



## The Impact of the Merdeka Curriculum on Indonesia Education

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### Abstrak

Penelitian ini bertujuan untuk mengetahui effect size kurikulum merdeka terhadap pendidikan Indonesia. Penelitian ini adalah jenis penelitian SLR dan meta-analisis. Data penelitian ini berasal dari analisis 10 jurnal nasional dan internasional terbitan 2018-2023. Kata kunci pencarian data yakni pengaruh kurikulum merdeka di Indonesia. Penelusuran sumber data melalui database google scholar, Educacion Resources Information Center (ERIC), dan ScienceDirect. Analisis data dengan bantuan aplikasi Comprehensive Meta-analysis (CMA). Hasil penelitian menyimpulkan bahwa kurikulum merdeka berpengaruh positif terhadap sistem pendidikan di Indonesia dengan nilai summary effect size ( $rE = 0.68$ ;  $Z = 8.146$ ;  $p < 0.001$ ). Temuan ini menunjukkan penerapan kurikulum merdeka berpengaruh signifikan dalam pendidikan Indonesia dengan kategori sedang. Implementasi kurikulum merdeka dapat melatih siswa mempunyai kemampuan berpikir kritis, literasi sains serta numerasi siswa dalam belajar

**Kata Kunci:** Pendidikan, Meta-analisis; Kurikulum Merdeka; Pendidikan; Effect Size

### *The Impact Of The Merdeka Curriculum On Indonesia Education*

### Abstract

*This study aims to determine the effect of the size of the independent curriculum on Indonesian education. This study is a type of SLR research and meta-analysis. This research data comes from an analysis of 10 national and international journals published in 2018-2023. The keyword for data search is the influence of the independent curriculum in Indonesia. Search data sources through google scholar databases, Educacion Resources Information Center (ERIC), and ScienceDirect. Data analysis with the help of Comprehensive Meta-analysis (CMA) applications. The results of the study concluded that the independent curriculum has a positive effect on the education system in Indonesia with a summary effect size value ( $rE = 0.68$ ;  $Z = 8.146$ ;  $p < 0.001$ ). This finding shows that the application of the merdeka curriculum has a significant effect on Indonesian education in the medium category. The implementation of an independent curriculum can train students to have critical thinking skills, scientific literacy and student numeracy in learning.*

**Keywords:** Education; Meta-analys; Independent Curriculum; Education; Effect Size

## Introduction

The era of the industrial revolution 4.0 has had a great influence on the development of the world of education (Razak et al., 2022; Priyanto, 2020). The world of education today has utilized technology and information that supports the learning process. According to Lase (2019), education in the industrial revolution era 4.0 is characterized by speed in accessing big data as a source of information. Advanced education must have human resources (HR) that are able to compete globally. However, education in Indonesia currently experiences many problems.

But in fact, the quality of Indonesian education is still relatively low compared to other countries. This can be seen in the literacy ability of Indonesian students. Based on the 2022 PISA survey on reading literacy. Indonesian mathematics and science students obtained a score of 396, ranked 71 out of 78 countries (Elfira et al., 2023; Utomo et al., 2023; Rahman et al., 2023; Suryono et al., 2023; Ichsan et al., 2023). The low quality of Indonesian education is influenced by many factors. The results of *the Trend International Mathematics Science Study* (TIMSS) research in 2015 explained that the critical thinking skills of Indonesian students obtained a score of 397 ranked 46 out of 51 participating countries (Munaji et al., 2020; Rahmawati, 2020). In addition, curriculum changes are a big challenge for students and teachers in schools.

Curriculum is a set of plans and arrangements regarding a content, objectives and learning materials used to achieve learning objectives (Vhalery et al., 2022). The creation of the curriculum itself aims to facilitate an educational process. However, the implementation of the curriculum in Indonesia has undergone many changes. Indonesia has undergone curriculum changes from 1947 to 2019 under the name MBKM curriculum. The

independent learning campus merdeka curriculum is a curriculum that aims to provide freedom for students to think and innovate to realize the profile of pancasila students (Fitriyah & Wardani, 2022).

Research (Alawi et al., 2022) the implementation of the independent curriculum can improve students' soft skills and hard skills in facing the 21st century. Arviansyah & Shagena's (2022) research on the independent curriculum provides freedom for students to learn independently. However, the implementation of the independent curriculum did not run optimally (Jannah et al., 2022; Sutrisno & Yulian 2022), so teachers find it difficult to implement an independent curriculum in schools (aDamayanti & Muhroji, 2022). The gap in research is that the number of studies on the independent curriculum has not found the effect of the size of the independent curriculum on Indonesian education. Based on these problems, this study aims to determine the effect of the size of the independent curriculum on Indonesian education.

## Methods

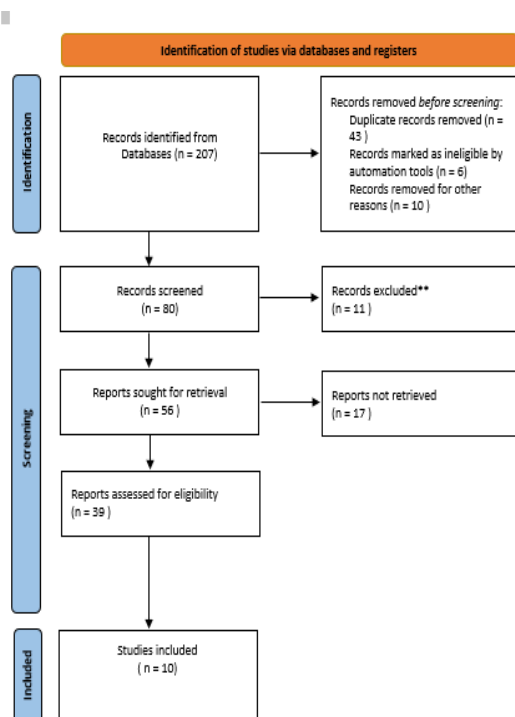
This research is a type of systematic literature review (SLR) research and meta-analysis. The source of this research data comes from an analysis of 10 national and international journals published in 2018-2023. The keyword for data search is the influence of the independent curriculum in Indonesia. Search data sources through google scholar databases, Educacion Resources Information Center (ERIC), and ScienceDirect.

The inclusion criteria are that research must come from journals and proceedings indexed by SINTA, DOAJ and Copernicus International, research in Indonesian and English, research has sample size, standard deviation and average value and research related to the influence of the independent

curriculum on Indonesian education. The process of selecting data using the PRISMA method can be seen (Figure 1). Data analysis calculates effect size value with the help of JASP application. The criteria for effect size in guided research can be criteria (Cohen et al., 2007), can be seen Table 1.

**Table 1. Effect Size Criteria**

Effect Size	Criterion
$0.0 \leq ES \leq 0.20$	Low
$0.20 \leq ES \leq 0.80$	Moderate
$ES \geq 0.80$	High



**Figure 1. PRISMA Method**

**Result and Discussion**

From the process of searching for data sources through databases about the influence of the independent curriculum on the Indonesian education system, 207 journals were obtained, only 10 studies have met the inclusion criteria. Research that has met the inclusion criteria is analyzed based on characteristics consisting of journal code,

journal type, year of publication, effect size and journal index. The results of the analysis can be seen in table 2.

**Table 2. Article Analysis Based on Characteristics**

Journal Code	Journal Type	Year	Effect Size	Journal Index
AK1	Journal	2023	1.22	SINTA
AK2	Journal	2021	0.87	SINTA
AK3	journal	2020	0.51	SINTA
AK4	Journal	2020	1.19	SINTA
AK5	Journal	2020	0.93	SINTA
AK6	Journal	2021	0.80	DOAJ
AK7	Journal	2019	0.66	SINTA
AK8	Journal	2019	0.85	SINTA
AK9	Journal	2019	1.07	SINTA
AK10	Journal	2021	0.52	SINTA

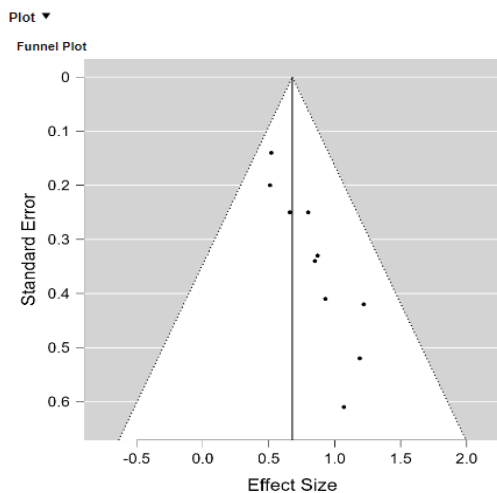
Table 2. Explain the results of research analysis based on the characteristics of 10 SINTA indexed studies. The study was published in 2018-2023 with 3 studies of effect size values ranging from 0.51-0.80 medium criteria and 7 studies of effect size values ranging from 0.8to 5-1.22 high criteria. The next step, perform a heterogeneity test and determine the estimation model from 10 studies analyzed. The results of the heterogeneity test can be seen in Table 3.

**Table 3. Fixed and Random Effect Model**

	Q	Df	P
Omnibus Test of Coeficients Model	40.110	1	< 0.001
Test of Resdual Heterogeneity	95.903	9	< 0.001

Based on Table 3. The results of the analysis obtained values ( Q = 95.903 ; P < 0.001) then the effect size in this study is heterogeneously distributed. This meta-analysis study used a randomized model to analyze 1:0 studies. Next, check the publication bias of 10 of the studies analyzed. To check whether or not there is publication

bias in the meta-analysis, it is very suitable to use *funnel plots* and calculate the value of *Rosenthal Fail Safe N (FSN)* (Borenstein et al., 2007; Chamdani et al., 2022). The results of the analysis with *the funnel plot* can be seen in figure 2.



**Figure 2.** Standard Funnel Plot Error

Figure 1. Analyzing the results of funnel plot analysis, it is difficult to draw a conclusion whether the funnel plot is symmetrical or asymmetric. Next, it is necessary to do the Rosenthal Fail Safe N (FSN) test. Rosenthal Fail Safe N (FSN) test results can be seen in Table 4.

**Table 4.** Rosenthal Fail Safe N (FSN) Test Results

	Fail Safe N	Target Significance	Observed Significance
Rosenthal	249.00	0.59	< 0.001

Based on Table 4. Explaining the Rosenthal Fail Safe N (FSN) test result of 249, then  $k = 10$  is entered in the formula  $249 / 5.10 + 10 = 249 / 70 = 3.55 > 1$ . So, it can be concluded that the analysis of 10 studies does not have publication bias. The next step is to calculate the p-value to test the hypothesis in this study. The results of the hypothesis test can be seen in Table 5.

**Table 5.** Summary test results of Effect Size or Mean Effect Size

	Estimate	Standard Error	z	p	95% Confidence Interval	
					Lower	Upper
intercept	0.681	0.283	8.146	<.001	0.516	0.843

Based on Table 4. Explaining the results of the summary effect size test, the interval coefficient value of 95% lower is 0.516 and upper is 0.843. As for the value ( $Z = 8.146$ ;  $p < 0.001$ ) and an overall effect size value of 0.681 with medium criteria. This result shows that the application of the independent curriculum model has a positive impact with moderate categories on the Indonesian education system.

Research (Nurwiati, 2022) The Independent Curriculum has an influence on the Indonesian education system, especially in the student-centered learning process. The right curriculum will be able to increase student interest and motivation in learning (Ackerman & Hu, 2016). Research (Syamsiar et al., 2023) the implementation of the merdeka curriculum can improve student learning. An independent curriculum leads students to think critically and creatively on their own. Not only that, the independent curriculum helps students to develop literacy and numeracy in facing the 21st century revolution (Aini & Timur, 2023).

Furthermore, Fitria et al., (2023) the independent curriculum helps students and teachers creatively in carrying out the learning process. Nurhidayati et al., (2022) Said that this independent curriculum can increase Shiva's motivation in learning. This finding is supported (Riwanto et al., 2023) that the merdeka curriculum affects the quality of student learning. In the current education system, students and teachers

must have soft skills so that they have competitiveness. Therefore, the implementation of Indonesia's independent curriculum can improve the quality of education. Independent curriculum can improve the quality of teacher performance in schools (Novalita et al., 2023).

## Conclusion

In meta-analysis research, it can be concluded that the value of summary effect size ( $rE = 0.68$ ;  $Z = 8.146$ ;  $p < 0.001$ ). This finding shows that the application of the merdeka curriculum has a significant effect on Indonesian education in the medium category. The implementation of an independent curriculum can train students to have critical thinking skills and science literacy. Furthermore, the independent curriculum is an effective solution to improve the quality of education in Indonesia.

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