

Zonation Systems and Self-Efficacy: Impact and Influence on Students Science Learning Achievement

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Abstract

The purpose of this study is to draw a connection between the zoning system and students' self-efficacy in science learning achievement among senior high school students in Tangerang. The instruments used in this study included self-evaluation sheets, questionnaires, and objective test results from students in science subjects, among other things. Random cluster sampling was used in South Tangerang schools to select the research sample, which consisted of research objects collected from two public high schools. The information gathered was analyzed in a descriptive quantitative manner using the SPSS program, which was developed by IBM. Teachers from chemistry, biology, and physics are involved in this research activity, and they actively participate in research interviews. According to the science teacher's responses, it was discovered that there was an effect on student characteristics associated with zoning-based admission of new students. The science studies teacher was aware of the school's online acceptance of new students pathway, which was implemented by government recommendations. Student confidence in science subjects was rated as high, and a correlation between zoning-based admission of new students and student characteristics was observed.

Abstrak

Kata kunci:

Sistem Zonasi;

Mata Pelajaran Sains;

Prestasi Akademik;

Siswa

Penelitian ini bertujuan untuk menggambarkan pengaruh sistem zonasi dan *self-efficacy* terhadap prestasi pelajaran sains siswa SMA. Instrumen yang digunakan dalam penelitian ini terdiri dari: lembar evaluasi diri, angket dan hasil tes objektif siswa pada mata pelajaran Sains. Sampel penelitian menggunakan cluster random sampling di sekolah dengan mengambil objek penelitian di dua SMAN di Kota Tangerang Selatan. Data yang diperoleh dianalisis dengan menggunakan bantuan program SPSS secara deskriptif kuantitatif. Kegiatan penelitian ini melibatkan guru bidang studi kimia, biologi dan fisika yang ikut partisipasi aktif dalam wawancara penelitian. Dari hasil penelitian ini diketahui bahwa respon guru sains diperoleh terjadinya dampak dengan PPDB berbasis zonasi yang terlihat dalam karakteristik peserta didik. Guru bidang studi sains telah memahami Jalur PPDB online telah dilaksanakan sekolah sesuai dengan anjuran pemerintah. Kepercayaan diri siswa dalam mata pelajaran sains menunjukkan hasil yang memiliki kategori baik, dan pengaruh Penerimaan Peserta Didik Baru (PPDB) berbasis zonasi terhadap mata pelajaran sains secara umum tidak mempengaruhi untuk nilai prestasi akademik di SMAN Kota Tangerang Selatan.

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INTRODUCTION

Education must be conducted properly to produce intelligent, trustworthy, and competent students. It is hoped that citizens or citizens will be able to create the country of their dreams (Kemendikbud, 2003). Acquiring students by the concept outlined above will lead to a discussion about educational quality. The responsibility for ensuring the quality of education falls on all parties involved, including education staff, educators, parents, and students. To obtain the appropriate quality of a student, a successful teaching and learning process is required, which requires the facilities of educational institutions, the readiness of students, and, perhaps most importantly, the contribution of teachers as educators to achieving the educational goals.

The Ministry of Education and Culture issues Minister of Education Regulation Number 14 of 2018 concerning Admission of New Students in Kindergartens, Elementary Schools, Junior High Schools, Senior High Schools, Vocational High Schools, or Other Forms the Equal. An essential point in this regulation, the main criterion in student admissions is zoning or the distance between home and school (Kemendikbud, 2018). A vital point for this regulation is that the main criterion in student admissions is zoning or the distance between home and school entry age. All schools run by the local government except for SMK are required to accept new students who live in the zone closest to the school, at least 90% of the total number of students accepted. The remaining 10% of the total number of students is divided into two criteria, namely 5% for achievement paths outside the closest zone of the school and another 5% for students who experience a change of domicile or a disaster occurs (Nurlailiyah, 2019). In addition, the provincial government is obliged to accept and waive tuition fees for new students from economically disadvantaged families who are domiciled. The amount is at least 20% of the total students accepted. The zoning system policy aims to provide equal access for the community to quality education services, namely state schools organized by the government. However, the zoning policy also raises other problems, one of which is the emergence of learning difficulties faced by students due to gaps in learning abilities (Enung Nugraha et al., 2020).

The enactment of the zoning system aims to achieve equal distribution of the quality of education in various parts of Indonesia, eliminate the "stigma" that is already rolling in society regarding the grouping of schools that are considered superior and not superior, and the spread of students who have above average abilities under the existing zones in their respective regions (Anam, Hasbullah, 2019). Implementation in the field, the application of this zoning system found various problems, including the condition of students who were accepted through the zoning system having initial cognitive abilities and academic achievement of learning which was relatively low compared to students who were taken through the achievement path. So far, several high schools in Jakarta, South Tangerang, and other areas around Jakarta are known as one of the favourite schools that accept new students based on school test scores, academic and non-academic achievements, as well as written tests. Although Madrasas do not follow the zoning system, several madrasas have also implemented the online system in the 2018 academic year.

Cognitive has a vital role in adapting to a new school. Several ways have been done for these students to improve their academic achievement, like studying together with the teacher after school. However, academic achievement results also did not change due to their lack of consistency in following guidance (Putri & Dwiastuti, 2019). Psychological factors have a role in influencing academic achievement because these psychological factors include intelligence, talents, interests, and cognitive abilities. This psychological factor affects self-efficacy as our feelings of adequacy, efficiency, and our ability to cope with life. Baron and Byrne define self-efficacy as a person's evaluation of his ability or competence to perform a task, achieve a goal, and overcome obstacles. Self-efficacy and expectations (Komara, 2016). Someone who has high optimism will affect high self-efficacy as well. Students who have good expectations will affect student academic achievements (Agustika, 2012).

There is a low correlation between student academic achievement in science learning and interest in science subjects (Shidiq, 2016). In school, students need to consider themselves successful in learning science. Pajares. (2002) said that in science, self-efficacy is a domain for building specific tasks, namely one's self-confidence, which varies in each field of science, such as physics, chemistry, and biology. Even for chemistry, belief in one's abilities can vary in each topic or material. Good self-efficacy will produce good critical thinking skills (Nuraeni et al., 2019). Science lessons require high self-efficacy that will affect student academic achievement in science subjects. The purpose of this study is to apply the zoning system by looking at students' self-confidence and academic abilities in Science subjects at the High School level in South Tangerang City. This research is needed to see the categorization of students' ability levels through self-efficacy towards three science subjects in high school

METHODS

The term "research method" refers to "the means of conducting research" (Mulyatiningsih, 2011). In order to collect valid data for this study, a systematic research methodology is required. Only then can the validity of the results of this study be tested. It uses descriptive data analysis and a quantitative descriptive method. Descriptive research is used because it provides an overview of what's going on in the real world, which is to find out how zoning system acceptance and admission of new students online and initial ability affect the academic achievement of high school students in Jakarta, Bogor, and Tangerang for the 2019/2020 academic year. Senior high school in South Tangerang 2019/2020 Class X MIA students took Chemistry, Physics, and Biology. SMAN 9 and SMAN 11 South Tangerang are two schools in the Tangerang area. Questionnaires were used to gather information for this study, as were data on the number of students who were zoned in and zoned out, as well as test scores for chemistry, physics, and biology that were documented, as were instruments provided to teachers of science subjects in the area with zoning systems. Because the data obtained are numerical, quantitative analysis is the preferred analysis method (Arikunto, 2013). Table 1 presents the research findings and their interpretation, which is as follows:

Table 1. Interpretation Score Category

Skor (%)	Category
81 – 100	Very Good
61 – 80	Good
41 – 60	Enough
21 – 40	Less
0 – 20	Very Less

Furthermore, an analysis test was carried out with the help of SPSS version 22 software to determine the relationship of these variables.

FINDINGS AND DISCUSSION

A questionnaire is used in this study. This self-efficacy questionnaire instrument is necessary to determine the competencies of students who entered through the zoning system, achievement, and others in schools to determine how students' competence in taking science lessons in class X science students at school is to determine how students' competencies in self-confidence (initial ability) toward science subjects in South Tangerang as a whole, the data obtained were analyzed by comparing the average value of to the mean value of. The following table 2 summarizes the results of a self-efficacy questionnaire administered to students:

**Table 2. Self Efficacy Competency Result Data
 Science Subjects in Every Aspect**

No.	Aspects	Calculation in (%)	
		SMAN A Tangsel	SMAN B Tangsel
1	Have an optimistic attitude	37	45
2	Have a strong will that is supported by business	78	82
3	Take advantage of existing advantages	52	55
4	Have mental and physical support	82	83
5.	Not easily give up	77	78
6.	Past events that have been experienced	48	53
7.	Have a sense of responsibility	92	95
Average		67	71
Category		Good	Good

Based on the calculation results, it was obtained that most of the students' self-confidence levels were in a good category, namely the percentage of achievement of 67% in school A and 71% in school B, meaning that the level of student confidence in their abilities resulted from the categorization of self-confidence abilities possessed by students in a good category. It entered through the zoning system. Sundari et al. (2016) stated that the students' self-confidence abilities possessed by high school students were in the moderate category.

Learning or academic achievement is one of the parameters for student learning success at school. Learning achievement is the level of success of a student in studying subject matter at school, which is expressed in the form of scores obtained from test results regarding several certain subjects matters. Learning or academic achievement is one of the parameters for student learning success at school (Komara, 2016). Students who enter the zoning system or other pathways have different academic achievements related to the zoning system in the field. Accepting new students through the zoning system has been carried out objectively. The school's provisions include the implementation of new students' acceptance starting from the distance from residence to school, age, school test scores, and academic/non-academic achievements. Data related to student academic achievement in three science subjects can be seen in the following graph:

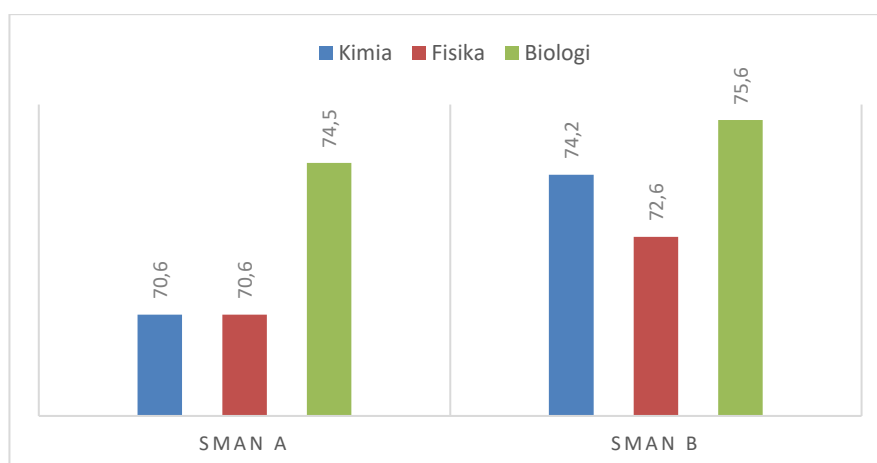


Figure 1. Student Academic Achievement to Science Subjects

Regarding the acquisition of student analysis results with the zoning system on academic achievement in science subjects, the graph explains 1) SMAN A in South Tangerang for chemistry and physics subjects has the same value with an average of 70.6 while for subjects biology, there is a

difference with an average value of 74.5. 2) SMAN B in South Tangerang for chemistry subjects has an average score of 74.2 and physics subjects with an average value of 72.6 while for biology subjects with an average value of 75.6. Based on the zoning system, their achievements can be categorized as good for the two schools. So, in general, between the zoning system and the obtained chemical, physical and biological values, there is an influence between the zoning system and the obtained scientific values. In line with Sinaga (2019) stating that there is an influence between the acceptance of new students through the zoning system and the academic achievements obtained by students, this occurs because the acceptance of new students who have been implemented quite well or are by the rules can provide benefits to students such as students it becomes easier to go to school because of the close distance, the zoning system also allows students to have school friends whose homes are close to them so they can study or do assignments together at home. This can help them in the learning process to maximise their learning process. A good learning process can affect learning achievement to be good too. As seen in the data analysis, the learning process carried out by students is in a good category so that their learning achievement is also good.

Teachers in science studies have understood that schools with the division have carried out the online admission of new students path: 50% zoning, 30% achievement, 20% affirmation, which is by government recommendations. Another thing based on interviews there are obstacles related to the radius or distance of students' homes and socialization to the surrounding community. In line with research (Hasbullah dan Anam: 2019) based on observations in the field, socialization was given by collecting each village head and elementary school principal around the location to be given an explanation of the zoning system process, especially regarding the radius or distance from a student's house to school, although it is still there are several obstacles, this is due to the lack of socialization or consolidation that was conveyed and the lack of follow-up by the parties involved in the Zoning System for Admission of New Students. This can be interpreted that when students who are accepted through the regular route or regional zone are faced with school problems, they are quite able to respond and resolve positively, namely facing problems with enough optimism, able enough to focus on the goals to be achieved, confident in solving problems and being able to challenge themselves to solve problems to achieve success in academic terms (Putri & Dwiastuti, 2019).

The zoning policy for implementing SMA/SMK student admissions is a form of effort to implement HR development management in education management. This zoning policy will spread the quality of teachers and education personnel throughout the region so that quality output or graduates will also be spread evenly within an area (Mashudi, 2019). Efforts made by schools to follow up on the impact of PPDB are by guiding parents through committee meetings. One of the impacts of school zoning-based PPDB has the characteristics of heterogeneous students so that the learning process is constrained. The challenge of teachers in teaching children with diverse abilities is heavier than children with relatively homogeneous abilities. Homogeneous classes tend to teach all students in parallel (Ula & Lestari, 2020). The teacher admits that he uses a discussion group-based learning method to distribute students' science learning abilities evenly.

Recommendations related to the education zoning system policy, according to science teachers, it is necessary to add school facilities so that there is an even distribution. Related to this, Hariyati's research (2019) stated that the effectiveness of the admission of new students process is seen from 3 indicators, namely facilities and infrastructure, strategy and implementation, and the effectiveness to be achieved. Decision making in the admission of new students zoning system is classified as a programmed decision because the registrant is declared to have passed the selection through the zoning program (closest radius). After all, the participants live not far from the school. However, in the implementation process, some things still need to be considered, such as the achievement path, the lack of achievement paths accepted in each school, so that it can cause a sense of injustice among students who have achievements who want to register. There is smooth communication between the department, school and community to minimize problems. The

application of admission of new students online with a zoning system in SMA/MA in South Tangerang generally has no significant effect on student achievement in science lessons.

CONCLUSION

Based on the findings of this study's data analysis and discussion, it can be concluded that the response of science subject teachers is obtained from their perception of the impact of zoning-based admission of new students, which is seen in the characteristics of students. It is also obtained from their perception of the effects of zoning-based admission of new students. The regulations governing zoning systems have been interpreted by teachers in the field of science studies in general as meaning that the entry of new students was taken by the school consistently with government recommendations. In general, the impact of zoning-based New Student Admission on science subjects at senior high school at Tangerang Selatan does not affect the value of academic achievement. As a follow-up to this research, the sample size used in this study is still limited. The scope of the study should be broadened to include policies regarding zoning systems in each region and academic achievements in science subjects and other subjects.

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