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Challenges for junior high school mathematics teachers in preparing to implement the independent curriculum

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ABSTRACT

This research aims to describe the challenges of junior high school mathematics teachers in Pekanbaru in preparing to implement the independent curriculum. This type of research is a mixture of quantitative and qualitative research. The subjects of this research were 10 teachers from 5 schools in Pekanbaru. Data was collected using interviews, FGD, and questionnaires. Based on the results of data analysis, the challenges for mathematics teachers in preparing an independent curriculum are as follows. First, training and socialization have not been able to provide complete understanding for teachers in preparing the Independent Curriculum. Second, teachers try to overcome difficulties in planning learning in the Independent Curriculum. Third, the implementation of learning is not appropriate and the facilities and infrastructure at school are not yet supportive, coupled with differences in the cognitive background of students. Fourth, teachers need to improve their understanding completely regarding the system for assessing and reporting learning outcomes in the Independent Curriculum. Then, if we trace it based on the questionnaire, we can conclude that the preparation for implementing the Independent Curriculum by junior high school mathematics teachers in Pekanbaru, even though they are still experiencing various challenges, is in the Good category (70% < score < 84%.), with details, 5 teachers are in the adequate category while 5 people are in the Good category.

Penelitian ini bertujuan untuk mendeskripsikan tantangan guru matematika SMP di Pekanbaru dalam mempersiapkan pelaksanaan kurikulum merdeka. Jenis penelitian ini adalah penelitian campuran antara penelitian kuantitatif dan kualitatif. Subjek penelitian ini adalah 10 orang guru dari 5 Sekolah yang ada di Pekanbaru. Data dikumpulkan menggunakan wawancara, FGD, dan angket. Berdasarkan hasil analisis data diperoleh tantangan guru matematika dalam memepersiapakan kurikulum merdeka sebagai berikut. Pertama, Pelatihan dan sosialisasi belum dapat memberikan pemahaman secara utuh bagi guru dalam mempersiapkan Kurikulum Merdeka. Kedua, Guru berupaya mengatasi kesulitan dalam merencanakan pembelajaran dalam Kurikulum Merdeka. Ketiga Pelaksanaan pembelajaran belum sesuai serta sarana dan prasarana di sekolah belum mendukung, ditambah dengan perbedaan latar belakang kognitif peserta didik. Ke empat, Guru perlu meningkatkan pemahaman secara sempurna terkait sistem penilaian dan pelaporan hasil belajar pada Kurikulum Merdeka. Kemudian jika ditelusuri Bagdasarian angket maka diperoleh kesimpulan dimana persiapan penerapan Kurikulum Merdeka oleh guru Matematika SMP di Pekanbaru kendatipun masih mengalami berbagai tantangan, berada pada kategori Baik (70% <

skor < 84%.), dengan rincian, 5 orang guru kategori cukup sedangkan 5 orang lagi kategori Baik.

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INTRODUCTION

The future of our nation is greatly influenced by the mindset of its people which is formed through the education process (Loka et al., 2017:96) . Education plays an important role in human life because education is human provision as a guide and guidance in facing the future (Fitria et al., 2023:94) . A directed education process will lead this nation towards a better civilization. On the other hand, if the education process is not focused, it will only be a waste of time, energy, and funds without bringing any results. Thus, maximum efforts are needed to improve the quality of education in the Republic of Indonesia.

In improving the quality of education, 21st century skills are needed to help students think critically and solve problems. In addition, the ability to collaborate will help students work together, adapt to various tasks and work productively with others. Apart from that, students are also trained to have good communication skills both verbally and in writing. Students are also trained to develop and apply innovative ideas, especially in mathematics learning (Riyanto, 2018).

Mathematics as one of the subjects taught in schools contributes to realizing national education goals and building an Indonesian nation that is productive, creative, innovative and insightful. Mathematics is one of the most important sciences in human life. Mathematics in education has an essential role. Making improvements to mathematics learning is one effort that can be done in the field of education (Suripah & Sthephani, 2017) .

Educational reform is an interest that must be implemented to change the state of education for the better. Human resources are the most important factor in achieving set educational goals. If we talk about education and educational goals, then we are not far from the development of the curriculum in education itself. One of the efforts is to improve the quality of education (Eka Retnaningsih & Patilima, 2022:144) .

Indonesia has demonstrated its efforts to improve the quality of several aspects of life, both educational and social. Good education will basically determine the welfare and prosperity of society. This is proven by the presence of a new curriculum, namely the independent curriculum which was initiated directly by the Minister of Education, Culture, Research and Technology of the Republic of Indonesia (Kemendikbudristek RI), Nadiem Makarim, where the main concept of this curriculum is independence in thinking.

The concept and direction of the new curriculum, which is an antidote to the problems that occur in Indonesian education, is experiencing various challenges that are both supportive and repulsive from all elements of education (Suhandi & Robi'ah, 2022: 5937) . Mulyasa (2021) explains that this curriculum policy must be adjusted to handle educational challenges in accordance with current developments. Apart from that, it appears that the mandate or structure of the new curriculum is different from the previous curriculum. The 2013 curriculum supports a scientific approach, while the independent curriculum supports a project-based learning approach. This is in line with the opinion of Sapitri (2022) that the curriculum has a structure that is centered on noble character development, but in this curriculum character development can be realized through students' learning experiences and project-based learning which is the mandate of the independent curriculum.

The independent curriculum is one part of the learning recovery effort, where the previous curriculum consisted of diverse intracurricular learning. This curriculum gives teachers the freedom to

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choose various learning tools to adapt learning to students' learning needs and interests. Apart from that, the independent curriculum also gives students the opportunity to strengthen their skills.

The Independent Curriculum was launched by the Ministry of Education, Culture, Research and Technology as a form of response and solution to the current condition of education in Indonesia. One of them is the occurrence of learning loss or lagging in learning which occurred due to the Covid-19 pandemic in two years. In order to recover learning loss in certain situations, educational units or groups of educational units must develop curricula based on diversification to meet the needs of educational units, regional potential and students. Among the developments in the Independent Curriculum are the existence of intracurricular learning patterns and projects to strengthen the profile of Pancasila students (Hasanah et al., 2022:236) .

The new Independent Curriculum will become the national curriculum in 2024. However, for now the Independent Curriculum has only become an option for educational units (Nurwiatin, 2022:474) . One of the reasons the independent curriculum remains the current choice is because the Ministry of Education, Culture, Research and Technology wants to emphasize that schools have the authority and responsibility to develop a curriculum that suits the needs and context of each school (Sulistyani et al., 2022: 2001) . The implementation of this new curriculum will certainly be a challenge for schools, teachers, and students, because these three subjects play an active role in the implementation of the learning process. The ever-changing curriculum certainly affects teachers and students. Frequent changes in the nation's curriculum leave teachers and students confused, while students have to adapt the way they learn, and teachers have to change their approaches. If teachers still do not understand the curriculum, it can certainly cause learning activities to be ineffective (Muspita Sari, 2019:34) .

The reason is that in implementing the new curriculum, socialization and training are still be the problems that must be corrected and improved, because socialization is one of the keys to success in implementing the curriculum (Pasili & Mala, 2020) . Even though there is already a platform regarding the independent curriculum, if there is no special and focused training then understanding of the independent curriculum will be less than optimal. The lack and limited time for socialization makes the socialization process ineffective and inefficient.

Lack of insight will cause difficulties for teachers in implementing the independent curriculum. In the independent curriculum itself, teachers are required to be creative and innovative in methods, media and learning techniques (Angga et al., 2022) . Teachers must adapt the use of learning methods, styles, and techniques according to the level of students' abilities. This aims to ensure that students receive learning that is appropriate to their abilities. In this way, teachers must create more variations in methods, techniques, and learning styles for students in learning.

Apart from that, there are still many teachers who are still stuck and accustomed to the previous curriculum, which is one of the reasons why the implementation of the independent curriculum is hampered. There are changes that occur, including in terms of learning tools, procedures for implementing learning and assessment instruments. Teachers still need to get used to and understand the independent curriculum in depth so they can implement it as expected.

Based on the description above, the researcher intends to find out what challenges are currently faced by mathematics teachers in preparation for implementing the new curriculum. Where the new curriculum is the independent curriculum, where only a few junior high schools in Pekanbaru have only implemented this curriculum. Therefore, the role and challenges of teachers are of particular concern in the new curriculum policy. Because every time a new curriculum is implemented, there will be challenges that teachers will experience in preparing and implementing it. Therefore, researchers are interested in conducting research which aims to describe the challenges of mathematics teachers in preparing to implement the independent curriculum.

METHOD

This research used mixed research methods. Descriptive methods are used to explore teachers' challenges in preparing to implement the independent curriculum. Meanwhile, quantitative methods are used to determine the percentage of questionnaires distributed. Interviews and questionnaires were

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given with the aim of exploring phenomena that occur among mathematics teachers, especially those whose schools have become samples for implementing the independent curriculum in 2024. Therefore, in 2023 not all schools will implement the independent curriculum, only a few schools will become samples for trial preparation for implementing the curriculum.

The primary data source in this research is information that is in accordance with what the author researched through direct interviews in the field, FGDs and administering questionnaires. Secondary data sources were obtained through documentation and literature study, as well as field notes and print media and the internet. Research was conducted on 10 teachers at several junior high schools in Pekanbaru . One of the reasons the choice of public schools is that private schools in the city of Pekanbaru in the odd and even semesters 2022-2023 have not yet started. The schools used as research include: SMPN 25 Pekanbaru, SMPN 22 Pekanbaru, SMPN 10 Pekanbaru, SMPN 26 Pekanbaru, and SMPN 13 Pekanbaru. Each school is represented by two mathematics teachers.

Data collection techniques in this research were interviews, focus group discussions (FGD) and questionnaires. Before conducting an interview, the research began with a FGD with teachers to discuss things that were challenges in preparing for the implementation of the independent curriculum which must be implemented in schools in the next year. After conducting a FGD and finding several general problems regarding the preparation of the independent curriculum, it was followed by interviews with each teacher who was the target of the research. After the interview was completed, the teacher was then given a questionnaire to explore potential problems that were challenges for teachers in preparing the implementation of the independent curriculum. After all the data is obtained, it is followed by comprehensive data analysis.

Data analysis techniques according to Moleong (2010) are carried out by collecting data, separating it, looking for patterns, finding what is important, and determining what can be told to other people. The detailed data analysis steps are carried out as follows: (1) data collection; (2) data reduction; (3) data presentation; and (4) drawing conclusions.

Data obtained from interviews were recorded in field notes which consisted of two aspects, namely description and reflection. Descriptive notes are natural data that contain what the researcher saw, heard, felt, witnessed, and experienced without any opinion or interpretation from the researcher about the phenomena encountered. Meanwhile, reflection notes are notes that contain the researcher's impressions, comments and interpretations about the findings found and are material for data collection plans for the next stage. To obtain these notes, the researcher conducted interviews with several informants who were considered to know about the problem to be studied.

Data reduction is carried out to summarize, select the main things, focus on the important things, look for themes and patterns and throw away what is not necessary. In this case, the results of the FGD with teachers were discussed and formulated several problems which were then organized into four problem themes related to teachers' challenges in preparing to implement the independent curriculum. The existing themes then develop into sub-themes which are then reduced according to the developing pattern so that relationships are formed between the sub-themes. Meanwhile, the questionnaire data was analyzed quantitatively by calculating the percentage of each indicator.

Data presentation is intended to present a collection of information that provides the possibility of drawing conclusions and making decisions. The interview results are presented qualitatively and are described by drawing conclusions based on the pattern relationships between sub-themes. Meanwhile for the questionnaire, apart from being a qualitative descriptive presentation, it is also presented quantitatively by calculating the percentage for each indicator of the challenges of mathematics teachers in preparing to implement the independent curriculum.

Lastly is drawing conclusions. The interview data obtained in the final analysis results were summarized based on the results of data reduction obtained based on the relationship between patterns of sub-sub themes which then determined the appropriate themes. The results of data reduction are then presented in table form. The relationships between the themes that are formed are then used to explore problems related to the challenges of mathematics teachers in preparing to implement the independent curriculum. while the questionnaire data was analyzed by calculating the percentage of indicators of challenges for mathematics teachers in preparing to implement the independent curriculum.

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RESULTS AND DISCUSSION

Results

Data related to this research was obtained from interviews and questionnaires. The interview results obtained were grouped according to four themes which became interview material for review, then reduced and looked for sub-subthemes. In this research, four themes were found to determine teachers' challenges in implementing the Independent Curriculum, namely (1) training and socialization; (2) learning planning; (3): implementation of learning; (4) assessment and reporting system. Each theme obtained is described as follows.

Training and Socialization

The independent curriculum is the latest curriculum that is applied to all educational units. With the implementation of this new curriculum, training and socialization is required to prepare the implementation of the curriculum as expected. The quality of the training and socialization process itself is the foundation of successful curriculum implementation. Schools have attempted various kinds of outreach and training, but there are still several problems found in the field. Based on the results of research data analysis, there were three sub-themes found for the theme of training and socialization as in Table 1.

Table 1. Reduction results related to training and socialization

No	Sub-Themes	Relationship between sub-themes
1	Time allocation for training and socialization has not been effective and efficient	Training and socialization have not been able to provide complete understanding for teachers in implementing the Independent Curriculum
2	There are still differences in views and opinions between one presenter and another	
3	Providing training and socialization to teachers has not been optimal	

Some examples of teacher statements that support the theme of training and socialization are as follows.

"The problem is time, because our activities are not only teaching, we also have individual activities ..." (G 1 T1). "I only got socialization and that was only online, so it wasn't optimal" (G 2 T1) . "The problem may be that we are still not able to apply what we learned in the training, sometimes between one training and another there are differences of opinion which make us sometimes confused..." (G 3 T1) .

The problem that often arises in the training and socialization process is that there are differences of opinion between presenters with each other. This condition causes confusion among teachers who take part in the training. And also the training and socialization processes are sometimes ineffective and inefficient. There is still a lot of material that has not been presented in detail, resulting in teachers' insight not being sufficient to be able to implement the independent curriculum.

Learning Planning

Before carrying out the learning process, the teacher must of course design the learning tools. Learning planning aims to ensure that all activities that will be carried out during learning run well and are organized. In the independent curriculum, the terms KI and KD were changed to Learning Achievements (CP). CP is the amount of time allocated to achieve targeted goals which are designed based on phases. Phase C is for classes V and VI at elementary school level, Phase D is for classes VII, VIII and IX at junior high school level, and then Phase F is for class X at high school level. From this, teachers should prepare learning that is appropriate to the phase by evaluating the previous phase and preparing for the next phase. The CP will be translated into a flow of learning objectives (ATP). Then the development of teaching modules is implemented from the flow of learning objectives (ATP)

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which are developed from learning outcomes (CP) targeting the Pancasila student profile.

In designing teaching modules, teachers need to create trigger questions so that the teaching modules applied in learning make a scenario of learning activities carried out more effective and meaningful for students. Based on the results of research data analysis, four sub-themes were found for the learning planning theme as presented in Table 2.

Table 2. Reduction results related to learning planning

No	Sub-Themes	Relationship between sub-themes
1	Teachers have difficulty in designing teaching modules	Teachers still have difficulty in planning the learning in the Independent Curriculum
2	Teachers do not understand the new terms in teaching tools	
3	Teachers have difficulty in preparing learning media	
4	Teachers confused in determining the use of learning models and methods	

The changes felt by teachers in making learning plans during the implementation of the independent curriculum confront them with challenges that need to be addressed well. This is supported by the following interview results.

"I had difficulty making the module, because I was still having difficulty in finding appropriate learning media..." (G1 T2) . "The difficulty is in determining the CP and Module" (G2 T2). "Because this is a new curriculum, you can't differentiate between CP and ATP" (G 8T2) .

Seeing these conditions, it can be concluded that in the process teachers still experience problems in creating teaching modules, this is because teaching modules are something new from before. Thus, the preparation process takes a little longer. Therefore, teachers, as the front guard of existing changes, must be ready to make efforts, dare to learn and always try. Efforts that can also be made are by taking part in training in creating teaching modules such as through MGMP. It is hoped that with this discussion, there will be an exchange of opinions regarding solutions related to difficulties that may occur in designing learning plans.

Implementation of Learning

Learning is one of the essences in implementing the curriculum. Implementation of learning is the realization of the learning design that has been created by the teacher. Several problems found in the learning process are related to the implementation of learning. In mathematics learning, there are various challenges faced by teachers. This is presented in the reduction results in Table 3.

Table 3. Reduction Results Related to Learning Implementation

	Sub-Themes	Relationship between sub-themes
1	Facilities and infrastructure in schools still do not support the implementation of technology-based learning	The implementation of learning is not appropriate and the facilities and infrastructure at school are not yet supportive
2	Learning that is still not in accordance with the learning tools	
3	The implementation of the learning design still requires adjustments	
4	Students' interest in reading and interest in learning is still lacking	Teachers have difficulty in implementing the learning due to the students' different backgrounds
5	It is often found that students are still not used to Student Centered Learning	
6	Teachers run out of time when delivering material according to the learning design due to gaps in abilities among students	

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The opinions of prospective teachers in accordance with the theme of learning implementation are as follows.

"Because there are 40 students in the class, so among the 40 some are smart, some are less, so the gap is too big, making me confused about how to overcome it" (G1 T3). "....we can't use infocus because only the upper classes are given infocus, so we can't use media such as PPT and video" (G2 T3). "The difficulty is because students previously in elementary school were used to have the material explained by the teacher..." (G 6T3). "Indeed, sometimes it is not in accordance with the plans we have made, because children's interest in reading is minimal, due to the impact of Covid 19 where children are used to being easy, so children are not optimal in learning and we as teachers are hampered. Meanwhile, in junior high school mathematics, questions are required in the form of narratives. If only 20% of students are able to present them, can we consider the learning complete? Of course not" (G4 T3) . "Because students' abilities are different, sometimes some can do it, some can't, so we feel like we haven't succeeded in learning" (G 5 T3) .

Implementing learning in this independent curriculum certainly requires adaptation. The teacher's lack of understanding regarding the concept of the independent learning program is what makes it difficult for teachers to implement it. Therefore, improving the quality of supporting teacher competency is very necessary. The professionalism of a teacher really guarantees the success of demands for new policies that are implemented.

Assessment System and Learning Results Reports

Learning outcomes assessment system using the independent curriculum is part of the challenges faced by teachers. Many mathematics teachers complain about the grading system applied in the Independent Curriculum. However, one of the positive things that challenges teachers is how teachers learn to create questions that can differentiate the cognitive levels of their students. The results of data reduction related to themes for the assessment system and learning outcomes reports are presented in Table 4.

Table 4. Reduction Results Related to the Assessment System

No	Sub-Themes	Relationship between sub-themes
1	There is still a lack of understanding of the assessment system	The assessment is still not carried out properly
2	Too many students make it difficult for teachers to measure individual competency	
3	The implementation of the assessment has not been effective and efficient	
4	When making report cards, teachers do not understand the details	Teachers do not yet understand the reporting system in the independent curriculum
5	Making report cards requires the ability to master technology	
6	Many questions must be prepared to differentiate students' cognitive levels according to their level.	

The knowledge regarding the assessment system in the independent curriculum is still not known and mastered by junior high school teachers in Pekanbaru. Especially in reporting learning results, there are still many teachers who do not understand at all how to report learning results. This is because the curriculum that has just been implemented means that teachers have not yet reached these procedures and there is still a lack of knowledge obtained by teachers in training. The interview results that support the sub-themes above are as follows.

"... previously there was a minimum of completeness, now there isn't, so we ourselves can judge whether the child can do it or not. It's just that the assessment is still confusing, I'm still confused about how to assess these students ” (G9T4) . "...coincidentally, this semester I have just carried out learning using the independent curriculum. As far as I know, the difficulty may depend on the server

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because the report assessment is done online" (G 6T4) . "....Too many students become teachers who alone in the classroom have difficulty measuring individual student competence" (G7T4) . "...The assessment is still not very clear. Some say there is one report card, some say two" (G4 T4) . "...technically, the report card is already known, but because it hasn't been implemented yet, it's still up in the air" (G5 T5) . More than that... "assessment requires standards, standards that have not yet been explained regarding the differences in levels, continuing to assess them as to what they are is what needs to be emphasized." (G10T4) .

In this case, of course, the teacher's task is not only in the learning process, but also in assessment. Teachers must understand how to assess students' strengths and weaknesses with the aim of being able to monitor or evaluate the learning process and progress, as well as improving student learning outcomes on an ongoing basis. Teachers are also required to be creative so they can adjust based on students' understanding. Implementing learning in this independent curriculum certainly requires adaptation. The teacher's lack of understanding regarding the concept of the independent learning program is what makes it difficult for teachers to implement it. Therefore, improving the quality of supporting teacher competency is very necessary. The professionalism of an educator guarantees the success of demands for new policies that are implemented. Teachers are expected to be able to innovate and be creative in delivering learning and can package it in an interesting way. Teachers need to understand that each student has their own characteristics and potential in their field. So that the learning carried out can vary according to the conditions of each student. Of course, it is not an easy task for teachers to implement this new curriculum, but without us realizing it, creativity and innovation in implementing learning can produce qualityof student output to support progress in other fields where teachers can collaborate.

Questionnaire assessment results

The results of the questionnaire description of the use of the Independent Curriculum by junior high school mathematics teachers in Pekanbaru City related to teachers' challenges in preparing to implement the Independent Curriculum on mathematics lesson. There were five schools involved in this research and two mathematics teachers were selected from each school to be respondents in this research. The assessment of the questionnaire results is listed in Table 5.

Table 5. Questionnaire Assessment Results

No	Type of Assessment	Score Mark		Percent (%)		Average		Information
		Max	Min	Max	Min	Mark	Percent	
1	Questionnaire	119	92	82.64	63.89	104.1	72.15	Entire Questionnaire
2	Questionnaire Points	34	16	85	40	28.92	72.15	Minimum point 9, Maximum points 1 and 2

Minimum score on the questionnaire is 92, the maximum score on the questionnaire is 119, and the average score on the questionnaire is 104.1. If the score is expressed in percentage form, it is obtained data as follows: The minimum questionnaire score is 63.89% of the maximum questionnaire score is 82 .64%, and score average which is obtained is 72.15%.

If we observe each statement point, the following data will be obtained: The minimum questionnaire point score is at point 9 with a score of 16. The maximum questionnaire point scores are in points 1 and 2 with a score of 34. The average of questionnaire score is 28.92. When score is stated in form of percent, so obtained data as following: Percentage points questionnaire minimum on point 9

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is 40.0%. The maximum percentage of questionnaire points in points 1 and 2 is equal to 85.0%. The average percentage of questionnaire points is 72.15%.

If we look again, out of 10 teachers there are 5 teachers whose percentage is the same in range 60% < percentage < 69% which is in category Enough, while 5 other teachers get percentage in range 70% < percentage < 84% fall into the Good category. If we look at the points per questionnaire, then point 9 is one of the points with the most contrast because it gets a deep percentage range 0% < percentage < 44% which including category very little. This matter shows that teachers still really need more and more comprehensive training and socialization regarding the Independent Curriculum, because there are those who have implemented this curriculum in the 2022/2023 academic year and there are those who have only implemented it in the 2023/2024 academic year. However, points 1 and 2 show that the teacher seems to agree that they have received training and socialization at least once because results show percentage which obtained on that points are in between 85% < percentage < 100%.

In terms of assessment and reporting, many teachers still do not fully understand how to report their learning results and what assessments must be carried out in the independent curriculum. In practice, eliminating the KKM makes it difficult for teachers to benchmark student success. In learning assessment there are two report cards, namely the academic assessment report and the project assessment report. This of course requires more time and more energy.

Based on the results of questionnaires related to learning planning, it was found that there were several challenges faced by teachers. Point 13 states that teachers are not very capable in designing teaching modules that suit to student characteristics. This is supported by the percentage results which show 60% < score < 69%, so it is categorized as Sufficient.

The results of the questionnaire relating to the assessment system and reporting of learning outcomes show that all points are in the Good category, because the percentage results are 70% < score < 84%. This of course still requires improvement regarding how assessment and reporting is implemented in the independent curriculum, because some teachers only know the theory but are not yet able to apply it.

Discussion

Based on data obtained from interviews and questionnaires given by researchers to respondents who are related to the study entitled "Challenges of Junior High School Mathematics Teachers in Pekanbaru in Preparing to Implement the Independent Curriculum", it can be understood that preparations for implementing the independent curriculum can be said to be ongoing certain challenges experienced by teachers when apply it in the classroom. This was demonstrated by several junior high schools which were used as test samples for implementing the independent curriculum. Only a few schools were sampled for implementing the independent curriculum. The discussion of the results of the interviews and questionnaires is described as follows.

The results of the interviews showed that every teacher had participated in socialization and training on the independent curriculum at least once, but not many teachers knew about the results of the training. Comments from a mathematics teacher at one of the schools interviewed indicated that the results of the training were not yet complete and comprehensive. Then, in training, sometimes there are still differences of opinion which make teachers confused about which one is more appropriate. Apart from that, according to other mathematics teachers who were also respondents, it was felt that training that was only followed online did not get maximum results. It is known that online training will have many obstacles such as an unstable network and surrounding interference. Therefore, the teachers hope for further activities, training and socialization regarding the Independent Curriculum can be obtained by all teachers. Activities can be held online open with greater frequency so that teachers receive sufficient training and more knowledge. Apart from that, teachers' insight into the independent curriculum can be more perfect. This is in line with previous research by Retnawati (2015), success in implementing the curriculum depended on the quality of the training and socialization process.

In preparing to implement the Independent Curriculum, teachers must identify what is needed

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for learning, such as learning tools, media and preparation for teaching for one school year with the Independent Curriculum concept. Professional teachers are required to have the ability and mastery in compiling learning tools, because learning tools are the basis and guidance for teachers in carrying out learning including preparing teaching materials (Alzaber et al., 2021) , (Hariyanti & Wutsqa, 2020) , (Shiellany & Poniam , 2020) . Apart from preparing teaching materials, the Ministry of Education, Culture, Research and Technology is trying to strengthen the character of students by strengthening the profile of Pancasila students in the independent curriculum content. In this way, teachers must be able to prepare lessons that can give students an understanding of how to behave based on Pancasila values (Kurniawaty et al., 2022) .

However, in making learning plans, the challenges faced by teachers in implementing the Independent Curriculum include a lack of understanding of the curriculum, difficulties in designing learning tools, and difficulties in applying creative and innovative learning methods. In implementing the Independent Curriculum, teachers must design learning that suits the needs of students. Before designing learning outcomes (CP), the teacher must first carry out an analysis of the essential material (AME). This is in line with the research results stated by Miladiah et al. (2023) that the preparation that must be done is to carry out an initial objective analysis of the material that will be taught by the teacher to students in the learning process. After that, the teacher must prepare the CP along with the Learning Objectives Flow (ATP) and the material to be taught. Then the teacher designs learning tools such as teaching modules, where these teaching modules refer to learning plans that are tailored to the needs of students (Maryam et al., 2022) .

In implementing learning using the independent curriculum in several schools there are still facilities and infrastructure that do not support the implementation of technology-based learning. This contrasts with the implementation of the Independent Curriculum which is required to prioritize technology. This is in accordance with the opinion of Karuniawati (2022) who states that in order for the independent curriculum to run well, one of the ways is that schools should have provided facilities and infrastructure that support the availability of technological development. Considering that one of the achievements and objectives of the independent curriculum is to prioritize learning by utilizing technology, teachers are also required to be able to keep up with the times and adapt to technological developments in order to improve the quality of education (Astri et al., 2021:25) .

Another thing that is a challenge for teachers in implementing learning is difficulties in dealing with students. Because there are too many students in the class with different backgrounds, it makes it a little difficult for teachers to respond to them. This is in line with the results of research by Nurcahyono & Putra (2022) which states that difficulties in implementing learning are caused by the teacher's own understanding and skills and are also caused by the diversity of students. Some teachers feel that many of the students currently in phase D are still lacking in critical and creative thinking, as well as the lack of literacy and numeracy skills of students due to the impact of the Covid-19 pandemic which has spoiled students studying at home online.

Teachers need to pay attention to the needs of individual students and facilitate them to be active in the learning process. Teachers must also apply national values and character according to the mandate in the Pancasila student profile into learning so that students can become a generation that has good personalities and appreciates cultural diversity in Indonesia. This is in line with research results by Irawati et al. (2022) which state that the Pancasila Student Profile is a policy that supports the achievement of educational goals and shapes the character of students based on Pancasila values.

In terms of the assessment system and reporting of learning outcomes , many teachers still do not fully understand how to write a report on learning outcomes and what assessments must be carried out in the independent curriculum. In practice, eliminating the KKM makes it difficult for teachers to benchmark student success. In learning assessment there are two report cards, namely the academic assessment report and the project assessment report. This of course requires more time and more energy. The results of this study are in line with the research results by Wuwur (2023) . One of the important things that is a challenge for teachers is different assessment designs for each cognitive level of their students. The teacher must prepare at least three different levels of questions for each indicator to be achieved in learning. This of course is a challenge for teachers to continue to strive to

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make wise assessments and be thorough in monitoring student development level of achievement possessed by students at each cognitive level.

Apart from the interview results, the researcher also confirmed the results of the questionnaire. It turns out that based on questionnaires related to training and socialization, teachers feel that they have not participated enough in training and socialization regarding the independent curriculum. Not only that, teachers also feel that the time allocation for training and socialization has not been effective. This is based on points 7 and 9 which produce a percentage of 45% < score < 59%, so it is categorized as Poor. This indicates that teachers still really need further training and outreach regarding how to implement the Independent Curriculum.

Based on the results of questionnaires related to learning planning, it was found that there were several challenges faced by teachers. In point 13, it is said that teachers are not very capable in designing teaching modules that suit student characteristics. This is supported by the percentage results which show 60% < score < 69%, so it is categorized as Sufficient. In fact, in designing teaching modules in the independent curriculum, teachers are given freedom in the process of creating learning that suits students' needs (Rindayati et al., 2022:25) . Then in point 15 it states that teachers have difficulty finding various reference sources regarding the independent curriculum. This is in accordance with the results of the questionnaire percentage which shows 60% < score < 69%, so it is categorized as Sufficient. Point 16 shows a percentage result of 45% < score < 59% which is categorized as Poor, which indicates that the teacher does not always prepare learning media for each meeting.

Teachers often face challenges in implementing learning, based on the results of the questionnaire, including points 26 and 28. From these points, it can be stated that teachers are not yet skilled in using and utilizing technology in learning. This is in accordance with the results of the questionnaire percentage which is 60% < score < 69%, so it is still categorized as Fair. This is in line with the results of research by Sholihah Rosmana et al. (2023) which states that some teachers still need training and understanding in mastering technology so they can use technology optimally and learning can run effectively. Furthermore, point 25 is also a challenge for teachers because the percentage results show 60% < score < 69%, so it is still categorized as Sufficient. This indicates that teachers have not fully mastered learning methods that are in accordance with the Independent Curriculum. There is still a need for adjustments and habituation as well as more understanding for teachers in implementing the Independent Curriculum as expected.

The results of the questionnaire relating to the assessment and reporting of learning outcomes show that all points are in the Good category, because the percentage results are 70% < score < 84%. This of course still requires improvement regarding how assessment and reporting is implemented in the independent curriculum, because some teachers only know the theory but are not yet able to apply it.

CONCLUSIONS

Based on the results of data analysis, the challenges for mathematics teachers in preparing an independent curriculum are as follows. First, training and socialization have not been able to provide complete understanding for teachers in implementing the Independent Curriculum, so they must continue to make more persistent efforts to implement the Independent Curriculum. Second, teachers try to overcome difficulties in planning learning in the Independent Curriculum. Third, the implementation of learning is not appropriate as well as the facilities and infrastructure in schools that do not yet support it, coupled with the different cognitive backgrounds of students. Fourth, teachers need to improve their complete understanding of the system for assessing and reporting learning outcomes in the Independent Curriculum. Then, if we trace it based on the questionnaire, we can conclude that the preparation for implementing the Independent Curriculum by junior high school mathematics teachers in Pekanbaru, although still experiencing various challenges, is in the Good category with percentage (70% < score < 84%). In details, 5 teachers are in the Fair category while 5 more people are in the Good category. Based on subjects from 5 schools, each consisting of 2 teachers, it shows that there are different challenges, but in certain aspects they have the same obstacles .

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