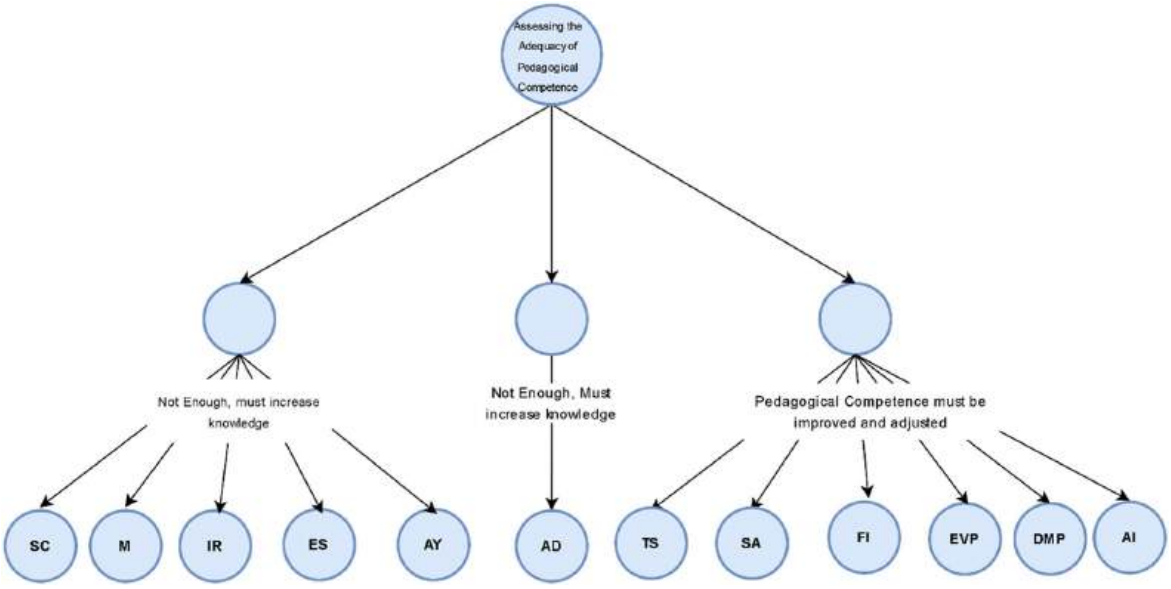

Figure 7. VPM in assessing pedagogical competence adequacy in the Merdeka curriculum.

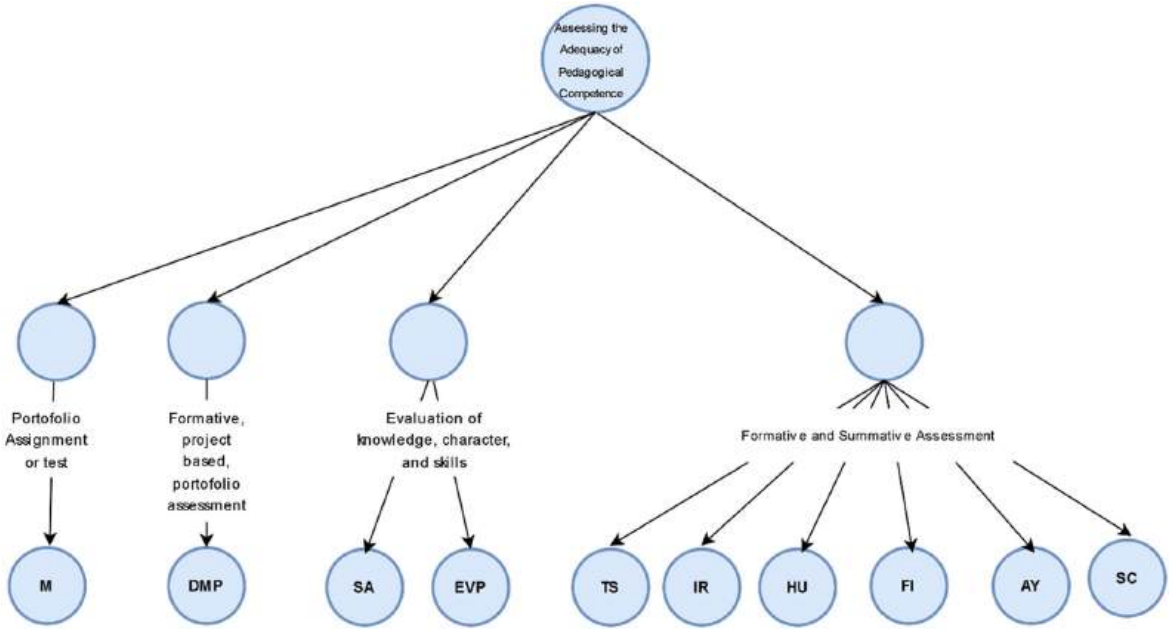

Figure 8. VPM for learning evaluation in the Merdeka curriculum.

Learning evaluation. Figure 8 presents the results of the research findings regarding learning evaluation in the Merdeka Curriculum. The research indicates that learning evaluation in the Merdeka Curriculum is carried out through various approaches that are more flexible and diverse compared to the previous curriculum. Portfolio-based evaluation, assignments, and tests are among the primary methods. Additionally, project-based formative evaluations, portfolios, and performance assessments are used to assess students' overall skills, as revealed by DMP and SA.

Evaluation in the Merdeka Curriculum emphasizes a holistic assessment that includes knowledge, character, and skills, as described by EVP. Both formative and summative assessments are also key components of the evaluation process, as noted by TS, IR, and HU, with a focus on continuous monitoring of student development.

Furthermore, the research highlights the importance of diagnostic, formative, and summative assessments in providing a comprehensive picture of student achievement, as expressed by SC, ES, and AD.

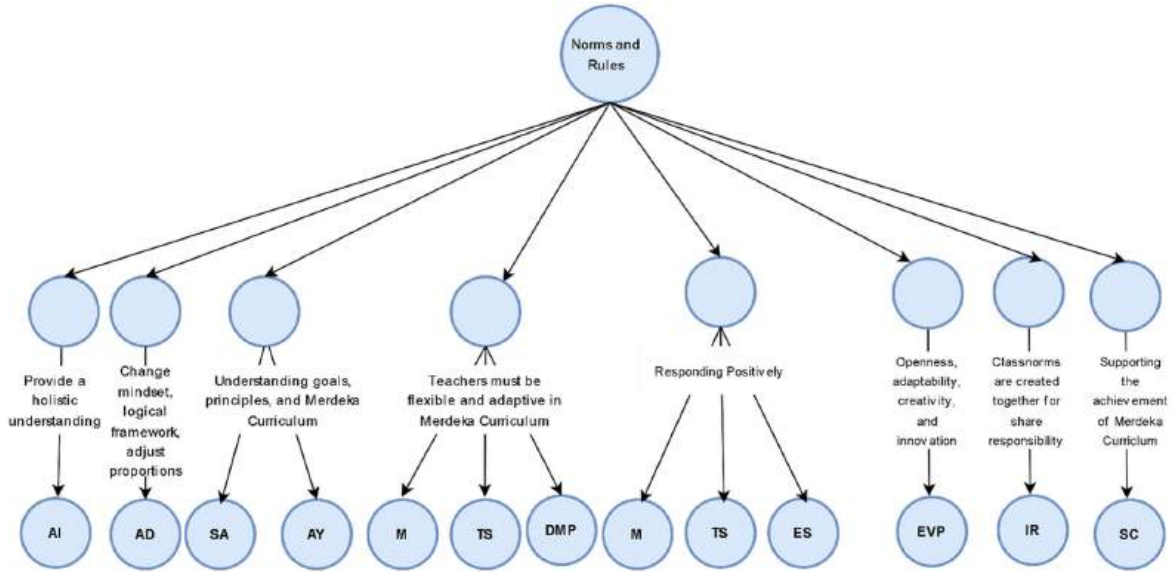

Figure 9. VPM in addressing norms and rules in the curriculum.

Personality competence

Norms and rules. The research findings regarding personality competence related to norms and rules in learning reveal that norms and rules play a crucial role in fostering a learning environment that supports the achievement of Merdeka Curriculum goals. AI emphasized the importance of providing students with a holistic understanding of the rules, while AD highlighted the need for mental shifts and logical adjustments when applying rules and learning proportions. Understanding the principles and objectives of the Merdeka Curriculum, as noted by SA and AY, serves as an important foundation for adjusting classroom norms (Figure 9).

Teachers must be flexible and adaptive in implementing the Merdeka Curriculum, as stated by HU and FI, ensuring that norms and rules remain effective. DMP from SMPN 122 added that adopting a positive attitude toward the rules can enhance their effectiveness, a sentiment echoed by M and TS.

Openness, adaptation, creativity, and innovation in managing classroom norms with students, as explained by ES and EVP, foster a sense of shared responsibility. Additionally, clear and consistent norms are essential for achieving learning objectives, as expressed by IR and SC.

Attitude. The findings highlight several key aspects of teacher attitudes necessary to support effective learning within the Merdeka Curriculum. First and foremost, teachers must demonstrate adaptability, openness, collaboration, empathy, and leadership skills, as emphasized by AY, DMP, HU, and IR. These qualities are essential for fostering dynamic learning environments that prioritize students' needs and promote engagement and motivation (Figure 10).

Additionally, it is crucial to consider the development of students, as the focal point of the educational process. AI and ES stress that learning should be directed toward meeting the diverse needs and unlocking the potential of each student. This individualized approach ensures that every learner is given the opportunity to thrive based on their abilities and interests.

Moreover, the role of parents in the learning process cannot be overlooked. Active involvement from parents, as highlighted by SA, is essential for creating a supportive and collaborative educational ecosystem. Teachers must also closely monitor students' growth and development, understand their unique characteristics, and provide the necessary support for their overall well-being, as noted by AD.

Furthermore, teachers are encouraged to create learning spaces that facilitate student exploration and character development. As SC explains, these spaces should foster creativity and critical thinking. In addition, teachers must ensure that the learning environment is comfortable and supportive, as mentioned by FI, TS, and EVP, as this is vital for sustaining students' engagement and enhancing the effectiveness of the learning process.

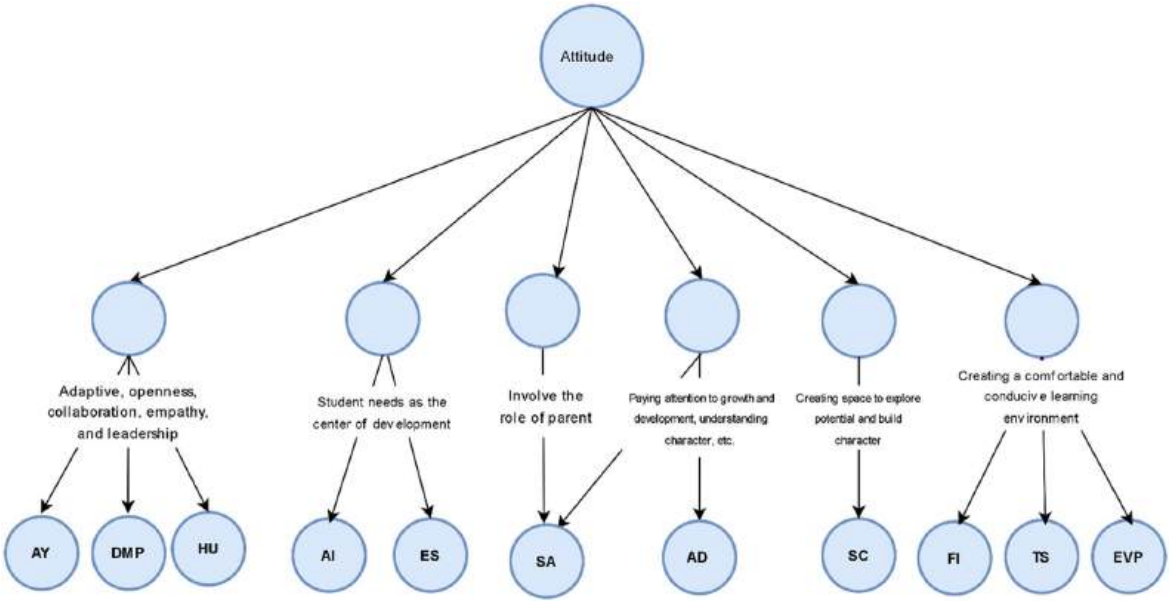

Figure 10. VPM attitudes teachers must demonstrate in implementing the Merdeka Curriculum.

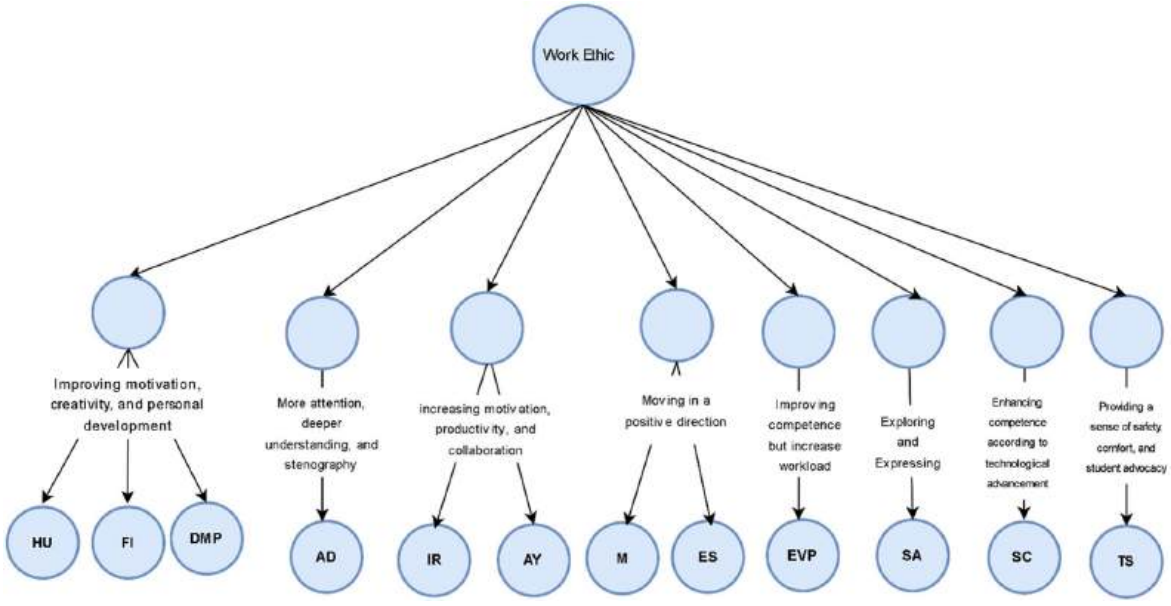

Figure 11. VPM of the impact of implementing the Merdeka curriculum on work ethics.

Work ethic. This finding shows that the implementation of the Merdeka Curriculum has a significant impact on increasing teacher motivation, creativity, and professional development. HU, FI, and DMP reported that the Merdeka Curriculum encourages teachers to be more creative and engaged in professional development (Figure 11).

Teachers are also placing greater emphasis on understanding students' needs and deepening skills, such as stenography, to take notes more effectively, as shared by AI and AD. Improved motivation, productivity, and collaboration were also reflected in the findings of IR and AY, who indicated that the Merdeka Curriculum fosters better cooperation between teachers and students.

Positive impacts were also observed in the improvement of work ethic, with many teachers reporting positive changes in their teaching approaches, as expressed by M and ES. However, some teachers, such as EVP, revealed that the increase in teacher competencies also resulted in an increased workload.

Teachers like SA and SC noted that the Merdeka Curriculum offers opportunities to explore and adapt to technological developments and adjust competencies in line with current times. Additionally, the Merdeka Curriculum encourages teachers to create a safe and comfortable learning environment that benefits students, as stated by TS.

Professional competence

Material mastery. The research findings presented in Figure 12 highlight the importance of professional competence, particularly in mastering the material within the Merdeka Curriculum. This finding indicates that teachers' mastery of teaching materials is a crucial element in the successful implementation of the Merdeka Curriculum.

SC emphasized that mastery of the material is an integral part of a teacher's professional competence. SA and EVP stressed that a sufficient and in-depth understanding of the material is essential for effectively implementing the Merdeka Curriculum. HU added that it is important for teachers to adjust and adapt materials to meet students' needs.

Teachers must also continually improve their competence in mastering the material, as noted by TS and FI, who highlighted the importance of understanding the context of learning. However, some teachers, such as M, acknowledged that mastery of the material still needs improvement, particularly in applying contextual and holistic learning, as expressed by AI.

Although some teachers, such as ES and IR, have demonstrated improved competence, others feel they are still in the process of adapting to the Merdeka Curriculum materials. AD and AY emphasized that their mastery of the material has not yet reached its full potential, although they are making efforts to improve.

DMP emphasized that understanding concepts, connecting materials, and applying learning are key components of the Merdeka Curriculum, requiring ongoing improvement and adjustment from teachers.

Use of technology

Figure 13 highlights the pivotal role technology plays in enriching learning, particularly within the context of the Merdeka Curriculum. According to AD, EVP, and H, technology has significantly contributed to creating more interactive learning experiences in the classroom. Additionally, it provides visually engaging learning experiences, which enhance students' comprehension of the material.

Many teachers, including TS, AY, and DMP, have integrated technology into their teaching methods, utilizing various platforms and tools to support the learning process. These educators have observed

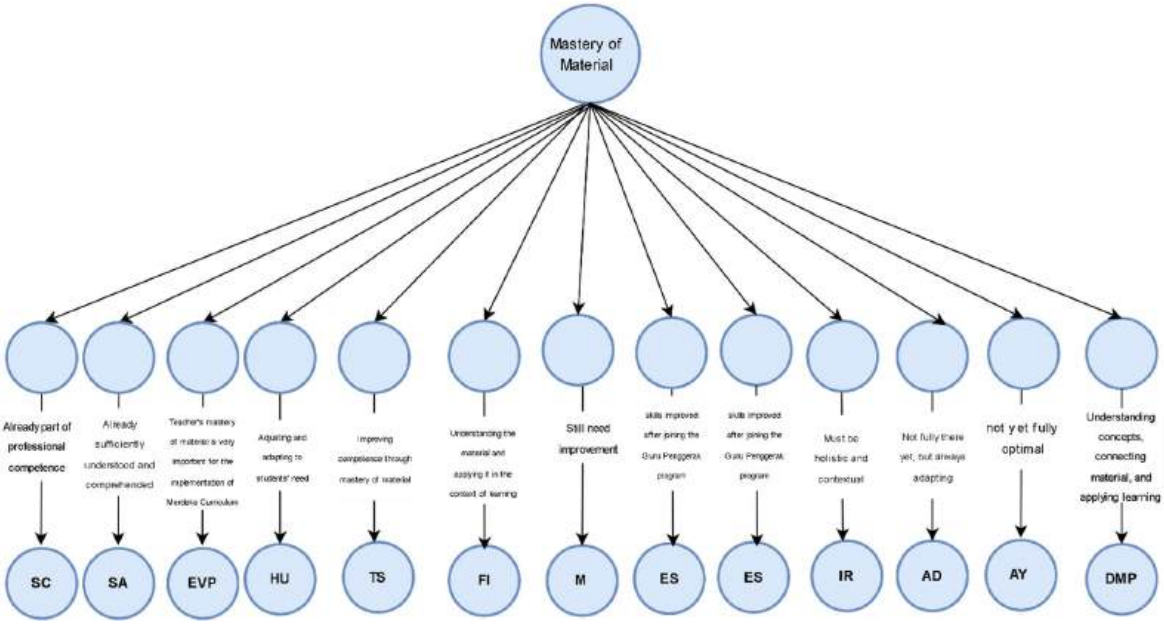

Figure 12. VPM of professional competence and mastery of materials in the curriculum.

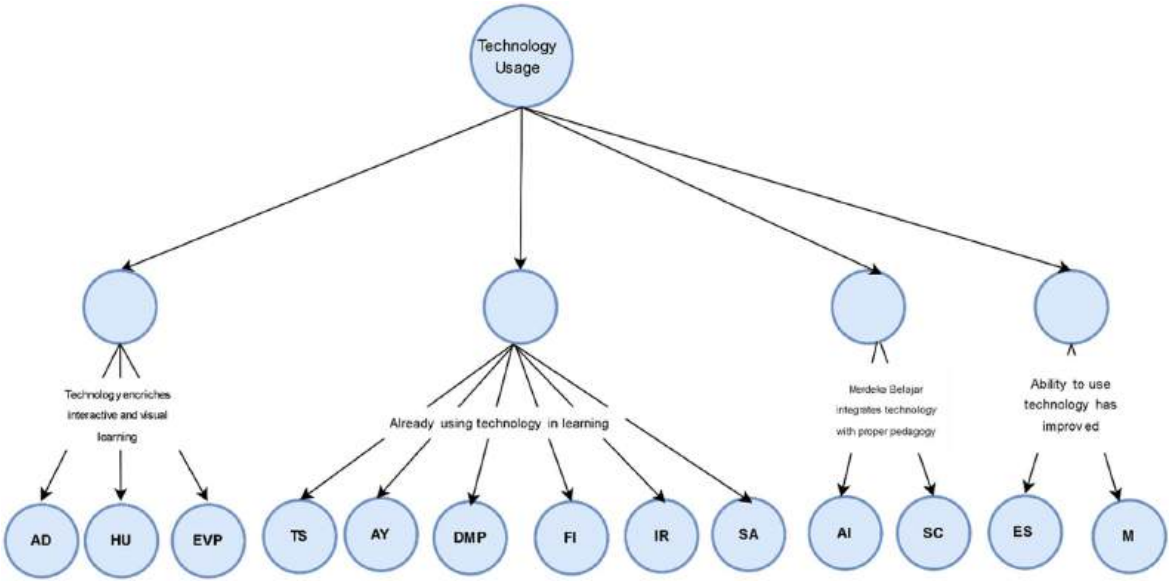

Figure 13. VPM on the use of technology in the Merdeka Curriculum.

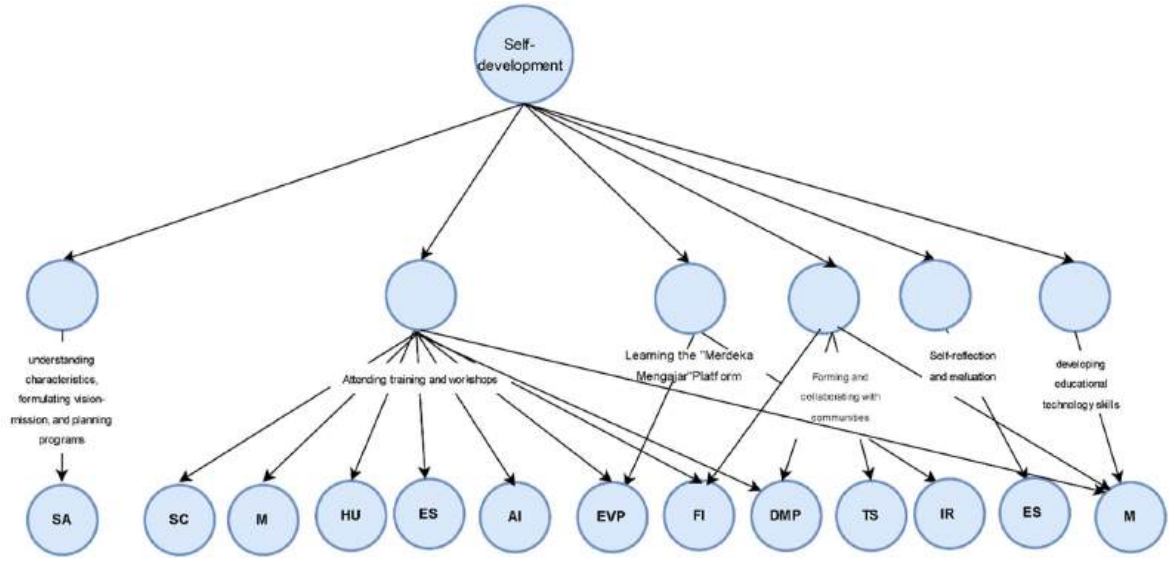

Figure 14. VPM of self-development in enhancing professional competence within the Merdeka curriculum.

that the Merdeka Curriculum encourages them to blend technology with appropriate pedagogical strategies, as emphasized by AI and SC. This fusion enables a more holistic and relevant learning experience, catering to students' diverse needs and fostering a deeper understanding of the subject matter.

Moreover, teachers' ability to utilize technology has been steadily increasing, as indicated by ES and M. These educators have become more proficient in leveraging various digital tools that support project-based learning, collaborative efforts, and formative assessments. This growing technological competence is empowering teachers to create dynamic and flexible learning environments, reflecting the evolving demands of the modern educational landscape.

Self-development. The research findings regarding professional competence focus on teacher self-development within the context of the Merdeka Curriculum. These findings highlight that self-development is a crucial factor in improving teachers' abilities and effectiveness in implementing the Merdeka Curriculum (Figure 14).

SA and SC emphasized the importance of understanding the characteristics of the education unit, developing a clear vision and mission, and planning appropriate learning programs. Teachers such as M, HU, and ES actively participate in training and workshops to enhance their professional competencies.

In addition to formal training, teachers also engage with the "Merdeka Mengajar" platform to better understand and apply Merdeka Curriculum concepts in the teaching and learning process. Teachers like FI and EVP use this platform to support classroom learning. Collaboration with professional communities is also considered vital by teachers such as IR and TS, who noted that such collaboration helps enrich learning insights and practices. Moreover, periodic self-reflection and evaluation, as highlighted by AD, enable teachers to continuously improve the quality of their teaching.

Discussion

Social competence

The findings highlighted significant improvements in teachers' communication and adaptation skills under the Merdeka Curriculum. Teachers demonstrated increased flexibility in communication during collaboration, developed facilitation abilities, and responded more effectively to the diverse demands of students. The Merdeka Curriculum fosters an inclusive, equitable, and non-discriminatory learning environment, tailoring education to the individual competencies of each student. However, the adaptation process among teachers remains uneven, with some facing notable challenges. These findings echo broader concerns in curriculum implementation, as teachers' preparedness and ability to adapt to systemic changes vary widely (Caena & Vuorikari, 2022; Rencher et al., 1978). While the Merdeka Curriculum has led to positive changes in teachers' social competencies—especially in communication, adaptation, and inclusive behavior—future adjustments are necessary in certain areas.

The practical implications of these findings are significant for policymakers and educators. For policymakers, the research emphasizes the importance of targeted professional development programs and continuous support to ensure that teachers can effectively navigate these changes. While the Merdeka Curriculum offers a promising framework for inclusive education, the uneven pace at which teachers adapt suggests the need for more robust, localized support structures (Caena & Vuorikari, 2022; Cross, 1994). For educators, fostering an inclusive learning environment goes beyond implementing new teaching strategies; it involves mastering social competencies such as conflict management, team collaboration, and a deep understanding of student diversity. These skills are essential in creating a dynamic, responsive classroom that aligns with the goals of the Merdeka Curriculum.

Comparative studies from other global contexts offer additional perspective on these challenges. For example, studies in the United States and the United Kingdom have shown similar struggles in implementing inclusive curricula, particularly concerning the professional development of teachers and the integration of new technologies (Johansson et al., 2014). In both contexts, a key challenge has been the alignment of curriculum changes with teachers' pre-existing skills and the varying levels of institutional support available. While the Merdeka Curriculum has its own unique cultural and educational context, the global trend highlights that substantial teacher training and systemic support are critical in ensuring the success of inclusive education reforms.

Furthermore, the research findings emphasize the importance of teachers' ability to build strong networks within the educational ecosystem. Teachers in this study demonstrated improved social interaction skills with students, colleagues, and parents, contributing to a more inclusive and supportive environment. Teachers' social competence—including the ability to communicate effectively and manage conflict—plays a pivotal role in creating a collaborative and inclusive classroom (Pantiwati et al., 2023; Siri et al., 2020). Globally, studies on teachers' social competence, such as those by Caena and Vuorikari (2022), Lindström et al. (2024), and Reagan and Pratte (1973), underline that effective communication and teamwork are essential for fostering a harmonious learning environment. Teachers must act not only as instructors but also as facilitators of collaboration within the broader school community.

Considering these challenges and opportunities, while the Merdeka Curriculum has made notable strides in improving teachers' social competencies, further investments in professional development are crucial. Teachers need ongoing training to adapt to evolving pedagogical practices, manage new educational technologies, and respond to the diverse demands of students. This is particularly pertinent in a global context where educational reforms often encounter resistance due to inadequate training or a lack of support for teachers (Cross, 1994). Policymakers must prioritize the creation of support systems

that equip educators to navigate these changes, ensuring that the goals of the Merdeka Curriculum are met and that inclusive, equitable education becomes a reality for all students.

Pedagogical competence

The implementation of the Merdeka Curriculum poses a number of challenges that can impact its effectiveness. A major concern is the large class size, which hinders teachers' ability to provide individualized attention and tailor learning experiences to the diverse needs of students. This is a common issue not only in Indonesia but also in many other countries with limited resources, such as India and Brazil, where class sizes often exceed 40 students. Additionally, while the Merdeka Curriculum encourages a shift toward technology integration and student-centered learning, teachers often lack the necessary training and resources to make these transitions successfully. Short online training programs are insufficient in helping teachers adapt to these new methods, leaving many without the technological proficiency needed for effective implementation (Hartshorne et al., 2020; Hew et al., 2020; Mahmood, 2021). Furthermore, resource constraints, such as insufficient teaching assistants and teaching tools, add to the difficulties teachers face in adapting their methods to large, diverse classrooms. These resource limitations prevent teachers from fully engaging with every student, reducing the overall effectiveness of the curriculum (Pantiwati et al., 2023).

The findings from the research offer several practical implications for policymakers and educators to improve the implementation of the Merdeka Curriculum. First, there is a clear need for policymakers to invest in continuous, accessible teacher training programs that focus on both pedagogical innovation and technological integration. Equipping instructors with the necessary resources to effectively engage students—primarily through project-based learning and technology-enhanced methods—can facilitate the successful realization of the curriculum's student-centered approach. Additionally, to address the challenge of large class sizes, class division strategies and the use of teaching assistants are practical solutions that could significantly enhance the quality of instruction. Policymakers should prioritize these strategies and allocate resources to ensure that teachers are supported in managing large classrooms. Another key implication is the shift toward holistic student assessments, which track not only academic progress but also socio-emotional development. Educators' assessment frameworks should incorporate a broader range of evaluative methods, such as portfolios and performance assessments, to reflect the diverse aspects of students' growth.

A comprehensive, global viewpoint indicates that the issues and solutions associated with implementing the Merdeka Curriculum are not exclusive to Indonesia. The prevalence of large class sizes is a significant concern in nations with constrained educational resources, such as India and Brazil. Overcoming this obstacle necessitates systematic support through resource allocation and the employment of teaching assistants—tactics that have been effectively executed in other nations confronting analogous issues (Mahmood, 2021). The global trend of integrating technology in education is apparent in numerous nations; nevertheless, its effectiveness is largely contingent upon the training and preparedness of educators. Finland has made substantial investments in digital tools and teacher professional development to facilitate efficient technology integration. This comparative analysis indicates that although the Merdeka Curriculum's emphasis on technology and student-centered learning corresponds with international best practices, local teacher readiness and infrastructure enhancements are essential for its complete efficacy.

Additionally, the worldwide transition toward comprehensive evaluations, particularly those emphasizing socio-emotional development, reinforces the trajectory of the Merdeka Curriculum. Countries such as Finland and Singapore have consistently adopted comprehensive evaluation models that monitor both academic and character development, a practice that aligns with the Pancasila Student Profile in Indonesia. The efficacy of such programs relies on adapting global techniques to local contexts, ensuring that the curriculum is culturally relevant and viable within current resource limitations.

Personality competence

The research findings demonstrate that the effectiveness of teachers' personality competence within the Merdeka Curriculum is largely based on the rigorous application of norms and regulations in learning. Clearly defined and consistently enforced norms foster a conducive learning environment, which is vital

for achieving the goals of the Merdeka Curriculum. Teachers must demonstrate adaptability, flexibility, and a positive attitude in applying these rules, ensuring that students understand and implement them effectively. To address diverse student needs, norms should be applied holistically and collaboratively, actively involving students in the learning process. Creativity and innovation on the part of teachers in managing classroom norms are essential, enabling students to develop a sense of shared responsibility in their education. Parental involvement and a safe, supportive learning environment are critical factors for success. Implementing the Merdeka Curriculum has positively influenced teacher motivation and professionalism, encouraging greater creativity and collaboration in nurturing students' potential. However, the increased workload for teachers highlights a significant challenge in implementation. Addressing this requires targeted efforts to enhance teachers' pedagogical and personal competencies to sustain the curriculum's focus on holistic student development.

From a global perspective, the challenges faced in implementing the Merdeka Curriculum align with similar reforms worldwide, where teachers are expected to balance traditional practices with progressive educational demands. For instance, curriculum reforms in Finland and Singapore also highlight the importance of teacher adaptability and student-centered learning, suggesting the necessity for ongoing professional development and institutional support. Policymakers should consider these international benchmarks to provide actionable strategies that alleviate teacher burdens while enhancing curriculum implementation.

The practical implications of these findings are profound for both policymakers and educators. Policymakers must address systemic challenges, such as teacher workload, by offering targeted training programs and additional resources to streamline curriculum demands. Integrating technology and collaborative teaching methods could further support teachers in managing classroom norms effectively. Educators, on the other hand, should focus on fostering professional learning communities where best practices and innovative strategies are shared. Such collaborative efforts would enhance teacher competencies and contribute to the sustainable implementation of the Merdeka Curriculum.

This study reinforces existing theories on the critical role of teacher personality competence in fostering conducive learning environments. Previous research by Ahmad et al. (2017) highlighted the importance of stable, authoritative, and responsible teacher personalities in shaping student character. Similarly, Prahastina et al. (2024) emphasized the need for consistency and flexibility in applying norms and rules, aligning with the adaptive and creative roles required of teachers under the Merdeka Curriculum. Furthermore, findings from Yoto et al. (2024) underscore the significance of collaborative approaches that actively engage students in learning, echoing the global shift toward participatory education. The role of teachers in building harmonious relationships with parents and the community, as noted by Pantiwati et al. (2023), further complements the findings of this study. Lastly, Rohmah et al. (2024) assert that teacher professionalism and integrity drive holistic student development, paralleling the positive outcomes observed under the Merdeka Curriculum.

By situating these findings within a broader context, the study provides valuable insights for both national and international education stakeholders. Comparative analyses highlight that, while the Merdeka Curriculum faces unique challenges, its emphasis on teacher creativity, collaboration, and adaptability reflects global trends in curriculum reform. Addressing these challenges requires systemic interventions that empower educators and prioritize student-centered learning as a shared responsibility among all stakeholders.

Professional competence

The results indicate that educators' professional proficiency in understanding the Merdeka Curriculum is crucial to achieving learning success. A comprehensive and contextual understanding of the curriculum allows educators to effectively tailor education to meet the diverse needs of students. It is imperative for educators to possess extensive subject knowledge to present content in an engaging and relevant manner (Tang et al., 2017). However, challenges remain in its implementation, as not all educators have equal access to professional development opportunities or the essential skills required to apply these methodologies consistently. Addressing inequities in teacher preparation and resource distribution is vital for overcoming these challenges.

A crucial element of this study is the focus on incorporating technology into the educational process, a fundamental principle of the Merdeka Curriculum. The research indicates that digitally proficient teachers enhance instructional effectiveness and student engagement. However, it also identifies obstacles, including unequal access to technology, insufficient digital literacy among even confident educators, and infrastructural limitations, particularly in rural areas. Technological competency is essential for contemporary education, although successful integration often requires systemic support, including investments in infrastructure and ongoing training (Andyani et al., 2020; Gudmundsdottir & Hatlevik, 2018).

The study emphasizes the importance of continuous professional development for educators, primarily through formal training, reflective practices, and collaboration. The "Merdeka Mengajar" platform and professional networks are valuable resources, yet their adoption is hindered by obstacles such as time constraints, insufficient institutional support, and varying levels of teacher motivation. Training must be accessible and tailored to address these implementation gaps (Hunaepi & Suharta, 2024).

The findings reflect issues encountered in similar educational transformations worldwide. Comparative analyses with countries using competency-based curricula, such as Finland and Singapore, indicate that professional development is most effective when integrated within a supportive policy framework that encourages collaboration, provides mentorship opportunities, and ensures equitable resource distribution. Policymakers should consider adopting best practices from these contexts, including incentivizing professional development and incorporating feedback systems to continuously improve teacher training programs.

The implications for policymakers and educators are clear: substantial investment is essential to enhance teacher competencies and ensure the equitable implementation of the Merdeka Curriculum. Policymakers must prioritize funding for teacher training, particularly in technology integration, while addressing infrastructural and equity challenges that hinder widespread access. Furthermore, educators should actively engage in opportunities for professional development, utilizing platforms such as "Merdeka Mengajar" to adapt teaching methodologies to contemporary needs.

This study confirms that proficiency in teaching materials, effective use of technology, and a commitment to lifelong learning form the foundation of teachers' professional competence. These elements not only enhance the quality of instruction but also increase the curriculum's relevance to students' needs in an increasingly globalized and technology-driven world (Caena & Vuorikari, 2022). Addressing these challenges and leveraging the practical implications of these findings will significantly improve the effective implementation of the Merdeka Curriculum, aligning it with global educational advancements.

Conclusions

This research highlights the transformative influence of the Merdeka Curriculum on multiple aspects of teacher competencies, including social, educational, personal, and professional dimensions. Teachers demonstrated significant improvements in social competency, particularly in communication and adaptability. The results emphasize enhanced collaboration, inclusive practices, and greater attention to diverse student needs, fostering a more dynamic and equitable educational environment. However, while many educators successfully transitioned, some continue to face challenges, underscoring the need for ongoing support and adjustment strategies.

The pedagogical competency within the Merdeka Curriculum reflects a shift toward a more student-centered and flexible learning approach. Educators must utilize diagnostic and non-cognitive assessments to better understand students, while prioritizing project-based and active learning methodologies. Despite these advancements, challenges such as large class sizes and varying levels of technological proficiency persist, indicating the need for strategies like class segmentation, additional instructional support, and continuous professional development to improve educational outcomes.

The consistent application of norms and rules enhances personal competence, fostering an effective learning environment. Educators are expected to demonstrate adaptability, innovation, and a positive attitude, encouraging students' active participation in creating a collaborative classroom atmosphere. Parental involvement and a safe, nurturing environment are crucial for achieving the curriculum's objectives. The increased workload for educators highlights the need to balance responsibilities with opportunities for professional development.

Professional competence refers to educators' expertise in instructional content and the integration of technology. Despite noticeable progress, the need for more comprehensive and contextualized learning remains a challenge. Self-development activities, including formal training, collaborative practices, and the use of technological platforms such as "Merdeka Mengajar," are essential for enhancing teaching quality. Regular reflection and assessment further support professional growth, ensuring that teachers remain aligned with the curriculum's objectives.

Several limitations emerged during the study. The variability in teachers' adaptation to curricular changes suggests that the findings may not fully reflect all circumstances, particularly in regions with limited resources or restricted access to training. Additionally, while the research addresses technological integration, the extent of its impact on different classroom environments has not been extensively explored. The results are based on case studies, which may limit their generalizability to other educational systems or cultural contexts.

Future research could explore the impact of technology integration on student learning outcomes and teacher competence within the Merdeka Curriculum. Studies might investigate how digital technologies, such as interactive platforms and AI-driven assessments, enhance engagement and comprehension in various educational contexts. Additionally, evaluating the effectiveness of professional development programs in improving teachers' pedagogical and professional skills is essential. This includes examining the long-term effects of training on classroom management, new teaching techniques, and comprehensive learning strategies. Investigating the role of bidirectional communication between educators and students, as well as interprofessional collaboration among teachers, administrators, and parents, could provide valuable insights for creating a more supportive and effective educational environment. These areas of research will contribute to the successful implementation of the Merdeka Curriculum and support the continued development of Indonesia's educational system.

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