

# Differentiated Instruction (DI) Teaching Practice in Heterogeneous Class as the Impact of School Zoning System Policy

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**Abstract**—Most schools in Indonesia that have “excellent” or “favorite” labels generally only accept students with certain academic and financial abilities. This condition causes disparity, especially in public schools which supposed to provide equal education for students from various backgrounds. To overcome this problem, Indonesian government issued the School Zoning System (SZS) Policy with the goal to increase equality and quality of education. This policy makes prospective students with low academic ability from various backgrounds can enter the excellent/favorite public schools if they live close to school. However, the policy targets are not only students, but also teachers. Teachers who teach in excellent/favorite schools are considered less motivated because they tend to teach homogeneous classrooms. The SZS Policy changes the students’ ability input in excellent/favorite schools so their classrooms become more heterogeneous and teachers are required to adjust. A teaching method that can be conducted in heterogeneous classrooms is differentiated instruction, the concept of giving different instructions to each student based on their abilities. This paper shows how a mathematics teacher in excellent/favorite school handles the changes of students’ abilities in her classrooms by using differentiated instruction approach. This research is a qualitative descriptive case study. Data was collected by doing an in-depth interview with a teacher in an excellent/favorite public school. The results show that the teacher completely understands and is fully aware of heterogeneous condition in her classrooms and has conducted the differentiated instruction to deal with students’ different abilities. This practice proved successful by the increase of students’ grades.

**Keywords**—differentiated instruction, heterogeneous classroom, excellent school, favorite school, School Zoning System Policy

## I. INTRODUCTION

These days, in Indonesia there is still a dichotomy between “excellent” and “favorite” schools with “non-excellent” and “non-favorite” schools. The term “excellent school” is defined as school that excels in student, teacher, and facility input [1], while the term “favorite school” focuses more on subjective meanings. A school is given label “favorite” or “non-favorite” because of the views formed in society, in this case the society consisted of people who have many choices because of their economic

resources. It can be said that the term “favorite school” arises because of the subjectivity produced by middle and upper society groups [2].

Despite the etymological differences, the terms “excellent” and “favorite” schools are usually juxtaposed together and can be used interchangeably, based on the fact that “excellent” schools are generally also “favorite” schools and vice versa. The dichotomy between “excellent/favorite” and “non-excellent/non-favorite” schools results in the exclusivity of school functions, leading to discrimination and causing differences in the quality of education received by students [3]. Schools with “excellent” and “favorite” labels have a kind of “privilege” by only accepting students who have certain financial and academic ability standards [2].

Ironically, this dichotomy often occurs in public schools, which is not supposed to happen. Public schools, as schools managed by the government, should be committed to providing equal education to prospective students from various backgrounds [2].

To anticipate this problem, in 2017 the Ministry of Education and Culture of the Republic of Indonesia issued a new policy, namely the School Admission Policy through School Zoning System. The policy regulates that public schools accept students who live within the radius of the zone closest to the school with a quota of eighty percent of the total number of students accepted in the school. The implementation of the SZS policy makes prospective students with a low level of academic ability from various socioeconomic backgrounds can still enter the “excellent” or “favorite” schools as long as they live close to the school. This is expected to reduce the schools’ exclusivity and enable the government to achieve their goal: providing equal opportunities for each child to obtain high-quality education.

However, the target of the SZS policy is not only for students, but also to improve the quality and capacity of teachers. So far, teachers who teach in “excellent” or “favorite” public schools tend to teach homogeneous classrooms (in terms of academic ability and socioeconomic background), due to the privilege of

“excellent” or “favorite” public schools in new students admission, as mentioned above. The homogeneous classroom lighten teachers’ tasks because teaching patterns can be done equivalently for all students in the classroom [4].

The SZS Policy changes students’ input in “excellence” or “favorite” public schools. These new students are now becoming more heterogeneous in terms of their academic abilities and socioeconomic background. Automatically, teachers in “excellent” or “favorite” public schools who are accustomed to teaching students with relatively high-abilities, now are forced to adjust. Teachers face great difficulties and complex issues when teaching heterogeneous classes because of various instructions that must be given to students with different abilities [5][6]. The academic performance of students in heterogeneous public school classrooms can vary widely, typically spans more than five levels [7]. Thus, teachers must adjust their teaching patterns to accommodate the students’ diverse needs [4]. The challenge is to pay attention to the differences of students’ abilities, but also have to ensure that all students become competent in the same subject [8].

A solution for that situation is to conduct differentiated instruction (DI), a concept of teaching by giving different instructions to each student in a heterogeneous classroom. The concept of DI understands students as individuals who as a student have differences in terms of background experience, culture, language, gender, interests, readiness to learn, modes of learning, speed of learning, support systems for learning, self-awareness as learners, confidence as learners, independence as learners, and a number of other differences [9].

This article aims to present the results of a case study research that shows how a mathematics teacher in an “excellent/favorite” school in Indonesia handles the changes of students’ abilities in her classrooms—as the impact of SZS policy—by using differentiated instruction approach. The discussion part of this article is divided into two parts: *first*, the description of how the differentiated instruction practice in heterogeneous classrooms was carried out by the informant teacher; and *second*, the results after applying that practice.

Other researches in mathematics teaching by implementing differentiated instruction had previously been conducted in Indonesia. Among them are researches conducted by Fatimah [10], Yuliana [11], Ditasona [12], and Defitriani [13]. However, those four researches are quantitative classroom action researches that aim to measure the improvement of students’ mathematical abilities after DI was applied. There has not been found any research that specifically examines the application of DI as an impact of SZS policy. Thus, this research is the first research in this field.

## II. MATERIALS AND METHODS

This research is a descriptive research, a research that aims to specifically picture and describe a situation, social setting, or relationship in detail [14]. The data was collected

by conducting an in-depth interview with a mathematics teacher, Miss Rose (pseudonym). Miss Rose teaches at a public senior high school which is labelled as an excellent and favorite school in one of the cities around Jakarta, Indonesia. The public school where Miss Rose teaches was established in 1964, is accredited A, and has many achievements, both academic and non-academic. As requested by Miss Rose, the school name was kept secret.

Long before the SZS Policy was implemented, the new student admission at the school consisted of several ways, including the admission test, assessing the prospective students’ Junior High School National Final Test scores, or assessing their report card grades. Other public schools in the city generally only accepted new students by assessing the National Final Test scores and did not administer any admission tests, but Miss Rose’s school did receive special treatment from the city government, regarding to its status as the most prestigious public senior high school in the city. School fees there were also more expensive than other public schools in the city, but the school also had better facilities. They had air conditioning, computers, and projectors in each classrooms. The school also had acceleration class and international-standard class with bilingual teaching.

Miss Rose was chosen as the informant for this research because of several reasons. *First*, Miss Rose has adequate background. Academically, Miss Rose has undergraduate and master’s degrees in mathematics education from a public state university in Jakarta. Miss Rose has been teaching at the school for four years and also has some private teaching experience. In addition, Miss Rose recently has completed the Teacher Professional Education Program, an Indonesian government program that is held to prepare teachers to completely master teacher competence in accordance with national education standards so that they can obtain a certificate of professional educators in early childhood education field, primary education field, and secondary education field [15].

*Second*, Miss Rose is a teacher who belongs to millennials generation (born 1981-1996) in a school whose teachers mostly belong to baby boomers generation (born 1946-1964) and generation X (born 1965-1980). With a relatively close age gap, many students view Miss Rose as an older-sister-figure so that Miss Rose tends to have a fairly close personal relationship with the students. This closeness makes students more receptive to Miss Rose’s advices and reprimands, compared to other teachers whose age gap are not close.

*Third*, teaching for Miss Rose is a calling, not just an obligation. As a teacher who is relatively young, Miss Rose still has some high idealism to help students in learning as well as shaping their self-development, not just chasing scores or grades. Therefore, Miss Rose actively strives to find any appropriate teaching strategies to deal with classrooms’ changes into heterogeneous classroom as the impact of SZS policy.

### III. RESULTS AND DISCUSSION

#### A. *The Practice of Differentiated Instruction*

The SZS Policy created an impact of changes in students' abilities input at Miss Rose schools, which automatically changed classrooms' composition. Miss Rose admitted that the challenge to teach classrooms that now have turned heterogeneous was far greater than in the past when classrooms still tended to be homogeneous with high-ability students. Moreover, Miss Rose's school did not adopt a tracking system (separating classrooms based on student ability levels), but instead the school organized classrooms for various students with different levels of ability. Students' abilities in Miss Rose's classrooms varied from students who could not memorize multiplication to students who were very good at algebra. In addition, there was also student with special needs whose IQ was around 60-70. With these diverse abilities of students in one classroom, Miss Rose applied the concept of differentiated instruction in order to accommodate all students' abilities.

Tomlinson and Imbeau [9] wrote that differentiated instruction implemented in the context of classroom teaching contains four interdependent elements, namely learning environment, curriculum, assessment, and instruction. The following section will explain the practice of differentiated instruction carried out by Miss Rose in her classrooms based on those four elements.

##### 1) *Learning Environment*

The learning environment is shaped by teacher's actions, beliefs, and experiences [9]. Miss Rose applied several strategies to form a pleasant learning environment for her students who had heterogeneous abilities. *First*, Miss Rose always tried to appreciate the students' achievements, no matter how small, regardless of their ability level. If low-ability students answered questions incorrectly or failed the tests, Miss Rose still tried to give appreciation.

*Second*, Miss Rose built and kept a good relationship with students by being a good listener and trying to be sensitive in responding to whatever students do and say, including students' activities on social media, so students felt valued and became more relaxed to open up.

*Third*, Miss Rose tried to form a good ambience for discussion in class. Miss Rose accustomed herself to involving all the students by mentioning all their names so that all students felt they had a role in the discussion, even students with the lowest ability.

*Fourth*, Miss Rose tried to build a classroom atmosphere where each student supports one another. Miss Rose always asked students to support each other's achievements and help their friends who had difficulties in learning. In this case, Miss Rose implemented a peer-tutoring system aside of usual learning in class. Miss Rose promised rewards for high-ability students who succeed in helping their low-ability friends to learn. If his/her friend was able to master a subject competency and the friend's

grades increase, the high-ability students would get some additional grades.

*Fifth*, Miss Rose often organized quizzes or games in learning activities that required students to be divided into small groups. Miss Rose arranged for the groups to be composed of students with different abilities so they had to cooperate and help one another.

##### 2) *Curriculum*

Miss Rose's school, like other public schools in Indonesia, applies the current national curriculum, the K-13 curriculum. However, Miss Rose's school is one of the pilot schools in Indonesia that uses the Semester Credit System, like the system used in college.

The Semester Credit System provides learning modules called Self-Learning Activity Units (SLAU) which contain learning contents based on basic competencies in each subject. After a student finished working on a SLAU module and completed his/her assessment of that module, he or she could proceed to the next SLAU. This cycle would continue until all the SLAU modules were completed by the end of the semester.

Since SLAU was an individual job, Miss Rose served students one by one. When students were working on their SLAU in class, Miss Rose approached each student to monitor their works. If there were any student having difficulties, Miss Rose would provide help and guidance. In addition, as mentioned earlier, Miss Rose had arranged peer tutors. Students with high abilities would be asked to help teaching their low-ability friends. The disadvantage of this practice was the low-ability students had to get well-matched peer tutors. If they did not, they would not want to learn because they felt inferior towards their friends' higher abilities.

##### 3) *Assessment*

Miss Rose said that in her school, the instrument to evaluate students' knowledge abilities remained generalized for all students without any differences. To accommodate students' different abilities, Miss Rose made evaluation questions (daily or final tests) by taking standard indicators with a ratio of 40% easy questions, 40% medium questions, and 20% difficult questions. Miss Rose also included the Higher Order Thinking Skills (HOTS) questions in standard difficulty levels.

Miss Rose said that only about eighty percent of students could achieve the learning outcome indicators. In order to keep the learning outcomes achieved by all students, Miss Rose lowered the indicators and delivered them to the students by creating fun class activities, quizzes, and discussions.

##### 4) *Instruction*

Classroom with heterogeneous students' abilities caused Miss Rose to give not only one instruction, but more. Miss Rose said, usually she gave three to four

different instructions for one classroom, especially for individual activities such as doing exercises, remedial, or taking additional classes for final test preparation. Example: students whose grades had not reached the standards yet were given instructions to take remedial; students whose grades had reached the standards were given instructions to do some more difficult exercises; students who had finished solving more difficult exercises were given instructions to teach their friends who took remedial.

Meanwhile, in learning activities, Miss Rose had some strategies—as mentioned earlier—to organize two-way discussions, group games, and quizzes so that all students could be involved altogether and she did not have to give different instructions.

### B. Results after Practicing Differentiated Instruction

Miss Rose's practice of differentiated instruction and its supporting strategies generated some adequate results. Miss Rose's efforts to build personal connection with students make them become more open to Miss Rose in communicating the difficulties they experienced during learning process. Some students who did not understand the concept of some subjects often came to Miss Rose or other teachers during break time to ask questions and request to be taught any material that they have not understood yet.

Miss Rose's way to organize discussions and quizzes in class by involving all students and requiring them to work together made students with high abilities realize that they should not underestimate their low-ability friends. Instead, they had to learn how to respect and help each other.

Miss Rose's strategies for implementing peer tutors also worked well. Students with high abilities were eager to help their low-ability friends to learn, because they were motivated by the grades-addition rewards promised by Miss Rose. They needed high grades in order to be able to continue their education to prestigious public universities through invitation (without having to compete in national admission test). The universities' invitation assesses students' report cards, so getting high grades was very important for them.

However, the practice of differentiated instruction was not immediately successful. The ability gap between high-ability students and low-ability students was still clearly seen in their final grades by the end of the first semester of tenth grade. This condition gradually changed in the second semester and later. The gap became shorter with the improvement of low-ability students' grades. It showed that in the first semester of tenth grade, students still attempted to adjust themselves to the new school environment, while in subsequent semesters, they had been able to adjust and follow the learning rhythm.

## IV. CONCLUSION

The School Zoning System Policy had changed the input of students' abilities in excellent/favorite public schools. These changes shaped heterogeneous classrooms that forced teachers to adjust their teaching methods. In this case study of Miss Rose's classrooms, the concept of differentiated instruction teaching proved to be quite effective to apply in heterogeneous classrooms. However, this concept must be accompanied by creative efforts, strategies, care, and determination from the teacher herself to accommodate students' different abilities.

## REFERENCES

- [1] V. R. Zainal, H. Kamal, and N. Muhammad, *The Economics of Education: Mengelola Pendidikan Secara Profesional untuk Meraih Mutu dengan Pendekatan Bisnis*. Jakarta: PT Gramedia Pustaka Utama, 2017.
- [2] N. Martono, *Sekolah Publik vs Sekolah Privat: dalam Wacana Kekuasaan, Demokrasi, dan Liberalisasi Pendidikan*. Jakarta: Yayasan Pustaka Obor Indonesia, 2017.
- [3] N. Martono, "Kritik Sosial Terhadap Praktik Pendidikan Dalam Film 'Laskar Pelangi,'" *J. Pendidik. dan Kebud.*, vol. 16, no. 3, pp. 341–350, 2010.
- [4] G. F. Dharmawan, "Dampak sistem zonasi penerimaan peserta didik baru di sekolah negeri bagi para guru dan siswa," 2019. [Online]. Available: <http://theconversation.com/dampak-sistem-zonasi-penerimaan-peserta-didik-baru-di-sekolah-negeri-bagi-para-guru-dan-siswa-119294>. [Accessed: 06-Dec-2019].
- [5] Z. R. Mevarech and B. Kramarski, "IMPROVE: A multidimensional method for teaching mathematics in heterogeneous classrooms," *Am. Educ. Res. J.*, vol. 34, no. 2, pp. 365–394, 1997.
- [6] F. A. Dixon, N. Yssel, J. M. McConnell, and T. Hardin, "Differentiated instruction, professional development, and teacher efficacy," *J. Educ. Gift.*, vol. 37, no. 2, pp. 111–127, 2014.
- [7] H. L. Hertberg-Davis and C. M. Brighton, "Support and Sabotage," *J. Second. Gift. Educ.*, vol. XVII, no. 2, pp. 90–102, 2006.
- [8] C. A. Tomlinson, "Reconcilable Differences? Standards-Based Teaching and Differentiation," *Educ. Leadersh.*, vol. 58, no. 1, pp. 6–11, 2000.
- [9] C. A. Tomlinson and M. B. Imbeau, *A Differentiated Classroom*. ASCD, 2010.
- [10] A. E. Fatimah, "Peningkatan Kemampuan Pemecahan Masalah Matematis dan Kemandirian Belajar Siswa SMK Negeri 1 Percut Sei Tuan Melalui Pendekatan Differentiated Instruction," *MES (Journal Math. Educ. Sci.)*, vol. 2, no. 1, pp. 11–23, 2016.
- [11] N. Yuliana, "Pendekatan Differentiated Instruction (DI) dalam Meningkatkan Hasil Belajar dan Aktivitas Matematika Siswa Kelas XI MIPA-2 Di SMAN 1 Koba," *Indones. Digit. J. Math. Educ.*, vol. 4, no. 6, pp. 370–378, 2017.
- [12] C. Ditasona, "Penerapan Pendekatan Differentiated Instruction dalam Peningkatan Kemampuan Penalaran Matematis Siswa SMA," *EduMatSains*, vol. 2, no. 1, pp. 43–54, 2017.
- [13] E. Defitriani, "Mengembangkan Kemampuan Koneksi Matematis Siswa Melalui Pendekatan Differentiated Instruction," *ANARGYA J. Ilm. Pendidik. Mat.*, vol. 1, no. 2, pp. 72–76, 2018.
- [14] W. L. Neuman, *Social Research Methods: Qualitative and Quantitative Approaches*, 7th editio. Pearson Education Limited, 2014.
- [15] Ministry of Research Technology and Higher Education, "Pendidikan Profesi Guru - Profil," 2018. [Online]. Available: <http://ppg.ristekdikti.go.id/profil/>. [Accessed: 07-Dec-2019].