

Does the policy regarding the role of the national examination in determining graduation affect student achievement?

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ABSTRACT

From 2004 to 2018, the national examination (NE) has undergone three policy changes regarding its role in determining graduation. The NE score was decided to be the sole determining factor for student graduation in the period 2004 to 2010, with the school examination score being the determinant of student graduation from 2011 to 2015 and no longer a determinant of student graduation from 2016 to 2018 period. This study aimed to analyze the pattern of influence of the NE policy as a determinant of graduation on student achievement at junior, senior, and vocational high schools. This study used data on student achievement for 15 years in the subjects tested on the NE obtained from the Research and Development Center of the Indonesian Ministry of National Education. Data analysis was done descriptively by estimating students' mean achievement on the NE and then analyzing the mean trend. By analyzing the trend of student scores' mean on the subjects tested on the NE at the junior high school, senior high school, and vocational high school levels, the mean tends to increase in the period 2004 to 2010, tends to be less stable and decrease in the period 2011 to 2015, and tends to decline again when the NE score is no longer used as a determinant of graduation in the period 2016 to 2018. These results indicate that the policy on using NE scores in determining graduation influences student achievement in junior high school, senior high school, and vocational high school levels.

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INTRODUCTION

Education as a purposeful activity in a country is carried out based on the national curriculum which at least regulates the standards of goals or competencies expected to be mastered by students, learning processes which include principles, models, or methods of learning, and educational assessments. Assessment has been acknowledged as an urgent matter to be carried out in the implementation of education because through the assessment the government could ascertain the extent to which the implementation of learning that teachers facilitate has supported students in attaining the goals or mastering certain basic competencies set by the government (Amua-Sekyi, 2016; CERl, 2008; Mikre, 2010; Nitko & Brookhart, 2011; Retnawati et al., 2017) which ultimately determine the success of the educational process itself (Retnawati et al., 2017). In addition, Nitko and Brookhart (2011) mentioned that through the assessment, the government could obtain information that not only can be used to make decisions related to student achievement but also to make decisions about educational program and curricula as well as to make educational policy. Furthermore, besides being used by the government, assessment can also be used by the school to make decisions related to school programs concerning the educational process and by the teachers to make decisions or adjustments to the learning they facilitate for improving learning quality (Nitko & Brookhart, 2011).

In connection with the urgency of the implementation of the assessment and the various uses of the assessment results by certain parties, the assessment can be divided into two types, namely formative assessment and summative assessment. Formative assessment is an assessment carried out spontaneously or planned and continuously, both before and during the learning process, which focuses on detecting and overcoming students' difficulties in understanding what they are learning or mastering certain competencies and ultimately maximizing the learning that teachers facilitate for their students (Dixson & Worrell, 2016; Schoenfeld, 2015). Meanwhile, the summative assessment focuses more on the assessment of student learning outcomes based on some standards which is conducted at the end of a certain period or segments and is the accumulation of student involvement in a series of learning (Dixson & Worrell, 2016). Although both types of assessment can be used to improve learning, formative assessment in providing opportunities for it can be directly carried out in a learning and used to improve subsequent learning and so on. This is different from a summative assessment whose results can be used to make improvements to the overall existing learning in general or not specifically lead to a particular learning unit. In addition, because the main focus of formative assessment is improving learning and providing support for student understanding on an ongoing basis, formative assessment is low stakes, which means that the results of the assessment have little or no consequence for the student (Barry & Finney, 2016). Unlike formative assessments, summative assessments are generally high stakes, meaning that the results of the assessment have a strong impact on students in terms of whether they can proceed from one grade to the next grade in the same level of education or from one level of education to a higher level of education (Dixson & Worrell, 2016), teachers, principals, schools, administrators, and even parents (Dixson & Worrell, 2016; Minarechová, 2012; Stecher, 2002).

The Indonesian government has long journey in conducting summative assessments focused on students in the final grades of certain educational levels, one of which is known as the national examination. National examination was held based on the government's awareness to conduct educational assessments and evaluations that could map the quality of schools and education itself. If it is related to the national education system (President of the Republic of Indonesia, 2003), national examination is considered as a form of evaluation of the achievement of students, educational units, and educational programs relative to national education standards, through which the government is expected to be able to control, guarantee, and determine the extent of the quality of education. At the beginning of the implementation of the national examination, the graduation of students from a level of education was determined by their achievements on the examination, whether the student could achieve the standards that had been set or not. In addition, student achievement on the national exam is also a consideration in the acceptance of new students at a certain level of education, mapping the quality of education nationally, determining the accreditation of educational units, as well as providing support or assistance to educational units (Ministry of National Education of Indonesia, 2005a, 2005b). Therefore, it can be said that in the early years of its administration, the national examination was high stakes.

Several years after the national examination was held for the first time with high stakes nature, there were pros and cons, both on the part of students, teachers, schools, and even the society. Mardapi and Kartowagiran (2009) in their research report mentioned that those who had experience with national examinations and were pro with administering these examinations considered that national examinations with predetermined standards would encourage teachers and students to put more effort into achieving these standards. With such things, the quality of education would be able to improve from time to time, especially when the standards used to determine student graduation were also increased. Although with the national examination students became motivated to study hard by increasing their study hours, Mardapi and Kartowagiran (2009) found that this resulted in students experiencing physical fatigue and feeling depressed. In addition, there were many criticisms that arose against the

national examination, such as its focus only on the assessment of students' cognitive competence so that it was not sufficient to reflect the quality of education which has many variables and the occurrence of cheating or violations committed by students so that they could pass and even by the school to maintain its reputation (Silverius, 2010). Due to various criticisms that arise, especially against the position of student achievement on the national examination as the sole determinant of graduation, starting from 2011, students' graduation from a level of education was no longer determined only by their achievements on the national examination but was determined based on the combination of student scores on the national examination and school examination with a certain weight (Ministry of National Education of Indonesia, 2010). Even starting from 2016 until the last year of the implementation of the national examination before the national examination was finally abolished, the government determined that the national examination was no longer used as the basis for determining student graduation.

Previous studies have attempted to explore the national examinations administered by the Indonesian government as well as the accompanying policies regarding its position in determining student graduation, their impacts, and factors that contribute to student performance in the national examination. The exploration ranges from when the national examination was high-stakes to when it became low-stakes. Some previous studies were conducted to portray phenomena and issues related to the implementation of the national examination (such as how teachers facilitate learning and prepare students for the national examination and students' difficulties in doing the test) with a focus on certain subjects, such as English (e.g., Effendi & Suyudi, 2017; Hartaty, 2017; Saukah & Cahyono, 2015; Sutari, 2017), Indonesian (Anazifa et al., 2021), and Mathematics (Jailani, 2021; Yusron et al., 2021). Some other studies highlight the factors that influence student achievement in national examinations (e.g., Alivi et al., 2021; Arlinwibowo et al., 2021; Ramelan et al., 2021; Retnawati et al., 2019). These studies have obtained results that indicate that student achievement on the national examination was influenced by the number of programs which reflect the area of expertise (for the case of vocational high school) (Arlinwibowo et al., 2021), the number of students in a school (Ramelan et al., 2021), and the use of national examination scores in determining student graduation (Alivi et al., 2021) which was believed to have an impact on students' motivation or seriousness in working on the test on the national examination (Retnawati et al., 2019).

Regarding the policy on the position of the national examination in determining student graduation, which changed three times in the period of carrying out the national examination from 2004 to 2018, it is necessary to explore the effect of the trend of changing the policy on student learning achievement as represented by student achievement on the examination. Although there are already studies investigating trends in student achievement on national examinations (i.e., Alivi et al., 2021; Anazifa et al., 2021; Ramelan et al., 2021; Yusron et al., 2021), these studies only focus on national exams when their position is no longer used in determining student graduation. Furthermore, although Jailani (2021) has explored student achievement on national examinations across three different policies regarding the use of national examination results in determining student graduation, his study concentrated on mathematics subject at the senior high school level. In order to fill the existing gap, this study therefore seeks to describe the effect of policy variations on national examinations on student achievement by focusing on the level of education of junior high school or its equivalent and senior high school or its equivalent including vocational high school by considering the school's type and status. This study can be used to take into consideration for policy makers as well as to gain an understanding of the factors that influence student achievement or learning outcomes.

RESEARCH METHOD

This exploratory descriptive study focused on education policy in the form of the position of the national examination results in relation to determining student graduation from a

certain level of education and the tendency of its influence on student achievement on the national examination. In relation to the education policy, this study is centered on the national exam in the period from 2004 to 2018, during which time the policy on the use of the national exam results has changed three times. The results of the national examinations from 2004 to 2010 were used as the only determinant of student graduation from junior high school or high school education or the equivalent. After seven years had passed, from 2011 to 2015 a policy was enacted that the determinants of student graduation from a level of education were the results of national and school examinations. In the following year, the results of the national examination were no longer used by the government as a determinant of student graduation from a level of education. Likewise, until 2018, the results of the national examination were not used as a determinant of student graduation. Although the main focus of our study was to investigate the effect of variations in education policy regarding the use of national examination results in determining student graduation on student achievement itself in terms of three levels of education (i.e., Junior High School, Senior High School, and Vocational High School), our investigation was broadened to consider the status (i.e., public vs. private) and type of school.

In order to reveal the extent of the influence of the policy regarding the use of the national examination results on student achievement, data on student achievement in the national examination at the Junior High School (or *Sekolah Menengah Pertama* (SMP)) or equivalent (i.e., Islamic Junior High School or *Madrasah Tsanawiyah* (MTs) and Open Junior High School or *Sekolah Menengah Pertama Terbuka* (SMPT), Senior High School or equivalent (i.e., Islamic Senior High School or *Madrasah Aliyah* (MA)), and Vocational High School or *Sekolah Menengah Kejuruan* (SMK) level obtained from the Research and Development Agency, the Ministry of National Education (2009 – 2011) or the Ministry of Education and Culture (2011 – 2021) of the Republic of Indonesia were used and analyzed in this study. The data were analyzed descriptively by focusing on the average score of students at a level of education on the national examination from year to year from 2004 to 2018 that are presented in the form of a line chart and the possible emerging trends of the average score. The average score of students at a certain level of education (i.e., SMP, SMA, and SMK or equivalent) in a certain year's national examination obtained from the average score of students in the subjects tested on the national examination that year. From 2004 to 2008, the average score of national examination was obtained from the average score of students, both students at the SMP/MTs, SMA/MA, and SMK levels, in Indonesian, English, and Mathematics subjects. Meanwhile, for the following year until 2018, the average score of national examination of students were obtained from the average scores in the subjects of Indonesian, English, Mathematics, and Natural Sciences for the SMP/MTs level, and stream (i.e., Natural Sciences, Social Sciences, or Language) subjects for the SMA/MA level, and subjects of area of expertise for SMK level. Furthermore, because the average score of national examination from 2004 to 2008 uses a scale of 0 to 10, while in 2008 to 2018 it uses a scale of 0 to 100, we converted the average score into the same scale, namely a scale of 0 to 100, to make it easier for us to express it in the form of a line chart and interpret it.

FINDINGS AND DISCUSSION

This section presents the trend of average scores on the national examination from 2004 to 2018 in terms of education level, school status, and type of school. From these trends, it can be obtained an overview of the influence of educational policies regarding the role of national examination results in determining student graduation from a level of education on student performance or achievement. These results are then accompanied by a discussion of the possible factors behind the emergence of such a trend in the average national examination score and its implications for the better implementation of the national assessment.

Findings

As previously mentioned, the main focus in this study was the influence of three different educational policies related to the position of the national examination results in determining student graduation on student achievement in the national examination itself, especially in terms of the three main levels of education, namely SMP/MTs, SMA/MA, and SMK. Since at the SMA/MA level there are three streams, namely Natural Sciences, Social Sciences, and Language, the trend of average national examination score was then reviewed and compared based on the five existing groups, namely SMP/MTs, Natural Sciences stream (hereinafter referred to as SMA/MA IPA), Social Sciences stream (hereinafter referred to as SMA/MA IPS), Language stream (hereinafter referred to as SMA/MA BAHASA), and SMK. The trend of the average national examination scores from 2004 to 2018 for the five groups is presented in Figure 1.

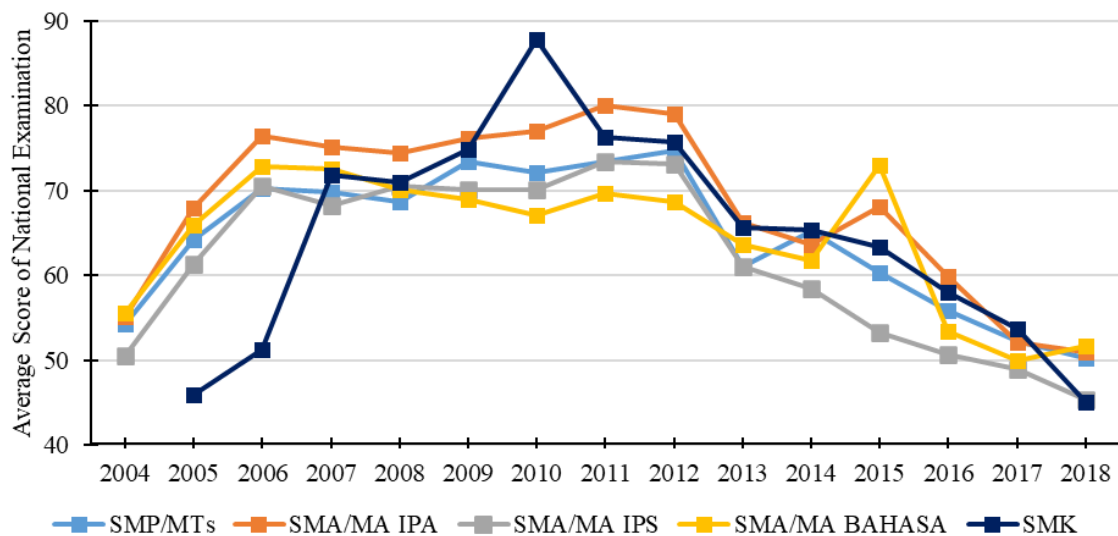


Figure 1. Trends in Average National Examination Scores

Figure 1 indicates that there is a similar pattern in the average national examination scores at the SMP/MTs, SMA/MA, and SMK levels. The average score of students in the subjects tested on the national examination from 2004 to 2010 tended to increase when the results of the national examination were used as the sole determinant of student graduation from a level of education, and the cutoff score was increased from year to year. The average national examination score becomes less stable and tended to decrease during the national examination period from 2011 to 2015 when students' national examination scores determined graduation along with their school examination scores. The average national examination score decreased even more during the national examination period from 2016 to 2018 when the score was no longer used as a determinant of student graduation. These results imply that the policy related to the use of national examination scores as a determinant of graduation has an impact on the achievement of SMP/MTs, SMA/MA, and SMK. The trend regarding the impact of such educational policy on student achievement for each level is presented in detail as follows.

Trends in the Average National Examination Scores of Students at the SMP/MTs Level

From 2004 to 2010, there was an increasing trend in the average score of student achievement in all subjects tested on the national examination at the junior high school level or its equivalent. This happened for SMP and MTs, as well as for SMPT. Furthermore, the re-

sults of the analysis show that the achievement trend of SMP and MTs students was almost the same, and the achievement of students from SMPT was in a lower position. This increase can be interpreted as a result of the increasing passing grade or cutoff score used to determine whether or not a student passes from a certain level of education and the use of the national examination as the main and only determinant of graduation. However, a different situation occurred in 2012 to 2015. The trend of the increase in the average score changed because student achievement on the national examination in 2013 experienced a very significant decline, slightly increased in 2014 and decreased again in 2015. For the years 2016 to 2018, the average score tends to decrease. Furthermore, there was a tendency that an increase in the passing grade or cutoff score would result in an increase in the average score of the national examination, and changes in the policy for determining graduation based on a combination of national examination scores and school examination scores also caused a decrease in the average national examination score. The average score of SMP, MTs, and SMPT students was getting lower again when the national examination was not used as a determinant of graduation at all. The complete analysis results are presented in Figure 2.

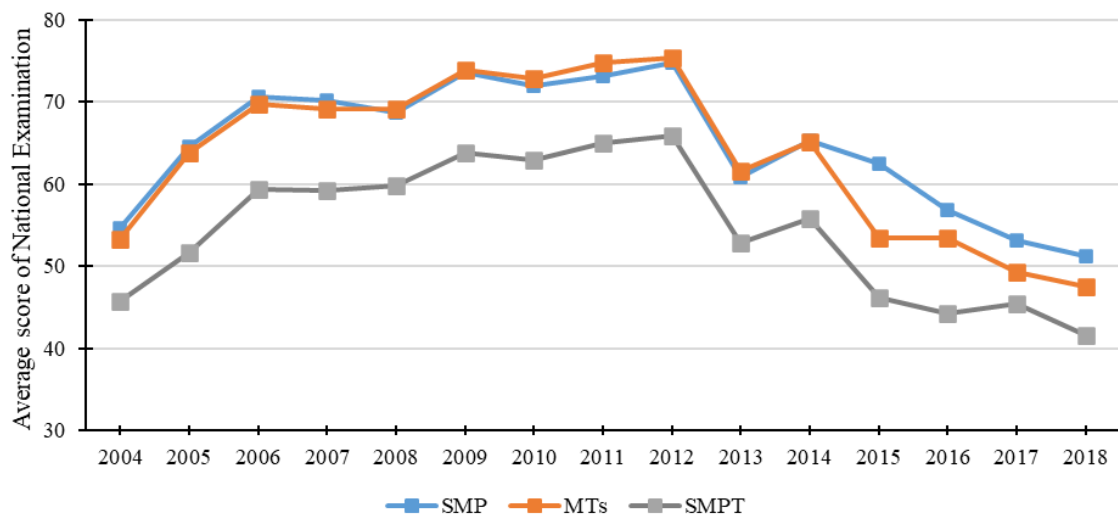


Figure 2. Trends in the Average National Examination Scores of Junior High School Students by Type of School

Regarding the average national examination scores by school type (i.e., SMP, MTs, and SMPT) and school status (i.e., public school or *sekolah negeri* (N) and private school or *sekolah swasta* (S)), the results of the analysis show almost the same pattern as overall data for SMPN, MTs, SMPN, SMPS, and MTsS. The average national examination score for the case of Open Junior High School with private status (SMPTS) has fluctuated and was not stable every year, although the changes followed the pattern of the national average score. Starting from 2004 to 2012, there was an increase in the average national examination score at the junior high school level, there was a downward trend from 2013 to 2015, and it decreased even more in the range of 2016 to 2018. The existence of a policy on the use of national examination score for determining graduation actually affects the average national examination score at the junior high school level in terms of the type and status of the school. The trend of the average national examination scores of junior high school students in terms of the type and status of the school is presented in detail in Figure 3.

Apart from the trend in the average national examination score at the junior high school level that has been presented previously, there is an interesting case in the trend in the average score of Indonesian subjects in SMP, MTs, and SMPT. There was a significant increase from 2004 to 2006, then became relatively stable in 2006 to 2011, then rose again in 2012. Then it

became relatively stable again in 2013 to 2016 and fell again in 2017 and 2018. From this trend, it can be said that the policy of using national examination scores was the only determinant of graduation could increase and maintain junior high school students' scores in Indonesian subjects. Meanwhile, there was a decrease in scores in Indonesian subjects when the national examination score was used as a determinant of graduation in addition to school examination scores and decreased further when the national examination score was no longer used as a determinant of graduation. The full trend for the average national examination score of junior high school students in Indonesian subjects over 15 years is presented in Figure 4.

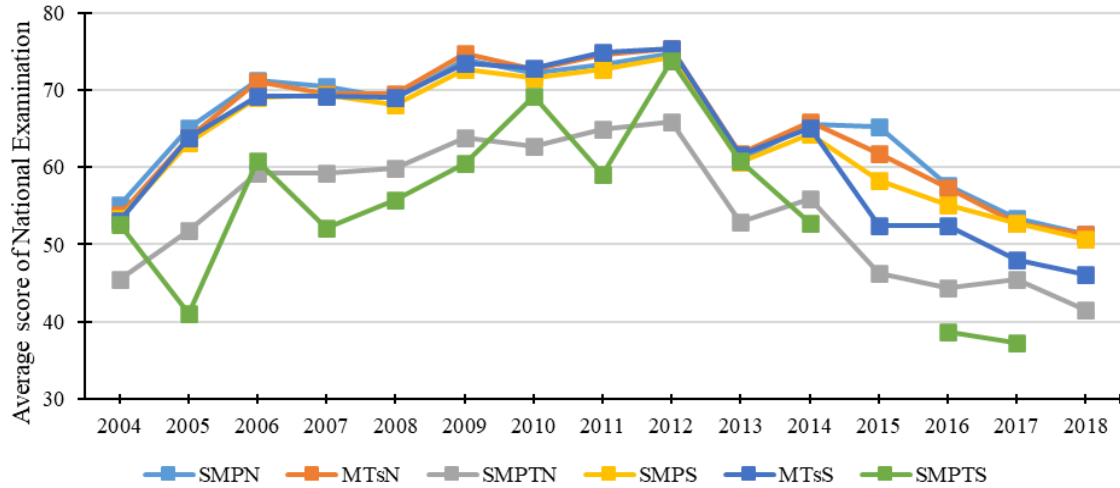


Figure 3. Trends in the Average National Examination Scores of Junior High School Students by the Type and Status of the School

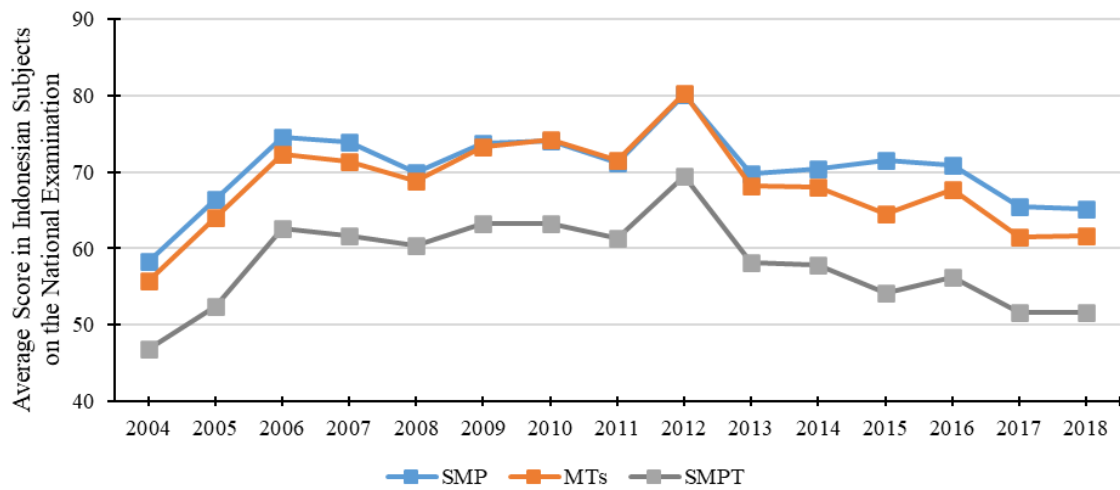


Figure 4. Trends in the Average Score of Junior High School Students on the National Examination in the Indonesian Subject

Trends in the Average National Examination Scores of Students at the SMA/MA Level

There is a similar trend in the average score of the national examination that occurred for the SMP/MTs level with that which occurred in the national examination for the SMA/MA level majoring in Natural Sciences (hereinafter referred to as SMA/MA IPA). The average national examination score at the SMA/MA IPA level increased significantly from 2004 to

2006, and from 2006 to 2012 it increased slowly. From 2004 to 2018, the average national examination score of public SMA/MA IPA students was higher than that of private SMA/MA IPA students (Figure 5). Furthermore, when the national examination scores were no longer the only determinant of graduation in 2013 and 2014, the average national examination scores of SMA/MA IPA students tended to decrease. For the case of public SMA/MA IPA, the average national examination score increased again in 2015, then decreased again in 2016 to 2018 when the national examination score was no longer used as one of the components that determine student graduation from the SMA/MA level. As for the case of private SMA/MA, when the role of the national examination score was no longer the main determinant of graduation, the average student score has decreased, especially when the national examination score was no longer used as a determining component of graduation. The average national examination score in 2018 was even below the average score in 2004, when the passing grade or cutoff score was only 3.01. The results of the average score of SMA/MA IPA students based on their school status (i.e., public vs. private schools) are fully presented in Figure 5.

For the trend in the average national examination score for SMA/MA IPA based on the type of school, although it basically shares a similar pattern, it can be found that each type of school is unique. There was a tendency that the average score of public SMA (SMAN) students was higher than the average score of public MA (MAN), private SMA (SMAS), and private MA (MAS) students. The average score of students in MAN and SMAS was almost the same, while the average score of MAS students from 2004 to 2014 was slightly below the average score of MAN and SMAS students and was even slightly lower from 2015 to 2018. The trend of the average national examination score of SMA/MA IPA students in terms of the type of school (i.e., SMAN, MAN, SMAS, and MAS) in detail is presented in Figure 6.

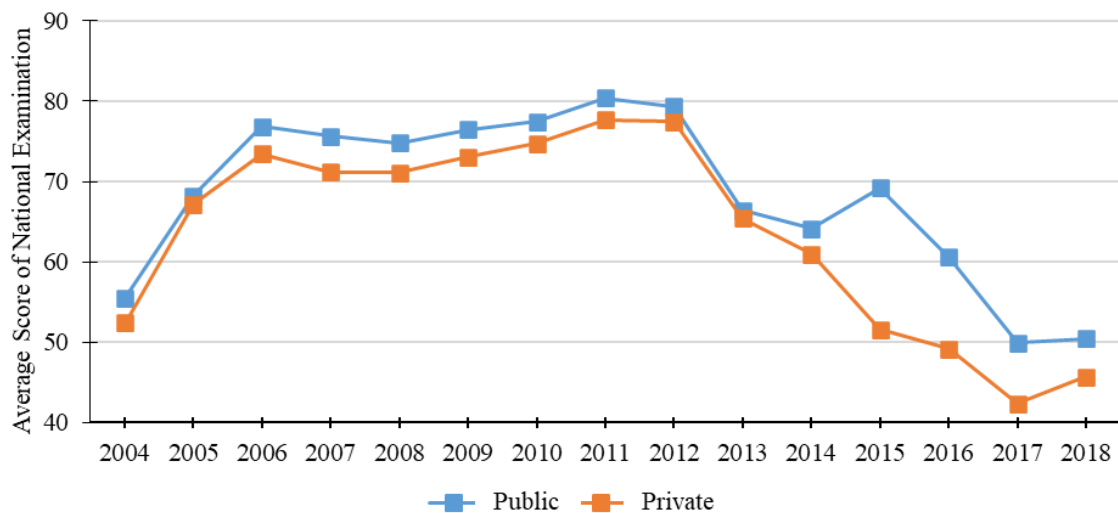


Figure 5. Trends in the Average National Examination Scores of SMA/MA IPA Students by Status of School

For SMA/MA students majoring in Social Studies (hereinafter referred to as SMA/MA IPS), there was a tendency that the average national examination scores of students from public and private schools have increased drastically from 2004 to 2005, from 2005 to 2006, and then slowly increased from 2006 to 2012. In the following years, the average national examination scores of students tended to decline, and the average scores of students from public SMA/MA were higher than students from private SMA/MA (see Figure 7).

A similar pattern to one another also occurred in the average national examination scores of SMA/MA IPS students by type of school (i.e., SMAN, MAN, SMAS, and MAS) (see Figure 8). In the four types of schools, from 2004 to 2006 there was a tendency that the aver-

age national examination score of students increased rapidly, experienced a slow increase from 2007 to 2012, and then decreased in 2013 and 2014. The difference occurred from 2014 to 2018, where in the last four years there was a tendency that the average national exam scores of students from SMAN tended to be higher than those from MAN in 2015 and 2016 and then the average scores of both were almost the same in 2017 and 2018. In 2015 and 2016, the average national examination scores of SMAS students were relatively the same as the average national examination scores of students from MAN, but in 2017 the average national examination scores of MAN students were higher than those of SMAS students. As for the last four years, the average national examination scores of students at MAS were relatively low when compared to the average national examination scores of students from three other types of schools (Figure 8).

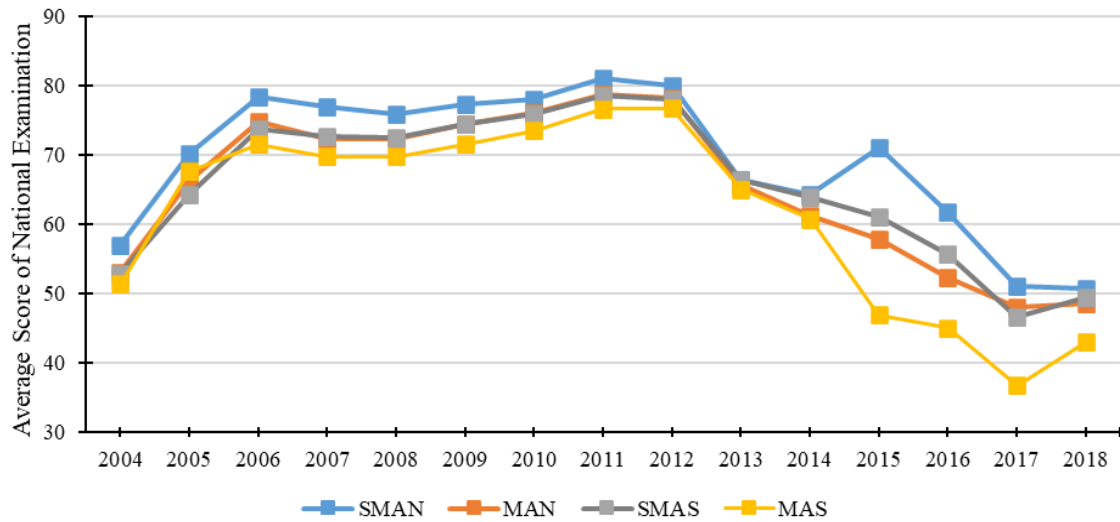


Figure 6. Trends in the Average National Examination Scores of SMA/MA IPA Students by Type of School

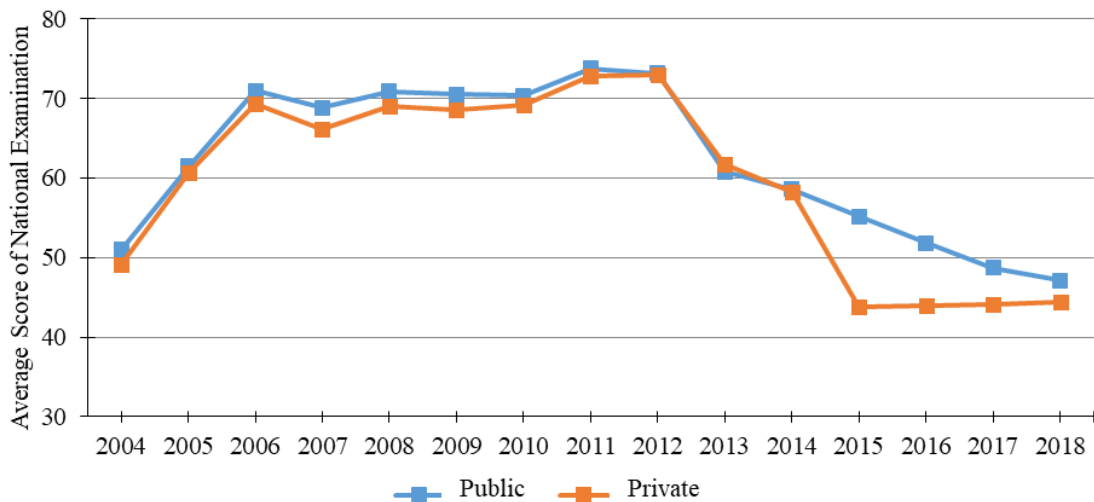


Figure 7. Trends in the Average National Examination Scores of SMA/MA IPS Students by Status of School

For the case of SMA/MA level majoring in Language (hereinafter referred to as SMA/MA BAHASA), there was an increase in the average score of the national examination from 2004 to 2005 and to 2006. From 2007 to 2014, the average score tended to be relatively stable. The average score of public and private SMA/MA students has almost the same pattern over

14 years. The average score of students increased in 2015 but declined again when the national examination score was no longer a determinant of their graduation. The trend in the average national examination scores of SMA/MA students majoring in Language is presented in detail in Figure 9.

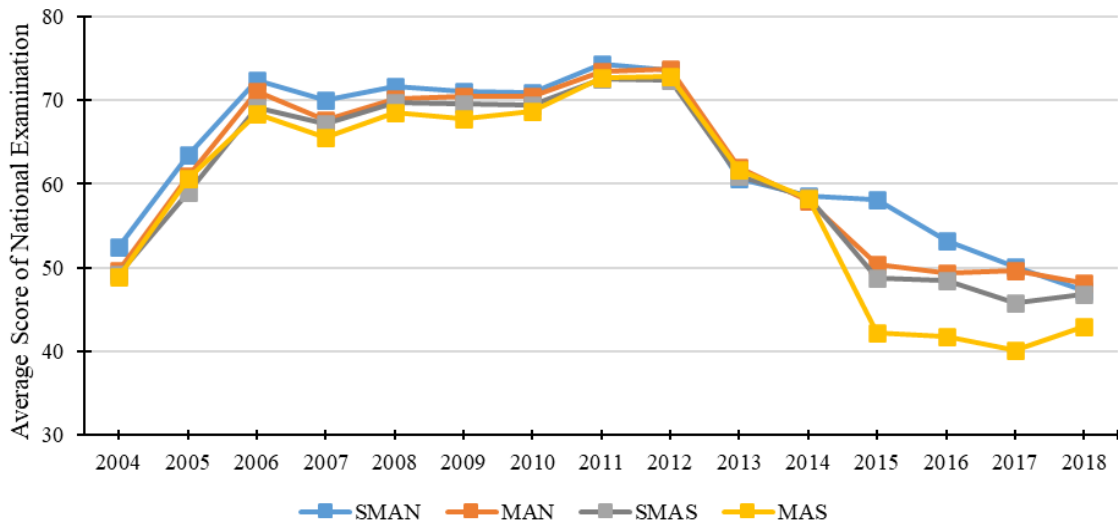


Figure 8. Trends in the Average National Examination Scores of SMA/MA IPS Students by Type of School

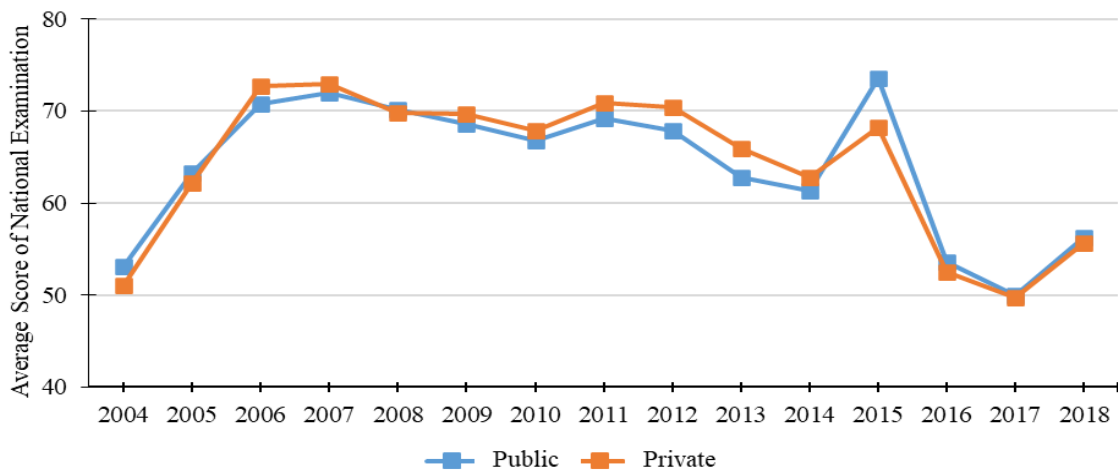


Figure 9. Trends in the Average National Examination Scores of SMA/MA BAHASA Students by Status of School

For the case of SMA/MA BAHASA based on the type of school, there were increases in the average score of students on the national examination (see Figure 10). There was a significant increase in 2004 to 2007, then the average score remained relatively constant in 2007 to 2012. From 2013 to 2017, the average score tended to increase in 2015, but then decreased in 2016 and 2017, and increased slightly in 2018. From 2004 to 2014, the average national examination scores of students from SMAN, MAN, SMAS, and MAS were almost the same. A quite contrasting difference in the average national examination scores for the four types of schools only started to occur in 2015. In 2015, there was a tendency that the average national examination scores of SMAS students were higher than those of SMAN, MAN, and MAS, where the average score of MAS students was the lowest among the average scores of students from the other three types of schools. The achievements of students from

the four types of schools in the national examination were almost the same in 2018. Figure 10 presents in detail the average scores of students from SMA/MA BAHASA on the national examination from 2004 to 2018.

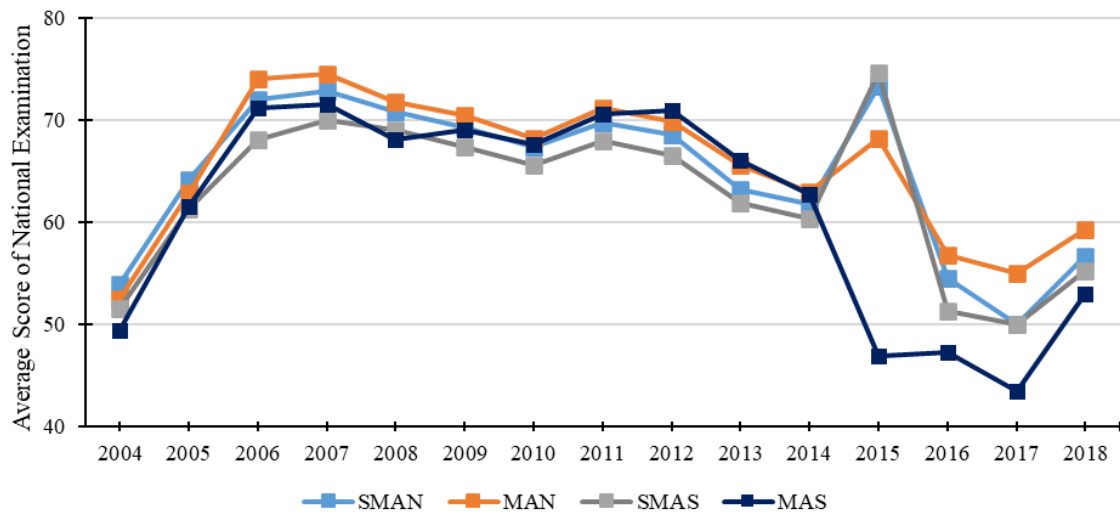


Figure 10. Trends in the Average National Examination Scores of SMA/MA BAHASA Students by Type of School

Trends in the Average National Examination Scores of Students at the SMK Level

Data on the average national examination scores of SMK students showed a similar pattern for public SMK (denoted by SMKN) and private SMK (denoted by SMKS) in the period 2005 to 2012 (see Figure 11). However, from 2004 to 2006, there was a tendency that the average score of SMKN students was above the average score of SMKS students. The average national examination score of SMKN and SMKS students experienced a drastic decline in 2010 even though at that time the national examination score was the only determinant of graduation. When the graduation of students from the SMK level was determined based on a combination of national and school examination scores with a certain proportion, the average score of students on the national examination tended to decrease. Even when the national examination score was no longer used in determining student graduation in 2016 to 2018, the average national examination score of students fell drastically in both SMKN, SMKS, and SMK in general (denoted by Total) (Figure 11).

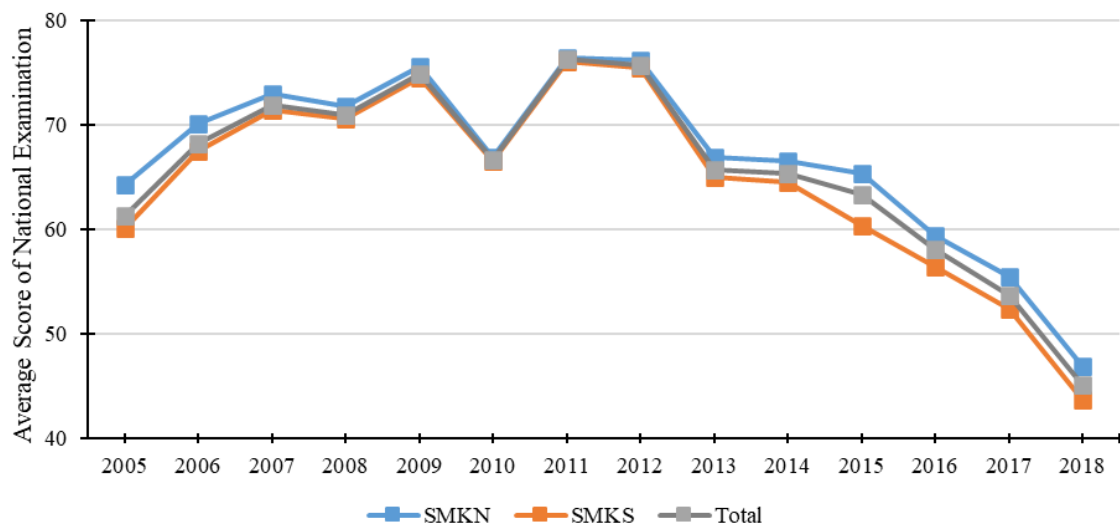


Figure 11. Trends in the Average National Examination Scores of SMK Students

Discussion

The main focus of this study was to explore possible patterns between policy changes in the role of the national examination in determining student graduation from a certain level of education and student achievement. Student achievement here represents the score and average score that students obtained in the national examination. Our study demonstrates the effect of this policy on the achievement of junior high school, senior high school, and vocational high school students indicated by a trend of increasing average year by year when the national examination was high stakes because it acts as the only basis in determining student graduation. However, when an educational policy in the form of a change in the status of the national examination from high stakes to low stakes was implemented, student achievement tended to be unstable and tended to decline and even experienced a significant decline when the national examination no longer determined the fate of students in terms of their graduation from a certain level of education. These results are consistent with a number of previous studies showing that there was indeed a difference in student performance on low- and high-stakes examinations, where students' performance on low-stakes examination was not as good as those on high-stakes examination (Cole & Osterlind, 2008; Wise & DeMars, 2005).

What we have obtained in this study may be caused by factors regarding the behavior or attitude carried out or the motivation possessed by a person in dealing with something that determines his future. When an examination is high stakes, in this case the national examination was the only basis for determining student graduation, students would strive harder (Jonsson & Leden, 2019; Retnawati et al., 2019; Stecher, 2002). A study conducted by Mardapi and Kartowagiran (2009) found that when the national examination was used as the only determinant of student graduation, junior high school students increased their study hours and even took additional lessons outside of school hours through private tutoring. This phenomenon was also discovered by Guill and Lintorf (2019) that many students in Germany took private tutors due to the high pressure experienced by students due to high-stakes examinations. Not only influenced by the high motivation of students to be able to pass the examination so that they strive or study harder, the trend of average score of students that reflects students' achievement on the national examination when it was high stakes may occur because the consequences of the examinations itself that also directly have an impact on the way teachers facilitate students to face the national examination optimally. This statement is supported by Demir and Keleş (2021), Jonsson and Leden (2019), Polesel et al. (2014) and Stecher (2002) who asserted that the high-stakes national examination has an impact on the way teachers facilitate learning. On the one hand, the high-stakes examination would encourage teachers to create an effective learning that is in line with existing standards in preparing students for the national examination and to direct students to study harder and more effectively (Demir & Keleş, 2021; Mardapi & Kartowagiran, 2009; Stecher, 2002). On the other hand, learning that occurred in schools tended to focus more on the subjects tested in the national examination (Ashadi & Rice, 2016; Stecher, 2002) and on traditional teaching method which emphasizes traditional learning methods to familiarize or train students to work on the questions tested on the national examinations in previous years or similar to the national examination questions (Demir & Keleş, 2021; Polesel et al., 2014). Despite all the criticisms of learning practices that apply traditional learning methods, these methods seem to support student achievement in the high-stakes national examinations which although the passing grade or cutoff score set was increased, student achievement in fact still showed a positive trend.

The result of a trend that was less stable and tended to decrease in the average score of students on the national examination when it changed to a low stake seems to be due to the motivation possessed and the effort put in by students was not as big as that owned and expended by students at the time of the high-stakes national examination. One of the reasons for this result can be explained by the possible negative impact of the national examination

which has low or no consequences on the examinees in terms of motivation and effort devoted to the examination (Attali, 2016; Retnawati et al., 2019; Stecher, 2002; Wise & DeMars, 2005) as previously described. Motivation in this case relates to students' motivation in taking examinations which leads to two things, namely students' beliefs about how far they would be successful in the examination and on how important it is to them (Wise & DeMars, 2005). When students have low belief in the importance for them to work on an examination, they usually would not give their best effort in working on the examination (Attali, 2016; Wise & DeMars, 2005) and would tend to devote their efforts to activities that they find more valuable (Wise & DeMars, 2005). This phenomenon is evidenced by a study by Retnawati et al. (2019), one of which focuses on investigating the extent to which students' motivation and seriousness were in preparing for the national examination from the teacher's point of view. Their study demonstrates that when national examination was low stakes because it was not used at all in determining student graduation, students tended to focus more on preparing for university or college entrance examination. To minimize the low motivation or effort that students put into the low-stakes national examination that affects student achievement, several strategies proposed by Wise and DeMars (2005, pp. 10-11) can be considered, including "choose tests that are not too mentally taxing, make assessment tests more intrinsically motivating, and provide feedback."

The general results of the study which indicate the effect of policy changes on the role of the national examination in determining student graduation on student achievement are consistent when reviewed further based on the type and status of the school at each level of education. In addition, there is one interesting result, namely that there is a tendency that students from public schools have better achievements than those from private schools across the school type, except at the senior high school in the Language major. This result, however, differs from a number of previous studies (e.g., Frenette & Chan, 2015; Rong'uno, 2017; Suna et al., 2020) which showed that students from private schools performed better than students from public schools. Rong'uno (2017) argued that although the government has invested more in public schools, in fact the achievement of students from private schools is better. Furthermore, it should be noted that the studies conducted by Frenette and Chan (2015) and Suna et al. (2020) have mentioned that the achievement of students from such private schools is supported by strong socio-economic factors that students have.

CONCLUSION

This study has contributed to providing an understanding of student achievement in the national examination in Indonesia, which during its administration the examination underwent three policy changes in its position to determine student graduation. Our study has revealed, consistent with existing literature, that policy changes regarding the role of the national examination on student fate descriptively affect student achievement, whether at junior high school or its equivalent, senior high school or its equivalent, and vocational high school. The trend of increasing student achievement on the national examination occurred when the national examination was the sole determinant of student graduation, especially when the graduation standards used were also increased. This trend no longer applied when the national examination was no longer the only determining factor for student graduation, where when the national examination together with school examination were used as the determinant of student graduation, student achievement from year to year tended to decline and this downward trend was even more drastic when the national examination was no longer used at all as a determinant of student graduation. These trends also generally applied when student achievement on the national examination was reviewed based on the three levels of education that have been the focus of this study, school status (i.e., public or private school), and type of school and includes the three majors at the senior high school level. Beside obtaining results related to trends in

student achievement on national examinations in three different policies, our study also found an interesting trend when reviewing student achievement by school status: students from public schools tended to have better achievements than those from private schools across three level of education, except for the case of high school students majoring in Language.

Based on the results that have been obtained and considering studies showing that the motivation and effort exerted by students on an examination could depend on the extent of the consequences of the examination results on the fate or future of students, our study suggests the government or teachers to seek and implement strategies that motivate students to put maximum effort into working on an examination even though the examination is low stakes. In addition, since this study has indicated that students from public schools tended to perform better than students from private schools, we recommend future studies to investigate the possible factors that led to such results. Eventually, departing from the limitation of this study which did not consider the gender aspect in investigating trends of student achievement in the national examination in three different policies, future studies are expected to investigate differences in student achievement in the national examination by gender. Even though the national examination was no longer held by the Indonesian government because it was replaced with a low-stakes minimum competency assessment or *Asesmen Kompetensi Minimum* (AKM), the results of this study are still relevant to current conditions in terms of providing additional consideration in understanding the relationship between low-stakes assessments or examinations with motivation and the effort put in by the students. In addition, as suggested by previous studies, it is also necessary to administer a test-taking motivation questionnaire to students when conducting low-stakes assessments.

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