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Analysis of the Goals and Impacts of Secondary Education Policies on Labor Productivity in Indonesia (2017-2021)

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A B S T R A C T

The purpose of this study is to evaluate the influence of secondary education policies on policy objectives (increasing participation and quality of education) and their impact on labor productivity in Indonesia. The analysis method used is Partial Least Square Structural Equation Modeling using secondary data in the form of panel data from 34 provinces between 2017 and 2021. The results of the study indicate that the education participation policy has no effect on increasing participation. Education participation also has no effect on labor productivity. Meanwhile, the policy of increasing quality has a positive and significant effect on the quality of education. And the quality of education has a positive and significant effect on labor productivity. The results of this study support the human capital theory as measured by the education quality indicator and reject being measured by the length of schooling indicator.

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INTRODUCTION

Educational policy in Indonesia has predominantly been viewed within the framework of medium-term objectives, such as increasing the Gross Enrollment Rate (GER), improving accreditation, and enhancing graduate employability. The impact of these policies rarely receives adequate attention, despite being delineated in the long-term policy objectives enshrined in the 1945 Constitution Amendment, which aims to enhance faith, piety, and noble character in the context of educating the nation. Theoretically, the impact of education itself is the improvement of an individual's competence and productivity, which subsequently leads to increased income (Becker, 1964). This phenomenon of a gap coincides with an existing research gap. Educational policy research appears to be divided into two distinct categories. The first focuses on program effectiveness, while the second examines the impact of the policies themselves. Integrated research on educational policy, encompassing both objectives and impacts, has yet to be conducted.

The objective of this research is to conduct an analysis of (1) the impact of policies aimed at increasing educational participation on secondary education participation rates, (2) the influence of educational quality policies on the quality of secondary education, (3) the effect of secondary education participation on labor productivity, and (4) the impact of secondary education quality on labor productivity.

This study conducts an analysis of the achievement of secondary education policy objectives and their impact on workforce productivity. The policy objectives themselves, as formulated in Law Number 20 of 2023 concerning the National Education System, are to increase educational participation, quality, and relevance of education. This study primarily focuses on participation and quality of education. Secondary education (Senior High School and Vocational High School) is the object of research, as the majority of secondary education graduates directly enter the workforce. This is evident from the Gross Enrollment Rate (GER) of higher education in Indonesia, which was only approximately 26 percent in 2022.

LITERATURE REVIEW

Although the 1948 Universal Declaration of Human Rights encouraged nations to provide education for citizens, at least at the primary level, the adaptation of educational policies was relatively slow. This was primarily because, at that time, education budgets were largely viewed as a burden, resulting in educational issues being largely delegated to society. This perspective was later challenged by Theodore W. Schultz in 1961, who proposed the idea that investment in education is not significantly different from investment in physical capital. Such investment would yield future returns in the form of a productive workforce, ultimately supporting sustainable economic growth. Schultz's concept became known as human capital theory.

Becker (1964) refined Schultz's idea by emphasizing that education accumulates competencies in an individual, such that the longer one pursues education, the more their competencies increase. With enhanced skills and

knowledge, individuals have better opportunities for superior employment and higher income. Consequently, access to extended education creates benefits not only for individuals but also for society as a whole.

From this perspective, human capital theory is often measured by indicators such as years of schooling or participation rates. This theoretical viewpoint continues to significantly influence educational policy research in developing countries. Psacharopoulos (1988) demonstrated that government investment in primary and general education remains relevant for developing countries, provided it is accompanied by improvements in learning quality. Mapping conducted by Gust et al. (2024) reveals that two-thirds of the world's youth still have not achieved basic skills. Research by Hota (2023) continues to show the relevance of education expenditure in India in increasing the Gross Enrolment Rate.

Spence (1973) refined the participation approach. In Spence's view, the duration of schooling is not determinative in the labour market. According to Spence (1973), there is no significant difference between 12 or 15 years of schooling. Instead, Spence argues that the most crucial factor is the acquisition of a diploma, which signals potential employers about a candidate's competencies. For instance, someone who has studied for three years in higher education but did not complete their degree would only be viewed as a high school graduate, lacking a diploma that demonstrates their competencies. This approach has now widely developed, with employers not only requiring diplomas but also prioritizing candidates with certified skill competencies.

International research on human capital has found that educational attainment is more relevant in explaining productivity. Research conducted by Kocourek & Nedomlelova (2018) found that higher education has the strongest impact on labor productivity. Meanwhile, Ishchy (2020) also found that higher education has a long-term impact on economic growth three times greater than secondary education. Research in the United States by Cook & Ehrlich (2018) also found that higher education more strongly promotes long-term per capita income growth in America compared to the UK and other European countries. However, in developing countries, productivity determinants are not solely based on educational attainment; other influential factors include company training or job training, as found by Rukumnuaykit & Pholphirul (2016) in the manufacturing industry in Thailand.

Human capital theory measured by years of schooling is not always relevant. A new approach that is developing is measuring human capital through education quality. The orientation towards education quality began to strengthen when the World Bank started issuing reports on the importance of quality education (Hanushek & Wößmann, 2007). This report underscored previous empirical research findings that the most relevant factor influencing economic growth in growing countries is education quality, not years of schooling. Cognitive skills in mathematics and science are considered to have a strong influence on economic growth (Barro, 1991; Hanushek & Kimko, 2000; Jamisona et al., 2007). A study conducted by Hanushek (2016) found that differences in cognitive skills between countries could explain growth levels.

Hanushek (2017) also found that the rate of return on quality education is higher in developing countries. Research conducted by Le & Tran (2024) in Vietnam even found that a one-point increase in per capita income can improve national exam scores in Vietnam by about 0.4–1.83 percent.

The positive relationship between education and productivity has received considerable attention in research in Indonesia, although education is still measured by years of schooling. Research conducted by Puspasari & Handayani (2020) in Central Java found a positive and significant influence between years of schooling and productivity. National-scale research conducted by Ardwiyanti & Yusri (2022), Hutamia & Riania (2022), and Amelia et al. (2019) found that education has a positive and significant effect on provincial productivity. Furthermore, productivity itself has a positive and significant effect on economic growth, as found by Desnasari (2020). Nevertheless, research conducted by Yuliana (2023) found no significant influence between education and productivity in the manufacturing industry sector. Research conducted by Mukhlisiana et al. (2021) also found no significant influence between education and productivity.

In several of these studies, productivity is considered inherent in the variables of years of schooling or education quality. This approach is less relevant considering that years of schooling and education quality do not always reflect an individual's productivity. Additionally, Indonesia also differentiates educational policy objectives into three categories: increasing years of schooling, improving education quality, and enhancing education relevance.

With this perspective, this research treats productivity as a separate variable distinct from years of schooling or education quality. The researchers consider productivity as an impact of policy objectives, namely years of schooling and education quality. Meanwhile, the policy objectives themselves are the result of policy implementation.

Theoretical Framework and Hypothesis

Based on the aforementioned theoretical perspectives, this research will test four hypotheses as follows:

1. H-1: Education Participation Policy Positively Influences the Increase in Education Participation

Years of education remains the most frequently used measure to assess the success of educational policies. This metric was initially employed by Schultz (1961), Becker (1964), and Mincer (1958), the three pioneers of human capital theory. It persists to this day, although it has been refined by Spence (1973) with signaling theory and Hanushek & Woessman (2007) by emphasizing education quality as an indicator. Recent research in developing countries still utilizes years of schooling as an indicator of a nation's success in educational policy (Hota, 2023; Psacharopoulos, 1988; Sarah Gust et al., 2024). Journals in Indonesia also continue to present research findings demonstrating the positive and significant impact of budget policies and government

programs on increasing participation (Aurellin & Sentosa, 2023; Cahyaningtyas et al., 2022; Dahiri, 2023; Sudiyono, 2017).

2. H-2: Education Quality Policy Positively Influences the Improvement of Education Quality

The importance of policies oriented towards improving education quality has been widely studied. The World Bank's 2018 report highlighted the declining quality of education in African countries and other developing nations, resulting in education failing to fulfill its promise of enhancing human resource quality (World Bank, 2018). This report confirmed previous World Bank research (Hanushek & Wößmann, 2007) on the need to reorient policies towards education quality rather than years of schooling. Research conducted by Lee & Tran (2024) in Vietnam demonstrated a positive relationship between improved student test scores and economic growth. Hanushek (2016) proved that cognitive skills better explain economic growth in developing countries. In Indonesia, research examining the impact of education quality on economic variables such as income or productivity is still developing. Existing research primarily focuses on determinant factors of education quality. For instance, studies by Tolulu et al. (2023) and Anwar et al. (2022) demonstrated a positive and significant influence of facilities and infrastructure on education quality. Akuba et al. (2021) and Aris et al. (2021) proved a positive and significant influence of teacher competence on performance. Although research on the relationship between teacher competence and student achievement is limited, studies by Koniyo and Achmad (2021) and Meiliyani et al. (2021) showed a positive and significant influence of teacher competence on student achievement.

3. H-3: Participation Positively Influences Productivity Improvement

In human capital theory, years of schooling reflect the accumulation of knowledge and skills (Becker & Tomes, 1979; Mincer, 1958; Schultz, 1961). This theory was later refined by Spence (1973) with the measure of an individual's diploma acquisition. This classical theory can still be demonstrated in several empirical studies. Research by Ezpinoza and Speckesser (2022) in Spain found that individuals over 30 years old with educational degrees earn more due to their work productivity. Kocourek & Nedomlelova (2018) also found that higher education has a strong impact on productivity. Research conducted by Puspasari & Handayani (2020) found a positive influence between years of schooling and income. However, research by Yuliana (2023) found that education level does not significantly affect labor productivity in the manufacturing sector. In a broader context, Desnasari (2020) found a positive and significant influence of labor productivity on economic growth in Indonesia between 2009-2018.

4. H-4: Education Quality Positively Influences Productivity Improvement

Education quality as a measure of human capital began to receive attention when countries in the Asia-Pacific region were experiencing rapid

growth. This phenomenon prompted researchers to conduct intensive studies on the relationship between education quality and a country's economic progress. As reported by Hanushek & Woessman (2007), cognitive skills better explain the growth of Asia-Pacific countries. Hanushek's (2016) research also found higher returns on quality education in these countries. Recent research by Le & Tran (2024) in Vietnam even found that a one-point increase in per capita income can improve national exam scores in Vietnam by about 0.4–1.83 percent. The influence of education quality on productivity has been researched by Benos & Karagiannis (2016), where quality education has a positive relationship with labor productivity. If education quality is measured by an individual's ability to pursue higher education, then university graduates will have better productivity and income (Benos & Karagiannis, 2016; Cook & Ehrlich, 2018; Ulker Begum Ishchy, 2020).

The overall hypotheses can be illustrated in a conceptual framework as follows:

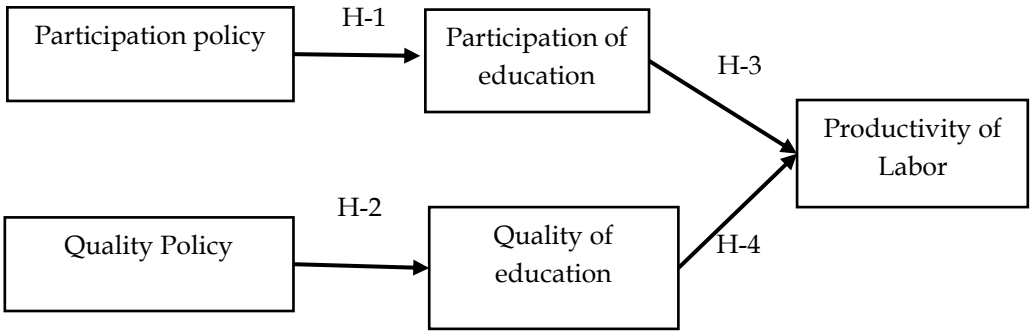

Figure 1. Conceptual Framework

METHODOLOGY

This research was conducted using secondary data in the form of panel data from 2017 to 2021, with a sample of 34 provinces in Indonesia. The sample size is 170, with 16 indicators and 5 variables. The observed variables are grouped into three types:

1. The first variables are exogenous variables, namely participation policy and quality policy. These two variables have several indicators in the form of government programs related to increasing years of schooling and education quality, such as scholarships, improvement of facilities and infrastructure, teacher quality, and school operational assistance.
2. The second variables are policy output variables consisting of increased participation and improved quality. Education participation is measured by indicators of Gross Enrolment Rate (GER), Net Enrolment Rate (NER), and School Participation Rate (SPR), which have been used to assess policy performance. Meanwhile, education quality is measured by school accreditation indicators.
3. The third variable is the policy impact, consisting of labour productivity measured by indicators of productivity per workforce and productivity per working hour.

All these variables are latent variables that cannot be observed directly. Therefore, the analytical method used is PLS-SEM (Partial Least Square Structural Equation Modelling). In the PLS-SEM model, there are indicators used to measure latent variables. In this study, the relationship between variables and indicators is reflective, where indicators are viewed as reflecting or manifesting the observed latent variables. The PLS-SEM model constructed is shown in the following figure:

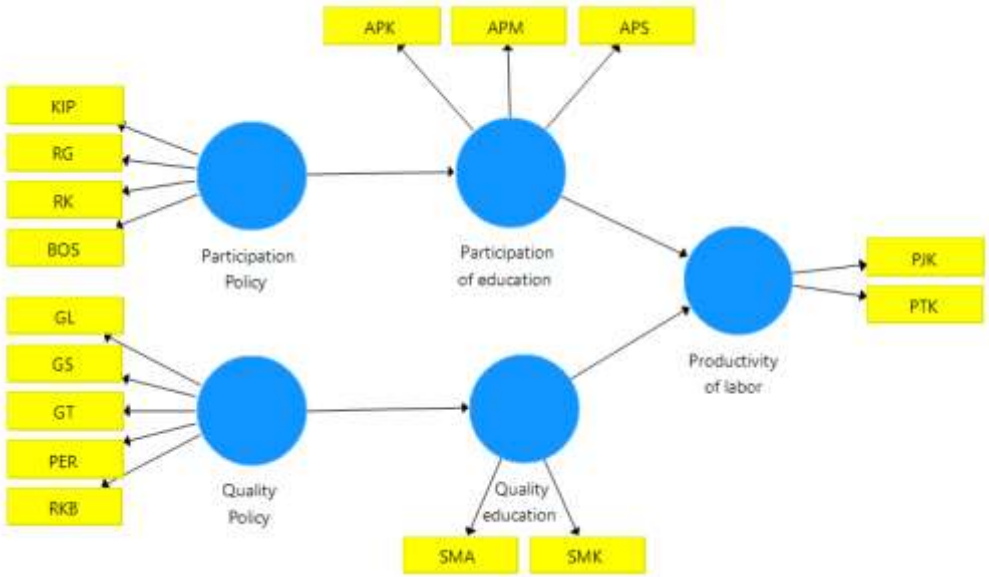

Figure 2. Research Model

Variable and indicators:

Participation Policy

- KIP: Ratio "Indonesia Smart Card"
- RG : Teacher Ratio
- RK : Classroom Ratio
- BOS : Ratio "School Operational Assistance"

Quality Policy

- GL : Adequate Teacher Ratio
- GS : Certified Teacher Ratio
- GT : Permanent Teacher Ratio
- PER: Library Ratio
- RKB : Good Classroom Ratio

Participation of education

- APK: Gross Enrollment Rate
- APM: Net Participation Rate
- APS : School Participation Rate

Quality of education

- SMA : Percentage of A accredited high schools
- SMK : Percentage of A-accredited vocational schools

Productivity

- PTK : Productivity per worker
- PJK : Productivity per hour worked

RESULT AND DISCUSSION

1. Measurement Model

Evaluation the evaluation of the measurement model was conducted through convergent validity testing, discriminant validity testing, and reliability testing. The convergent validity test was performed using the outer loading method, which measures the correlation between indicators and the observed latent variables. According to Chin (1998), indicators are considered to

have good convergent validity if the loading factor value is greater than 0.60. The test results revealed that six indicators did not meet the requirements:

1. KIP (Smart Indonesia Program) and BOS (School Operational Assistance) indicators for the participation policy variable
2. GL (Teacher Allowance), GT (Professional Teacher), and PER (Library Ratio) indicators for the quality policy variable
3. PJK (Productivity per Working Hour) indicator for the labour productivity variable

These six indicators were removed from the model. Subsequently, a re-estimation was performed, and the results showed that all remaining indicators met the requirement of being above 0.60.

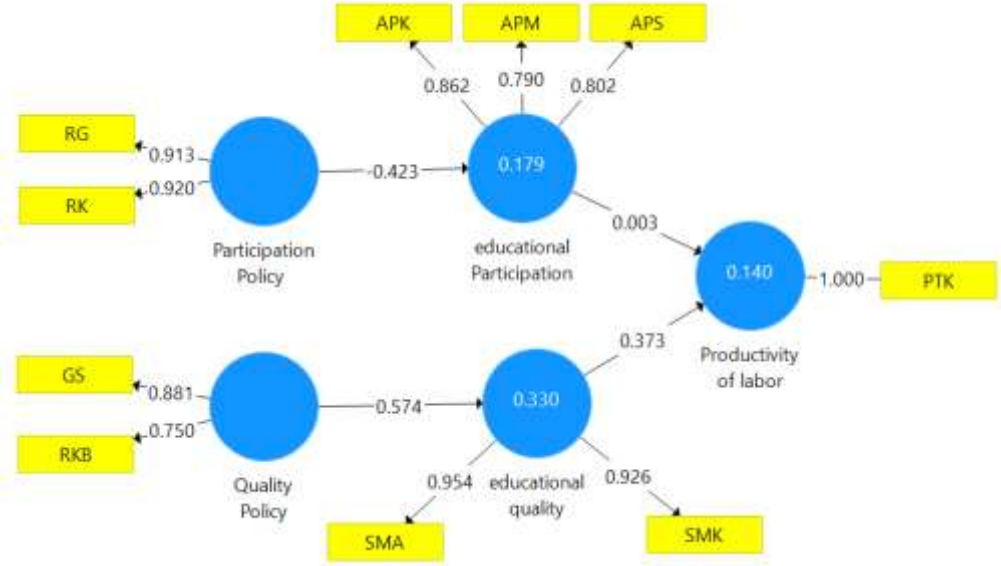

Figure 3. Outer Loading Step 2

The subsequent convergent validity test utilized the Average Variance Extracted (AVE), which is a measure of the convergent validity of a construct or latent variable. AVE measures the amount of variance explained by the latent variable compared to the amount of variance caused by measurement error. According to Hair et al. (2019), a good AVE value is greater than 0.50. If the value is equal to or greater than 0.5, it can be interpreted that the latent variable explains more than half of the variance of its indicators. However, if the AVE value is below 0.5, the convergent validity is inadequate. The model estimation results show that all AVE values are above 0.5.

The discriminant validity test is a measure that determines whether the constructed are different from other constructs and are statistically proven. Testing was conducted at both the indicator and variable levels. At the indicator level, cross-loading measurement was used, while at the variable level, Fornell-Larcker measurement was employed. In the cross-loading measurement, the cross-loading values of indicators on their respective latent variables were higher compared to the cross-loading values on other latent variables. In the Fornell-Larcker test, the testing method involved examining the correlation of the square root of the Average Variance Extracted (AVE). From the estimation

results, it can be seen that the square root among constructs is still larger compared to the square root with other variables. This means the model is considered good according to the Fornell-Larcker criterion.

The reliability test in PLS-SEM is a method to assess how consistent or reliable a construct or latent variable is when measured by its indicators. This test is important to ensure that the measurements made in the research are stable and can be repeated with the same results. Good reliability indicates that the indicators in a construct consistently measure the same concept and are not influenced by random measurement errors. The reliability test used Cronbach's Alpha and Composite Reliability. Based on the calculations performed, the resulting Cronbach's Alpha and Composite Reliability values were above 0.60, which means the model is considered reliable or dependable.

2. Structural Model Evaluation

The structural model evaluation is an assessment of the causal relationships between latent variables in the PLS-SEM model. Here, the R Square value, Q Square, F Square, and multicollinearity test will be examined. The R Square value or path coefficient is a measure that shows how much of the proportion of endogenous latent variables can be explained by exogenous latent variables in a model. The higher the R Square value, the greater the proportion of variance in endogenous variables that can be explained by the model. The Q Square value is a measure that shows the predictive relevance of the model, while F Square is a measure that shows how large the influence or effect size of exogenous latent variables on endogenous latent variables is in the model structurally.

The estimation results show that the education quality variable has a value of 0.33, which according to Chin (1998) is considered moderate. The highest Q square value produced is 0.281. According to Hair et al. (2019), this means its predictive ability is relatively low. Meanwhile, the multicollinearity test using the Variance Inflation Factor (VIF) shows that all variables are below five, which means there is no collinearity problem.

Table 1. Value of R Square, Q Square, F Square and VIF

Variable	R Square	Q Square	F Square	VIF
Educational participation	0.179	0.103		
Educational quality	0.33	0.281		
Productivity of labor	0.14	0.116		
Participation policy to educational participant			0.217	1
Quality policy to educational quality			0.492	1
Educational participation to productivity			0	1.044
Educational quality to productivity			0.155	1.044

Source: Processing Results Smart PLS 3.2.9

3. Hypothesis Testing

Hypothesis testing is a statistical process to determine whether there is sufficient evidence to support specific hypotheses proposed in the research. Conclusions are drawn based on the sign test of the original sample coefficient and significance testing by examining the p-value and t-statistic value. Since all hypotheses in this study are one-tailed hypotheses, the first test that must be conducted is the sign test on the original sample coefficient. A hypothesis is accepted if the estimation results show the same sign as the formulated hypothesis. If the sign test is accepted, the next step is to test for significance. If the resulting significance value (indicated by the p-value) is equal to or less than the probability level α of 0.05, then the hypothesis is accepted. However, if the p-value is above α 0.05, the hypothesis is rejected. The results of hypothesis testing can be summarized as follows:

Table 2. Hypothesis Testing Results

	Hypothesis	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
1	Participation Policy -> Educational Participation	-0.423	-0.428	0.061	6.896	000
2	Quality Policy -> Educational Quality	0.574	0.576	0.045	12.667	000
3	Educational Participation -> Productivity of Labor	0.003	0.009	0.095	0.026	0.489
4	Educational Quality -> Productivity of Labor	0.373	0.369	0.094	3.966	000

Source: Processing Results Smart PLS 3.2.9

From the table above, it can be observed that two hypotheses are rejected:

1. The first hypothesis, "Participation enhancement policy positively influences the increase in participation," is rejected. Although the p-value is below alpha 0.05 and the t-statistic is above 1.96, the sign test estimation on the original sample coefficient shows a negative sign. This contradicts the formulated hypothesis, which posited a positive relationship, thus leading to the rejection of this hypothesis.
2. The second rejected hypothesis is the third hypothesis, which states, "Education participation positively influences labour productivity." While this hypothesis passes the sign test, it fails the significance test as the p-value reaches 0.489, which is higher than the predetermined standard (equal to or below 0.05). Additionally, the obtained t-statistic value (0.026) is below 1.96.

These results indicate that the empirical evidence does not support the hypothesized positive relationships between participation enhancement policy and increased participation, as well as between education participation and labour productivity. This suggests a need for further investigation into the complex dynamics of education policy, participation, and productivity in the context of this study.

The rejection of the first hypothesis suggests that several participation enhancement policies, such as increasing the number of classrooms and teachers, do not lead to increased educational participation. This occurs because the capacity of facilities and infrastructure is already adequate. In fact, there is a tendency towards excess capacity. This is evident in the student-classroom ratio. In 2017, the student-classroom ratio was approximately 32.13. This ratio decreased to 1:26.28 in 2021, meaning that one classroom was occupied by only 26 students. However, if one class were to accommodate a learning group of 36 students, there would be an excess classroom capacity of 10 students. The student-teacher ratio shows a similar trend. In 2017, one teacher served 16.58 students. By 2021, this ratio decreased to one teacher serving 15.95 students. These ratios indicate an excess capacity in both classrooms and teachers. As stipulated in the Minister of Education and Culture Regulation Number 22 of 2016 concerning the Process Standards for Primary and Secondary Education, one learning group for the secondary level (SMA/SMK) should consist of 20-36 students. With this learning group size, the maximum capacity of a classroom should be 36 students. Using this ratio as a benchmark, any ratio below 36 indicates unused capacity. Based on the 1:36 ratio, if the government continues to increase the number of classrooms or teachers, there will be an increasing number of unused classrooms and teachers who cannot be optimally utilized. All of this will not increase participation. This situation suggests that policy efforts to increase participation through infrastructure expansion may have reached a point of diminishing returns. Future policy considerations may need to focus on other factors affecting educational participation, such as quality improvements, curriculum relevance, or addressing socio-economic barriers to education, rather than further expanding physical capacity.

Table 3. Growth of Student-Classroom Ratio and Student-Teacher Ratio

Indicators	2017	2018	2019	2020	2021
Student-Classroom Ratio	32.13	30.15	31.22	28.29	26.28
Student-Teacher Ratio	16.58	16.25	16.06	15.23	15.95

Source: Processing Results Central Bureau of Statistics (2019a, 2022a)

The rejection of the third hypothesis contradicts human capital theory, which assumes that years of schooling or educational participation will enhance an individual's knowledge and skills, thereby increasing their productivity. In other words, there is presumed to be a positive influence between years of schooling and increased participation (Becker, 1964; Mincer, 1958; Schultz, 1961). The results of this study refute this classical approach in human capital theory, where duration of education is considered to inherently increase one's knowledge and competence. This research demonstrates that years of schooling (participation) do not lead to increased labour productivity.

Empirical data actually supports this conclusion. The increase in the number of graduates does not correspond with an increase in the number of employed individuals. Even when the number of graduates increased by 10.69 percent in 2019, the number of employed individuals decreased compared to the previous year. This phenomenon recurred in 2021. At that time, while the

number of graduates decreased, the number of employed individuals increased in the same year. These findings suggest a more complex relationship between education and labour market outcomes than traditionally assumed. Meanwhile, the trend in the number of employed individuals exhibits a pattern similar to the development of GDP. When GDP growth declined in 2020, the number of employed individuals also experienced a decrease. Since labour productivity is intrinsically linked to GDP development and the number of employed individuals, the evolution of productivity also demonstrates a pattern akin to the trends in employment figures and GDP.

Table 4. Growth of GDP, Workforce, Productivity and High/Vocational School Graduated

	2016	2017	2018	2019	2020	2021
GDP	5.16	5.23	5.43	4.98	-2.98	3.71
workforce	3.13	2.2	2.2	1.96	-0.23	2.02
Productivity of labor	1.85	2.8	2.8	3	-1.84	1.65
High School/Vocational High School Graduates	4.94	6.16	6.16	10.69	4.44	2.8

Source: Processing results Central Bureau of Statistics (2019,2020,2022a,2022b,2023)

The absence of a relationship between years of schooling and labour productivity can be explained by several factors. First, skills mismatch. There is a possibility of a mismatch between graduates' skills and the types of jobs available in the market. This mismatch, as explained by Spence (1973), occurs due to information asymmetry in the labour market. Employers lack complete information about potential workers' skills, while job candidates fail to provide comprehensive signals about their competencies. In such situations, employers are compelled to make additional investments in the form of on-the-job training.

In the Indonesian context, this issue is related to the low relevance of education to the labour market. There is a lack of "link and match" between educational institutions and the business and industrial sectors. This is evident from the still-low quality of vocational high school (SMK) education. In 2021, only about 23.23 percent of SMKs were accredited A, whereas 41.06 percent of general high schools (SMA) achieved A accreditation. This low educational quality subsequently contributes to the employability of SMK graduates. In 2017, the absorption rate was around 71.55 percent. This figure actually decreased to 70.88 percent in 2021 (Central Bureau of Statistics, 2019a).

Second, quality of educational input. Educational institutions pay insufficient attention to labour market trends, resulting in graduate profiles that fail to meet market expectations. This points to a problem of educational relevance to the business world. The issue may stem from educational curricula that inadequately adapt to business needs or from a decline in the quality of education itself. These explanations highlight the complex interplay between education systems and labour market dynamics in Indonesia. They suggest that

merely increasing years of schooling is insufficient to boost productivity. Instead, a more holistic approach is needed, focusing on

a. Improving the alignment between educational curricula and labour market needs enhancing the quality of vocational education
b. Strengthening communication channels between educational institutions and employers
c. Developing mechanisms to better signal graduate competencies to potential employers
d. Continuously updating educational content to reflect evolving industry requirements addressing these issues may help bridge the gap between educational attainment and labour productivity, potentially leading to more effective human capital development in Indonesia.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research findings, the following conclusions and policy recommendations can be drawn:

1. Ineffectiveness of Education Participation Policies: The policies aimed at increasing educational participation have proven to be less effective in achieving their intended goal. This suggests that the current approach to boosting participation rates may need to be reevaluated and potentially restructured.
2. Limited Impact of Education Participation on Labor Productivity: Educational participation itself has been shown to be less effective in enhancing labour productivity. This finding challenges the traditional assumption of a direct positive relationship between years of schooling and workforce productivity.
3. Effectiveness of Education Quality Improvement Policies: In contrast, policies focused on improving the quality of education have demonstrated effectiveness in enhancing educational quality. This suggests that investments in qualitative aspects of education are yielding positive results.
4. Positive Impact of Education Quality on Productivity: Education quality has been proven effective in increasing productivity. This underscores the importance of not just educational attainment, but the quality of education received, in driving workforce productivity.

Policy recommendation given these findings, the primary policy recommendation is that the government should focus more on policies aimed at improving the quality of education. This shift in focus from quantity (participation rates) to quality aligns with the empirical evidence suggesting that educational quality has a more significant impact on labour productivity

FURTHER STUDY

This research still has limitations so it requires further research on this topic "Analysis of the Goals and Impacts of Secondary Education Policies on Labor Productivity in Indonesia (2017-2021)".

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