

## **The Effects of Cognitive Flexibility on Teacher's Readiness To Implement the Merdeka Curriculum**

**Idawati\***

Islamic Education, Faculty of Tarbiyah, IAI Hamzanwadi Pancor Lombok Timur NTB, Indonesia

**Abdul Hayyi Akrom**

Islamic Education, Faculty of Tarbiyah, IAI Hamzanwadi Pancor Lombok Timur NTB, Indonesia

**M. Hasanil Asy'ari**

Islamic Education, Faculty of Tarbiyah, IAI Hamzanwadi Pancor Lombok Timur NTB, Indonesia

\* Corresponding author: [calyahayba@gmail.com](mailto:calyahayba@gmail.com)

### **Abstract:**

This article aims to determine cognitive flexibility in influencing teacher readiness for implementing the "merdeka curriculum" in schools. Research method used a regression test using comprehension survey data using a questionnaire to see differences in the level of teacher readiness in implementing the "merdeka curriculum" based on high and low levels of teacher cognitive flexibility. The research subjects were 30 teachers of MI (Islamic Elementary School) in NW Dasan Lekong, Sukamulia Regency, and MI Hamzanwadi Toya, Aikmel Regency, two private schools in East Lombok, West Nusa Tenggara, Indonesia. The research results show that teachers' cognitive flexibility abilities have a significant effect on teachers' readiness to implement the "Independent Curriculum" in schools. This can be seen from the significance score of 0.000, which is less than 0.05, so it can be concluded that teachers with high cognitive flexibility are better prepared to implement the Merdeka Curriculum in schools than teachers with low cognitive flexibility.

### **Keywords:**

Cognitive flexibility; merdeka Curriculum; teacher readiness

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## Introduction

Indonesia has developed the Indonesia Emas 2045 program. The preparation of the Indonesia Emas 2045 program is in response to the world megatrend, namely global changes from all sides until 2045. It can be seen in Figure 1 below:



Figure. 1. Megatrend Dunia 2045 ([Kemendikbud 2017](#))

Of the ten megatrends, including world demography, global urbanization, technological advances, competition for natural natural resources, and climate change, 17 are sustainable development goals. The impact of Industrial Revolution 4.0 in Indonesia resulted in the loss of 23 million jobs replaced by automation in 2030. However, 27-46 million new jobs have also been opened. For this reason, educational institutions need to prepare skills and competencies to face an unfamiliar world. Therefore, education must change the education system by making innovations in the learning process. Modernization includes using technology in the educational process through curriculum changes ([Kemendikbud, 2017](#)). One form of innovation in education to improve the quality of human resources in Indonesia is the existence of a policy implementing the Merdeka curriculum, which aims, among other things, to develop the potential of students, and the Merdeka Curriculum aims to improve learning loss due to the COVID-19 pandemic ([Maksum. & Fitria, 2021](#)). Moreover, curriculum changes also play a role in balancing other changes, such as changes in national policy ([Malikah et al., 2022](#)) and changing times ([Indarta et al., 2022](#)).

With the Merdeka curriculum, teachers will focus more on presenting, reinforcing, and evaluating learning materials ([Ndari et al., 2023](#)). Teachers also have many opportunities to discuss and practice so that the learning process is more interactive, collaborative, and implementable by students' conditions and so that students' cognitive and skills develop ([Rahmawati & Sholeh, 2021](#)).

However, the current phenomenon is that the implementation of the Merdeka curriculum has caused many problems in educational institutions, especially regarding teacher readiness, which are often found in the field, such as teacher confusion with the presentation of material, changes in teaching methods, changes in designing the learning environment, and so on ([Mubarok et al., 2023](#); [OECD, 2024](#)). This problem arises because teachers need to understand the concept of the Merdeka curriculum, which causes teachers to be unprepared for teaching and unable to adapt to these changes, which causes teachers to be stressed by these changes, significantly impacting learning outcomes.

Teacher readiness in implementing the Merdeka curriculum must be supported by many important factors, including the teacher's ability to face changes in the learning system ([Ndari et al., 2023](#); [Nurzen, 2022](#)). Curriculum changes certainly impact learning, even though these changes have positive and negative impacts. Furthermore, teachers, as stakeholders, design the learning process. The teacher must adjust to the existing conditions so the learning process runs without obstacles. In implementing learning, teachers are required to understand the concept

of curriculum. The curriculum concept understood by the teacher will affect the learning process. Conceptually, a curriculum is an activity plan and written document that includes strategies for achieving a goal ([Ornstein & Hunkins, 2018](#)).

Based on the actual conditions in the field, teacher readiness for implementing the Merdeka curriculum is the teacher's ability to adapt to changes in the learning system ([Aegustinawati & Sunarya, 2023](#)). With changes in conditions for adapting, namely the change from the K13 curriculum to the Merdeka curriculum, teachers need the ability to adapt to changes in treatment of learning variables, namely materials, methods, conditions, and results, based on the concept of an independent curriculum whose conditions are different.

Learning conditions are learning variables that can influence learning outcomes, and conditions must have interactions with methods. Conditions influence the effect of methods on improving learning outcomes and cannot be engineered ([Degeng, 2013](#)). The learning conditions include the character of the field of study, the character of the learner, and the learning objectives. The ability to adapt to changing conditions requires teacher cognitive flexibility. Cognitive flexibility refers to knowledge transfer, defined as the ability to organize knowledge in various ways to adapt to changing situational demands ([Spiro & Jehng, 1990](#)).

Teachers with high cognitive flexibility quickly understand various forms of change from various aspects of change, such as material, methods, and the like, because their cognitive structure is easy to change. [Eslinger and Grattan \(1993\)](#) state that cognitive flexibility generally refers to the ability to change a cognitive set, know, think for understanding situations, process, and respond to situations in different ways. On the other hand, teachers who have low cognitive flexibility will experience slow shifts in thinking and experience pressure to face new or unstructured conditions ([Elen et al., 2011](#)). So, in the field, in several schools, the curriculum is implemented without looking at several supporting indicators, including teacher readiness. One of the supporting indicators of teacher readiness to be able to implement the curriculum well is Cognitive flexibility. In this regard, it is very important and urgent for a teacher to have high cognitive flexibility to know how ready the teacher is to implement the curriculum, especially the independent curriculum. Therefore, to determine the effect of teacher cognitive flexibility on readiness to implement an independent curriculum, research was conducted at MI NW Dasan Lekong and MI Hamzanwadi Toya, East Lombok, West Nusa Tenggara.

## **Research Method**

This study uses quantitative research methods, which aim to determine the effect of cognitive flexibility on teacher readiness in the implementation of the Merdeka curriculum, and data analysis using regression to look for the effect of variable X on variable Y. Cognitive flexibility is an independent variable that affects teacher readiness (Y), which is the dependent variable. The subjects of this study were 30 teachers of Madrasah Ibtidaiyah NW Dasan Lekong, Sukamulia District, East Lombok Regency, and Madrasah Ibtidaiyah Teachers, Hamzanwadi Toya, Aikmel District, East Lombok Regency as populations as well as research samples (saturated samples) where all populations were used as samples because the population was small or limited. The research instrument used in this study for data collection was the instrument for cognitive flexibility using the Cognitive Flexibility Inventory (CFI) and for teacher readiness using the teacher readiness questionnaire instrument. from tables 1 and 2.

**Tabel 1. 20-Item Cognitive Flexibility Inventory (CFI)**

NO	Statements	SD	D	N	A	SA
1	I am good at “sizing up” situations					
2	I have a hard time making decisions when faced with difficult situations					
3	I consider multiple options before making a decision					
4	When I encounter difficult situations, I feel like I am losing control					
5	I like to look at difficult situations from many different angles					
6	I seek additional information not immediately available before attributing causes to behavior					
7	When encountering difficult situations, I become so stressed that I can not think of a way to resolve the situation					
8	I try to think about things from another person’s point of view					
9	I find it troublesome that there are so many different ways to deal with difficult situations					
10	I am good at putting myself in others’ shoe					
11	When I encounter difficult situations, I just don’t know what to do					
12	It is important to look at difficult situations from many angles					
13	When in difficult situations, I consider multiple options before deciding how to behave					
14	I often look at a situation from different viewpoints					
15	I am capable of overcoming the difficulties in life that I face					
16	consider all the available facts and information when attributing causes to behavior					
17	I feel I have no power to change things in difficult situations					
18	When I encounter difficult situations, I stop and try to think of several ways to resolve it					
19	I can think of more than one way to resolve a difficult situation I’m confronted with					
20	I consider multiple options before responding to difficult situations					

Information:

SD: Strongly Disagree

D : Disagree

N: Neutral

A: Agreed

SA : Strongly Agree

**Table 2. Teacher readiness questionnaire**

No	Indicators of Teacher Readiness in the Implementation of the Independent Curriculum	1	2	3	4	5
1	Able to set goals independently					
2	Able to design learning independently according to needs,					
3	Able to find ways to solve learning problems,,					
4	Able to focus learning on students,					
5	Able to make daily learning notes/journals,					
6	Able to ask for learning feedback					
7	Able to follow up on learning feedback					

Information:

VI: Very Inadequate

NC: Not Capable

N: Neutral

C: Capable

VC: Very Capable

### Result and Discussion

To identify the level of cognitive flexibility of 30 teachers, they filled out the Cognitive Flexibility Inventory (CFI) questionnaire which was adopted from [Dennis & Vander \(2010\)](#). The results of identifying the high and low flexibility can be seen in table 3 below.

**Table 3. Results of identification of high and low flexibility**

Cognitive Flexibility	Teacher
High Cognitive Flexibility	21
Low Cognitive Flexibility	9
Total	30

From the results of identifying cognitive flexibility above, teachers with high cognitive flexibility are 21 and teachers with low cognitive flexibility are 9. From these results it is found that Cognitive Flexibility with high cognitive flexibility is more dominant in the two schools.

The recapitulation of the results of filling out the teacher readiness questionnaire during the implementation of the merdeka curriculum to find out how much teacher Cognitive Flexibility influences teacher readiness can be seen in table 4.

**Table 4. Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.840a	.706	.695	1.497

a. Dependent Variable: Teacher readiness

b. Predictors: (Constant), Cognitive Flexibility

From the table above results, it is known that the R square is 0.706. This value shows that the level of teacher Cognitive Flexibility to influence teacher readiness in implementing the Merdeka curriculum is 70.6%. In comparison, 29.4% of readiness is influenced by other variables not examined in this research. Furthermore, to find

out the level of significance of the influence of teacher Cognitive Flexibility on teacher readiness in implementing the Merdeka curriculum, it can be seen in Table 5 below.

**Tabel 5. ANOVA**

Model		Sum Squares	df	Mean Square	F	Sig.
1	Regression	150.258	1	150.258	67.091	.000 <sup>b</sup>
	Residual	62.709	28	2.240		
	Total	212.967	29			

a. Dependent Variable: Readiness

b. Predictors: (Constant), CF

Based on the analysis results in the table above, the ANOVA output value shows that the significant value (Sig.) of 0.000 is smaller than <probability 0.05, so it can be concluded that  $H_0$  is rejected and  $H_a$  is accepted, which means "there is a significant influence between cognitive flexibility and readiness in teachers. So, their cognitive flexibility level greatly influences the teacher's readiness for implementing the Merdeka curriculum.

Based on the results of this research, it was found that the level of cognitive flexibility greatly influenced the high level of teacher readiness for implementing the Merdeka curriculum. It is possible because, theoretically, teachers with high levels of cognitive flexibility tend to adapt to various conditions in learning so that their thinking processes run smoothly and do not experience obstacles or pressure. In this study, learning using the Merdeka curriculum requires teachers to think concretely from teacher-centered learning to student-centered learning with good pedagogical abilities ([Wardani et al., 2023](#); [Hamdi et al., 2022](#); [White et al., 2023](#)). Some teacher abilities that must be present in the implementation of an independent curriculum in learning are being able to design learning independently according to needs, being able to find ways to solve learning problems, being able to focus learning on students, being able to make daily learning notes or journals, being able to ask for learning feedback, and being able to follow up on learning feedback ([Sri at. all, 2022](#)) ([Mohamad Hanapi et al., 2022](#)). So, one of the important parts of implementing the Independent Curriculum is the teacher. So the curriculum will be meaningful if teachers have the ability and readiness ([Izza et al., 2020](#)), because it is clear that teachers have an important role in implementing the curriculum, especially the Merdeka curriculum ([Hidayat, 2013](#)).

So, here, teachers are required to be able to adapt and be flexible with the curriculum change process quickly; this is very relevant theoretically in that someone who has high flexibility will easily face changing conditions without feeling confused and stressed because they can adapt quickly, and teachers who have high cognitive flexibility easily understand various forms of curriculum innovation presentation because the teacher's cognitive structure is easy to change. So, these findings further strengthen previous findings, including those of [Eslinger and Grattan \(1993\)](#), who found that cognitive flexibility generally refers to the ability to change cognitive sets, know, think, and understand situations, process, and respond to situations in different ways. [Likewise, Elen et al. \(2011\)](#) said that someone who has low cognitive flexibility will experience slow changes in thinking and experience pressure to face different or unstructured conditions; in this case, the teacher's readiness to experience changes in the concept of the Merdeka curriculum thinking to be applied in the learning process. Cognitive flexibility is an important internal factor and must be present in teachers. A person's cognitive flexibility will encourage them to react positively to an object, concept, or someone's character. Moreover, this consists of a cognitive component (beliefs or knowledge), an affective component (emotions,

motivation), and performance, namely behavior or character tendencies ([McCoach et al., 2013](#)).

Apart from internal teacher readiness, teacher readiness must also be supported by external factors; namely, schools must improve the learning facilities required in the Merdeka curriculum in the form of providing resource books, internet facilities, computer laboratories, LCDs, and other supporting facilities, including training for teachers ([Nurzen, 2022](#); [Sholeh et al., 2021](#)). [Astiningtyas \(2018\)](#) stated that the available infrastructure can support the implementation of learning in the curriculum.

So, if you look at the results of the questionnaire and interviews, the teachers are ready to implement the Merdeka curriculum and are very much influenced by the conceptual flexibility in implementing the Merdeka curriculum; this is further strengthened by theory and evidence from previous research.

### **Conclusion**

This research concludes that the level of teacher cognitive flexibility greatly influences the teacher's readiness to implementing the Merdeka curriculum, and this is possible because, theoretically, someone with high flexibility tends to adapt to various conditions. Moreover, in the learning variables, there are learning conditions. Learning conditions are a part that greatly influences learning outcomes because learning conditions are learning variables that can affect learning outcomes. Included in the learning conditions are the character of the subject area, the character of the students, and the learning objectives, as well as cognitive flexibility, which is one of the characteristics of the teacher that will influence learning outcomes because readiness will give rise to the teacher's self-confidence in making changes to the learning concept. So, teacher readiness in implementing the Independent Curriculum must be strong because the character of the Merdeka curriculum requires agility in thinking to understand concepts, theories, and principles and solve learning problems. So, it is clear, high cognitive flexibility for teachers makes it easier to adapt to various methods and materials in the Independent Curriculum.

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