

The Portrait of Madrasah Aliyah In Indonesia: A Critical Evaluation of the Mathematics Score in the National Examination

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Abstract: Madrasah Aliyah (MA) or Islamic senior high school as a part of the national education system plays a big role in advancing the education in Indonesia. There are 7,260 MA institutions with 1,294,776 students. The big potential of MA must be accompanied by some efforts to improve the quality. One of the ways is by capturing and evaluating the quality of MAs through, for example, the results of the National Examination (NE). This study aims to capture the mathematics achievements of students of public MAs and private MAs (mathematics and natural science study stream and social science study stream). The population of the study is all of MA students in Indonesia who took the NE in 2016, with a sample of 291,972 students from 1,455 MAs across 38 districts/cities in East Java. The data of this study are the mathematics scores from the NE and the National Examination Integrity Index (NEII) 2016. The data were analyzed by: (a) determining the average of mathematics scores for each group of MAs (public and private MAs), (b) comparing the average of NE mathematics scores between groups, (c) determining the classification of the MAs based on the number of students and the regions, and (d) comparing the average of 'mathematics scores' in NE with the average scores of NEII for each of MA classification types. The results show that the mathematics achievement of public MA students is higher than the private MAs (for both study stream groups).

1. Introduction

Madrasahs or Islamic schools, first entered Indonesia in the late 18th century brought by the Middle East alumni. They wanted to reform Islamic education by adopting the reform in Al-Azhar University Cairo, offering a curriculum that provides general lessons in addition to religious lessons as its primary mission [1]. This offer was in response to the number of schools established by the Netherlands with the European education system. If Dutch schools were specifically offered to the children from the noble families and Dutch government officials [2,3], the madrasahs were present as an effort to provide education for the poor families at that time [4].

The existence of madrasahs in Indonesia is unique and is always interesting to be studied. From the management aspect, about 90% of madrasahs are run by the community (private/ foundation) while the majority of public schools (95%) are managed by the government [5]. As the madrasahs are mainly managed by the community, each madrasah has its distinct characteristics in terms of the curriculum, the teaching staffs and some other aspects [4]. The dominant role of the community in the management of madrasahs often results in the low availability of the funds used to run the madrasahs



[6]. It is common that madrasahs are often left behind compared to public schools. The community recognizes madrasahs as second-class or suburban schools. This perception is held not only in Indonesia, but also in Pakistan and Bangladesh [7].

However, in the last 10 years, Indonesia madrasahs have experienced significant development, both in terms of the quality and the quantity. Madrasahs have made many achievements both in the national and international levels. Madrasahs' students win various National Science Olympics and international Olympics. This proves that the quality of madrasahs at present is well comparable to public schools (both owned by the government and by private foundation).

The above facts have indirectly affected the public perception and the image of madrasahs. People's trust to madrasahs is growing positively. In fact, the number of madrasahs and students continue to rise, from 60,231 institutions in 2008 to 77,336 institutions in 2016. The number of students also follows this trend, from 7,073,370 at the end of 2008 to 9,252,437 in 2016 or increased up to 76.45% in 8 years [5].

A number of studies on madrasahs, have been widely conducted not only by academics from Indonesia but also from other countries. The studies can be divided into three major groups. The first group is studies that focus on madrasah historical reviews. Research in this group began to intensify since the attack on the twin towers of World Trade Center (WTC) New York, September 11th, 2001. Since then, the Western researchers have been interested in and paying more attention to the education system of madrasahs and pesantrens [7]. They want to explore the curriculum of madrasahs and pesantrens. This is because since the 9/11 incident many parties have accused Islam as the actor behind the incident. Madrasahs and pesantrens are suspected of being the strategic institutions in implanting the radical Islamic ideology to Muslim youth [8]. Researchers [9-13] are among those included in this group.

The second group of researchers is those who pay attention to the problem of madrasahs management. Madrasahs with all their limitations bring many problems including limited budgets, low in the quality of student input, underqualified teachers and limited learning facilities. Each researcher has different attention to the problems faced by madrasahs. Some researchers are also interested in the possible ways to do the transformation to minimize the limitations of madrasahs. The complexity of the problems faced by madrasah has attracted some researchers [3,14,15].

The third group includes those who are concerned with madrasahs' achievement such the research conducted by the World Bank that studied the effect of school types (public senior high school/SMP and Islamic senior high school/MTs) on student achievement [16]. Using the National Examination (NE) scores, the research compared the levels of ability among the students. There were also studies on the skills of students from madrasahs and public schools in Bangladesh [17]. They compare mathematics achievements between female and male students. Furthermore, there was a more focused research capturing the ability of Indonesian students by relating it to the results of National Examination [1]. The ability captured include math, science, Bahasa Indonesia and English. The study took the subjects of NE test takers from MTs (Islamic junior high schools) across Indonesia, which were divided into 3 zones: the West (Sumatra and Kalimantan), Java and the East (covering Bali, Nusa Tenggara, Sulawesi, Maluku and Papua).

The above studies do not seem to have clearly captured the mathematics achievement of MA students in Indonesia. Also, the studies have not considered the distinctiveness of each group of madrasahs. In other words, there are questions of whether the similarities or differences (if any) in mathematics achievement between different groups of MAs do reflect the actual condition and whether there are other factors that cause the similarities or differences. These issues need to be explored through a comprehensive, thorough and careful analysis to get more conclusive findings. Thus, efforts to improve the quality of madrasahs in general and the MAs in particular, can have a clearer direction as to identify which MAs need more support in terms of policy.

1.1. Research Focus

This research focus to capture the mathematics achievements of students of public MAs and private MAs (mathematics and natural science study stream and social science study stream).

2. Methodology of Research

This study took the data from the NE scores in 2016 collected from the NE Results Report released by the Center of Education Assessment, Ministry of Education and Culture of Indonesia. The data of the NE scores are corroborated with the NEII data. NEII is an illustration of the level of honesty in answering NE questions, obtained from the analysis of students' answer patterns in doing NE. Good NEII reflects the quality of the learning process and the real ability of NE test takers; the process and ability which in turn will result in good achievement. On the other hand, bad NEII can result high achievement but it is pseudo because it does not reflect students' real ability. These data were also obtained from the Ministry of Education and Culture.

2.1. Sample of Research

In 2016, there were 1,294,776 MA students taking the NE, spread over 7,843 institutions [6]. Of the total MA, approximately 20.04% or 1,572 MAs are in East Java with a total of 291,972 students. This figure indicates that East Java is the province with the highest number of MAs and MA students in Indonesia. Based on this consideration, East Java was selected as the research sample.

2.2. Procedures

The mathematics scores of NE, which have been processed using software, presented in the form of "statistics," "graphics" and "absorption." The software enables the researcher to easily access the required data. The statistics contains information on value, mean, highest and lowest scores, standard deviation and the distribution of students' scores. The graph presents information on the average of students' mathematics scores in a madrasah in comparison to the average scores in the district, provincial and national levels. The absorptive capacity contains information on students' ability on tested subjects in each madrasah, district, province and nationally.

2.3. Data Analysis

The data were analyzed in the following stages. First, the average mathematics scores of each MA group (state MAs and private MAs) were searched in software. In this stage, the MAs were also categorized based on the study stream groups, namely the stream of Mathematics and Natural Science (MIPA) and Social Science. Second, the average values of mathematics scores from NE across the groups were compared (among state MAs and private MAs with MIPA and IPS study streams). The same way was done for the excellent MAs (MA Unggulan). Third, the MAs were classified based on the number of students (small MAs, medium, and large) and the region (region of Madura, Tapal Kuda region and other regions). Fourth, the average mathematic scores of both types of classification of MAs were compared to the average of NEII.

3. Results and Discussion

In NE 2016, the subject of mathematics was tested in all groups of study streams in MA including MIPA, IPS or Language and Culture study streams. However, due to the small number of MAs in East Java that offer Language and Culture study streams, this paper does not discuss the NE mathematics achievements of the group.

The number of private MAs in East Java for MIPA study stream is bigger than that of public MAs. The data indicate that the average mathematics score of MIPA students in private MAs (60.22) is lower than that of public MAs (62.59) with the standard deviation of private MA students (19.73), which is higher than that of public MAs (13.90). This signifies the broad disparity of quality between private and public MAs.

A similar pattern also occurs in the IPS study stream. In this group, the average mathematics score of private MA students is 1.04 points lower than that of public MAs. The standard deviation value of private MA students is also higher than that of the students of public MA, that is 19.65 compared to 13.27. The above facts are specifically interesting to be explored and studied further.

The real condition MAs shows that private MAs mostly have limited funds and various other limitations. These limitations of private MAs greatly affect the condition of the infrastructure supporting the students' learning. With this condition, it is extraordinarily surprising that students from private MAs have higher achievement in mathematics compared to those from public MAs.

One kind of private of MAs worth observing is excellent MAs (MA unggulan). MAs of this type has several advantages in many ways compared to other private MAs, including in the learning process. In East Java there are 10 MAs Unggulan offering MIPA study streams and 15 MAs offering IPS study streams, spread in various districts/cities. In general, the average value of students' mathematic scores from excellent MAs' is 67.63 for both study streams. With this average, the MA Unggulan group's achievement is not far behind the achievement of private MAs in general. In other words, there is a negation on the assumption that the scores from MA Unggulan contribute to the small difference in the average scores between private and public MAs.

It is also important to explore further another important aspect in interpreting the NE results; that is the credibility level of the test administration. The credibility of the administration of the NE can be seen from the index in NEII. Figure 1 presents the comparison of the average results of the NE with NEII. There is a broad disparity between the average of the results of the NE and NEII in small private MAs (MA with less than 33 students in 1 class). This means that the results of the NE for small private MA groups need to be further explored because it is very possible that the high average is obtained not from the results of the students themselves.

The small difference of achievement among the students of private MAs and public MAs raises a suspicion that there is a contribution of pseudo performance of this group of small private MAs. The various limitations of small private MAs make it difficult for small private MAs to conduct good quality learning process. Under such conditions, teachers, students and other stakeholders at the institutions compromise and together they commit a fraud. For them, NE's result has a very strong impact to their image. The fraud that they do is an effort to maintain a good name, even improve the image of the MAs in society [15]



Figure 1. Comparison of the Average Results of NE and NEII across Different Groups of Private MAs

Institutionally, a score is considered as the reflection of an institution's success, so it is not uncommon that the NE score become the main target. When NE results are bad, students will be embarrassed. The teachers also feel ashamed if many of their students get bad scores. The prestige of the institution will be at risk if many students get low scores in NE. The most feared impact is that the institution will have low enrollment in the next academic year because the society considers the

institution as non-qualified [18]. Such condition influences the sustainability of an MA because the number of students becomes the determinant of the institution's sustainability.

In addition to the reasons above, some small MAs are also less confident in facing the NE due to their inability to provide good learning quality. This is reflected in a statement like this: "Our institution will not be able to get the NE results we are targeting without cheating." This expression indicates the embarrassment of the MA when their students get a less satisfactory NE scores. This makes them leave their conscience that they take whatever ways that can make them achieve good results in NE.

Based on the origin of the region, the small MAs' position as mentioned above is mostly contributed by the MAs in Madura and Tapal Kuda region. Tapal Kuda region is an area in East Java inhabited predominantly by the Madurese, with the area covering Pasuruan (the eastern part), Probolinggo, Lumajang, Jember, Situbondo, Bondowoso, and Banyuwangi. Inhabited by Javanese minorities, the influence of the Madurese culture in the region is so strong that Madurese becomes the cultural character of the region. The "Other" region refers to areas in East Java other than Madura (Bangkalan, Sampang, Pamekasan and Sumenep) and Tapal Kuda. Why is there a big distortion between the results of the NE and NEII in the region? Figure 2 presents the average position of the NE with NEII in three areas: Madura, Tapal Kuda and Others.

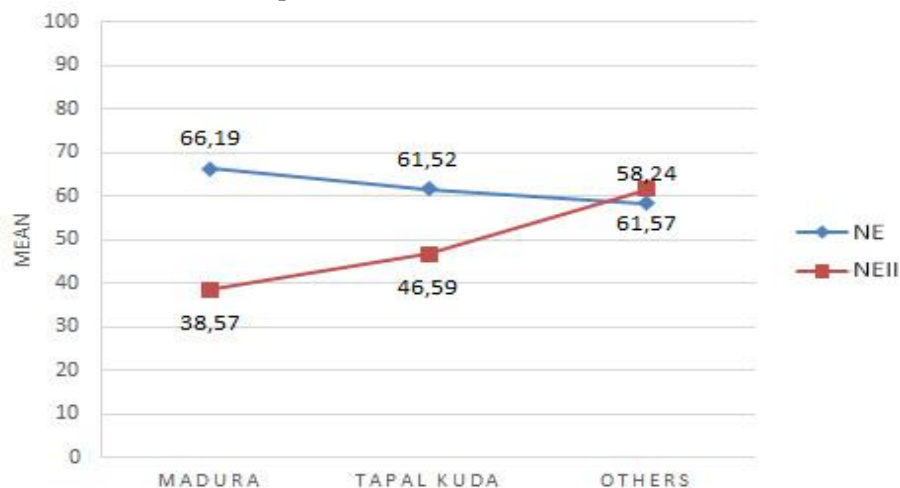


Figure 2. Comparison of the Average Results of NE and NEII of Private MAs Based on the Regions

There are several hypotheses that can be formulated in relation to the above phenomenon. Firstly, most of the MAs in the region are managed by or affiliated to pesantrens with over 60% of religious lessons in the curriculum; the rest are general lessons. Such load of learning can go beyond the capacity and ability of the students. Moreover, in the evenings the students are still required to study the Quran at pesantren. This can bring a negative effect on students' health both physically and psychologically. It is not infrequently that the students become sick and psychologically anxious when the days of the NE are getting closer. They are also concerned if they cannot pass the NE. This results in the lack of self confidence which in turn lead them to find a shortcut to get the intended scores for the NE [19].

Second, the characteristic of the Madurese is that they uphold their dignity and self-respect. They will take whatever risk to keep these two essentials [20]. In relation to the NE, the results of the NE are often regarded by teachers and MA managers in these two areas as betting on the prestige and self-esteem of the institution. Therefore, they will do anything as long as the purpose of obtaining good NE results is achieved, regardless whether the ways they take violates the provisions of Islamic teaching or not.

Based on the previous two arguments, students' mathematics achievement in the NE mathematics lesson from private MAs is actually far adrift from those of public MAs. The difference is not only 1 to 2 points but can be ranging from 5 to 20 points. The pseudo achievement examined both in terms of the MA size (small, medium, and large) and the territorial aspect (Madura, Tapal Kuda, or Other) in corroboration support the above argument.

4. Conclusions

The mathematics achievement of students for the NE 2016 does not differ much between those from the from private and public MAs in East Java. Although the average result of public MA students is higher than the private MA students, the difference is not significant (either from MIPA or IPS study stream). However, the mathematic achievement of private MA students which is equally comparable to the achievement of the students from public MAs is obtained through fraud. Therefore, their scores can be considered as pseudo achievement.

Other findings from this study show that the practice of dishonesty in taking the examination commonly happen in small MAs in Madura and Tapal Kuda region. Observably, MAs in this group have relatively poor resources or have students with low academic ability. Therefore, the Ministry of Religion needs to explicitly eliminate or at least reduce the incentives related to the value of the NE in madrasahs with low integrity, and to give reward to the madrasahs who have the strong intention to reduce fraudulent practices. The possible policy for the madrasahs with high integrity is by taking the NEII scores as one of the consideration in student admission to Islamic State Islamic University. Students from madrasahs with high NEII get the priority, while students from madrasahs with low NEII are given penalty or low priority.

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