Impact of New Student Admission Zoning System on Academic and Geographic Heterogeneity in Junior High School in Tegal City, Central Java

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ABSTRACT

The zoning system was a policy in the acceptance of new students (PPDB), which has been implemented for 4 years since 2017, to bring students' domicile closer to the school and remove the stigma of favorite schools. This study described the results of the evaluation of the PPDB implementation and its impact on the academic and geographical heterogeneity of State Junior High School students in Tegal City, Central Java. The evaluation model used was the Discrepancy evaluation model with descriptive quantitative analysis techniques. Respondents in this study were five officers from the Tegal City Education Office, nine school principals, 97 members of PPDB committees, 596 parents, and 724 students. The results showed that the PPDB zoning system had been carried out well in the aspects of input, process, and product. The Mann-Whitney and independent t-test show that there were differences in the geographical and academic heterogeneity of students before and after the implementation of the zoning system. The results of the variance test using the F-test showed no differences in location and student academic scores before and after the implementation of the zoning system. The PPDB zoning system proved not to produce different academical heterogeneity compared to the results of the previous PPDB system. Quantitatively, there was still a stigma of favorite and non-favorite schools in certain schools among students.

Keywords: academic and geographic heterogeneity, zoning system, siap-ppdb online, education policy

1. INTRODUCTION

Based on Law Number 20 of 2003, the government must provide quality education and equal treatment for every citizen. Therefore, the government needs to create an equal distribution of education. Põder et al. [1] think that education equity means equal outcomes or opportunity. Farrell [2] stated that education equity includes 1) equal opportunity to enter school, 2) equal opportunity to survive in school, 3) equal opportunity to gain success in learning, 4) equal opportunity in living the same life as a result of education at school.

One of the efforts made by the government to create an equal distribution of education is the zoning policy in the admission of new students (PPDB). Before 2017, PPDB was done through open registration, each prospective student was free to register at the desired school. The selection process is done by ranking the national exam scores. However, this system creates various problems. Ula & Lestari [3] said that the National Exam Scorel (NUN) led to the concentration of students with high scores in one school, so, without realizing it, the NUN score becomes a barrier to accepting prospective students who have a place to live near the school. Põder et al. [1] argue that the freedom for students to choose schools will tend to gather students from better socio-economic backgrounds (having knowledge and resources) to certain schools, resulting in a lack of educated enrollees in "less desirable" schools [4]. The next problem is the further distance students travel to school [5]. Students with schools far from where they live will need to use transportation to get to school. The farther the school's location, the more required costs for transportation and of course, will increase greenhouse gas emissions [6]. As much as 20% of transportation affects greenhouse gas emissions globally, 72% of it comes from road-

based transportation [7]. Thus, school choice and school zoning policies have implications not only for education but also for public health and transportation.

Since 2017, the government has started to use the zoning system. Zoning is the division of territory based on the residence of prospective students by considering the number of graduates of each region. The zoning system aims to bring the school environment closer to the family environment and eliminate exclusivity and discrimination in schools, especially public schools [8]. But in fact, this system is not a solution in overcoming the various conflicts that arise from the PPDB policy [9]. The zoning system will narrow the competition area, limit students' space for movement, reduce student learning motivation [9]. Besides, parents think it's enough to rent a house near the desired school [10]. Other conflicts are parents changing resident data [11], fake home addresses [12], and entrusting their children to families who live close to the desired school [10].

The zoning policy in PPDB raises pros and cons. The policy also still has many weaknesses and shortcomings. Thus, it is necessary to evaluate the policy to find out whether the results or impacts of the zoning policy following the objectives of the policy. Based on these problems, the researchers are interested in examining the impact of PPDB zoning on student's academic and geographical heterogeneity. Researchers compared the academic distribution and student residences before the zoning system (in 2016/2017) and after the zoning system (in 2018/2019).

2. LITERATURE REVIEW

2.1. Zoning System PPDB Policy

Education policy is part of public policy regulating specifically regulations in education [13]. Education policy is necessary, especially for scientists in education administration and management. Scientists are expected to make corrections to errors or inaccuracies in the formulation of every education policy produced by the government. The zoning policy is one of the educational policies expected to eliminate public perceptions of favorite schools and bring the school environment closer to the environment where students live. The zoning system policy is regulated in Permendikbud No. 14 of 2018. In its implementation, local governments are given authority to make technical policies for implementing PPDB in the regions. The follow-up to the Permendikbud is the enactment of Mayor Regulation No. 14 of 2018, used as a guide in implementing PPDB in Tegal City. Based on the zoning rules, schools are required to accept students with the following conditions: 1) 60% of zone 1 (students who live in the same sub-district as the school), 2) 30% of zone 2 (students outside the district of Tegal city), and 3) 10% of zone 3 (students from outside the city of Tegal.

2.2 Academic and Geographical Heterogeneity

Academic achievement refers to the achievement of learning outcomes obtained formally through the school curriculum [14], [15]. Academic heterogeneity is a group of students consisting of various levels of ability (high, average, and low) [16]. Therefore, student learning outcomes can be used to determine student academic heterogeneity. The government carries out the final result assessment to assess the achievement of graduate competence nationally. In Permendikbud No. 23 of 2016, this assessment is carried out through the school exam (US), while in Permendikbud Number 4 of 2018 it is carried out through the national standardized school exam (USBN). US or USBN is held simultaneously with the subjects being tested, namely Indonesian, mathematics, and natural sciences. Due to the simultaneous implementation, the number of subjects tested is the same, and to distinguish it from the US in 2018, the term USBN will be used in the study. So in this study, the academic heterogeneity of students will be reviewed based on students' USBN.

The study of geography is carried out through 3 approaches, namely spatial, environmental, and regional complex [17]. Knox & Marston [16] explain 5 concepts that need to be considered in spatial analysis, namely location, distance, space, accessibility, and spatial. Some factors cannot be ignored in the study of geography, namely distance, location, accessibility, pattern, interdependence, and interaction [18]–[20]. Location determines the value of an object based on other objects or objects from the outside [19]. Distance is closely related to location because distance can measure how close or far two objects are [19]. Accessibility or affordability is related to transportation [19]. In this study, three essential concepts of geography will be taken following the research, which are: 1) Namely: 1) location, variations in the location of the student's residence; 2) the distance from the student's residence to the school which is calculated based on the kilometer length unit; 3) accessibility, available public transportation from the student's residence to the school.

3. METHODOLOGY

This research was a policy evaluation research that used a descriptive quantitative approach. The evaluation model used was the discrepancy evaluation model by Provus [21]. The stage of discrepancy evaluation model in this study was: 1) Design, the researcher made a policy design in the form of input, process, and product that would be used as a basis or evaluation standard, 2) installation, at this stage the researcher compared the performance of the input aspect with the standard input that has been described in the first stage, 3) process, researchers compare process aspect with standard, 4) product, at this stage researchers investigate whether the policy objectives have been achieved or not.

Sampling was done by purposive sampling technique using the Slovin formula. The samples were the Education Office (5 people), school principals (9 people), PPDB committee (97 people), parents/guardians (598 people), and students. The student samples will be taken from the 2016 PPDB (363 students) and the 2018 PPDB (361 students). Data collection techniques were carried out through questionnaires and document analysis.

Data analysis was carried out through a quantitative approach (descriptive statistical analysis and inferential statistics) and assisted by document data. The stages in descriptive statistical analysis were assessing each respondent's answer, adding up the total value, and categorizing the values obtained based on the level of tendency. The obtained categorization value would be used as a criterion for the success of the evaluation. The criteria refer to Permendikbud No. 14 of 2018 and Perwal No. 14 of 2018. Categorization was carried out using normal curve statistics. The inferential statistical test includes assumptions of normality and homogeneity of variance and hypothesis testing used T-Test and Mann-Whitney U Test.

4. RESULT AND DISCUSSION

The result and discussion in this study will focus on implementing of the PPDB zoning system at SMP Negeri in Tegal City and its impact on academic and geographical heterogeneity. The evaluation will be analyzed based on the data obtained and then measure the gap based on the standards that have been set in the success criteria of this study. The results of the evaluation will be discussed following the three aspects, namely the input aspect, the process aspect, and the product aspect.

4.1 Input Aspect

The input aspect contains everything needed to implement PPDB, including resources, application programs, and technical instructions (juknis). The prepared resources consist of human resources and infrastructure facilities. The formation of a committee team indicates human resources in this case. Pambudi [45] said a committee is needed so that PPDB coordination can run smoothly. The committee that has been formed must work according to its duties and functions and obey all applicable rules [5], [23]. Based on the headmaster's decision letter at each school, it shows the formation of a PPDB committee team with the number of members and their duties that adapt to the school's needs. Furthermore, the committee prepares the facilities and infrastructure owned by the school, such as classrooms, tables and chairs, stationery, internet networks, computers, and so on. From table 1, it can be seen that the resources have been well prepared. This is in line with Istiqomah et al. [48] which states that human resources or supporting facilities and infrastructure need to be prepared as well as possible.

Table 1. The results of the analysis of the input and process aspects

Aspect	Component	%	Achievement	Criteria
Input	Resource	94.59%	97.60%	very good
	Application program	100%		very good
	Technical Guidelines (juknis)	98.20%		very good
Process	Implementation of PPDB with operator assistance	94.99%	97.69%	very good
	Implementation of PPDB independently	98.07%		very good
	Executing conditions	100%		very good

Based on article 4 paragraph (1) of the Minister of Education and Culture No. 14 of 2018 it is stated that PPDB is carried out by an online mechanism. Therefore, the Tegal City Government has prepared a PPDB application program in the form of a website that can be accessed through the https://kotategal.ready-ppdb.com page. This site/website will be used automatically as a PPDB information and selection service. Ttable 1 shows the application program provides complete information related to PPDB. The information includes PPDB rules, procedures, schedule, registration location, registration flow, and the ceiling/capacity of each PPDB registration school. The site/website is also used as an automatic PPDB selection, as evidenced by the availability of a registration menu, selection results, and PPDB statistics.

In implementing PPDB, it is necessary to have technical guidelines compiled so the implementation of PPDB can run smoothly, orderly, and uniformly. The technical guidelines can be seen in the attachment to Perwal No. 14 of 2018. The technical guidelines must be clearly structured to be easy to understand and consistent with existing regulations, in this case, Permendikbud No. 14 of 2018 and Perwal No. 14 of 2018. Table 1 shows that technical guidelines are easy to understand and consistent with existing regulations.

Overall, input aspects namely resources, application programs, and technical guidelines included in the very good category with an average percentage of 97.60%. It is said that everything needed in the implementation of PPDB SMP Negeri in Tegal City has been very well prepared.

4.2 Process Aspect

The process aspect describes the activities of new student admissions in Tegal City. Based on Perwal No. 14 of 2018, the PPDB of State Junior High Schools in Tegal City is implemented using the Real-Time Online system. This system is online and uses the PPDB application. The registration procedure is carried out in two ways: 1) independently where new candidates can register directly through the PPDB website and 2) assisted by school operators where prospective students can go directly to the school with the required documents.

Prospective students carry out the registration process with the assistance of school operators by directly coming to school and bringing all the required registration files. Operators here will play a role in helping prospective students by entering data into the PPDB website. As for the registration process independently, participants can register directly through the PPDB website/website, print out proof of registration and bring it to the school to be verified by the school operator. Furthermore, prospective students can view the results of the selection online.

Implementing conditions are actually experienced by the implementers when PPDB takes place. The implementers are the school principal, the PPDB committee, and the Tegal City Education Office. Implementing conditions consist of executing tasks, communication, coordination, and the attitude of the implementers. Table 1 shows the average percentage achievement of the process aspect of 97.69%, so it can be said that the implementation of PPDB for State Junior High Schools in Tegal City has been running according to the standards that have been set.

5.3 Product Aspect

The zoning system aims to bring the student's domicile closer to the school and eliminate public perceptions of favorite schools. Therefore, the product aspect will include the impact of the zoning system in terms of students' academics and geography. Before the zoning system, the selection of new students was based on the National Examination scores. Students with high academic scores will prefer to enroll in favorite schools. This will have an impact on grouping students with high scores in one school. The results of the independent t-test on the USBN value showed p.value (0.007) $< \alpha(0.05)$, so that H_0 was rejected. Therefore, it can be said that there is a mean difference between students' academic scores before zoning and after zoning.

Independent t-test on the location of residence shows $p.value$ (0.00) $< \alpha(0.05)$,so that H_0 was rejected. Therefore, there is a significant difference in the location where PPDB students lived before and after the zoning system. Meanwhile, based on the Mann-Whitney U test on the distance of residence, it shows $p.value$ (0.00) $< \alpha(0.05)$ so that H_0 was rejected. Therefore, it can be said that there is a significant difference in the average distance between students' residences in PPDB before and after the zoning system. So it is proven that a zoning system can bring students' residences closer to the school.

On the other hand, F-test based on the USBN score showed $F_{hit}(1.11) < F_{tab}(1.23)$, so H_0 was accepted. These results indicate that the variance of students' academic scores before and after the zoning system is not different. The same results are also shown in the location of the student's residence where $F_{hit}(1.04) < F_{tab}(1.23)$. Furthermore, based on the grouping of each

school based on NA which can be seen in table 2 shows each school in each group is not different, both PPDB before and after the zoning system. This shows that although the averages are different, the variance or distribution of students is the same. Thus, the stigma of favorite and non-favorite schools is still embedded in people's minds. Students with high scores tend to enroll in favorite schools within the zoning of their residence. This finding supports previous research. Thoha and Gazali [49] and Perdana [5] expressed the opinion of parents who feel that the zoning system restricts their children from entering their favorite schools. This will eventually limit their child's development and students lose their motivation [26]. Parents protest because their children who have good grades fail to enter the school they want [5]. Also, there is a booming number of registrants in top schools [11], and the discovery of fraud in the form of falsification of domicile letters [10][27]. Previous researchers revealed the evidence why the stigma of favorite schools has not disappeared in the public's view, namely people's mindsets and government policies that do not support [10][27], and the unpreparedness of the local government in providing quality educational facilities and infrastructure in schools [3], parents say that every school does not have the same educational standard [28], and favorite schools that have better facilities [23]. Mareta et. al. [26] argue that the zoning policy is not balanced by facilities and infrastructure, making students prefer schools that are far away with complete facilities.

Table 2. Distribution of Student Residence

Category	Before Zoning	After Zoning
Top group	SMP 2, SMP 7, SMP 1	SMP 2, SMP 7, SMP 1
Middle group	SMP 3, SMP 17, SMP 9	SMP 3, SMP 17, SMP 9
Lower group	SMP 5, SMP 8, SMP 12	SMP 8, SMP 5, SMP 12

Table 3. Distribution of Student Residence

Criteria	Walk	Bicycle	Motorcycle	Car	Public transport
Very Near	35	142	129	5	12
Near	0	1	6	0	16
Moderate	0	0	0	0	8
Far	0	0	0	0	6
Very far	0	0	0	0	1
Total	35	143	135	5	43
Percentage (%)	9.70	39.61	37.40	1.39	11.91

Accessibility in table 3 shows the use of vehicles based on the distribution of the distance where students live. Therefore, the vehicles most students use to go to

school is a bicycle. This shows that the students' homes are not far from the school. Furthermore, there is no significant difference between using a bicycle and being delivered by motorbike. There are 129 students that eventhough their homes are very close to school, they prefer to be provided by motorbike rather than riding a bicycle. As a result, the use of motorbikes as transportation to school is still high. In fact, the use of motorized vehicles can increase greenhouse gas emissions. Thus, it is necessary to conduct further research to investigate the causes of students who prefer a motorbike rather than a bicycle so that the right solution can be found.

6. CONCLUSION

The implementation of PPDB for State Junior High Schools in Tegal City is going well as showed by the analysis of the input and process aspects. The impact of the zoning system can be observed in the product aspect which describes the academic and geographical heterogeneity of students. Based on the test of two independent samples, it shows that there are significant differences in academics and geography before and after zoning. However, the variance test showed no differences in student's academic and geographical variance of students both before and after zoning. This shows that students with high scores still enrol in favorite schools within their zoning. Therefore, although zoning is proven to bring students' living environment closer to the school environment, the stigma of favorite and non favorite schools has not been removed from society. This could have happened because parents still believed that the quality of education in every school is not evenly distributed. Therefore, there needs to be an effort from the local governments to distribute education by means of equal distribution of facilities and infrastructure, improving the quality of educators and improving schools' quality. In addition, it is necessary to educate the public that directs the mindset of parents to the concept that schools are facilities for access to education and achievement does not lie with the school but the individual.

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