



Understanding of Student Self-Management in Mathematics Education at UNU Pasuruan

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Abstract

This research aims to understand how students manage time, plan, motivate, and respond to difficulties in the context of mathematics learning. The research methods used include surveys, interviews and documentation analysis. The research results show that students who are successful in learning mathematics tend to have better self-management skills. This research provides insight into the role of self-management in students' success in understanding mathematical concepts and provides a basis for developing learning strategies that can improve students' self-management skills. The conclusions of this research is provide a better understanding of the factors that influence the implementation of student self-management in the context of mathematics education, as well as providing direction for the development of more effective learning approaches.

Keywords: student self-management, mathematics education, student

Abstrak

Penelitian ini bertujuan untuk memahami bagaimana siswa mengatur waktu, merencanakan, memotivasi, dan merespons kesulitan dalam konteks pembelajaran matematika. Metode penelitian yang digunakan meliputi survei, wawancara dan analisis dokumentasi. Hasil penelitian menunjukkan bahwa siswa yang berhasil dalam pembelajaran matematika cenderung memiliki kemampuan manajemen diri yang lebih baik. Penelitian ini memberikan wawasan mengenai peran manajemen diri terhadap keberhasilan siswa dalam memahami konsep matematika dan memberikan dasar untuk mengembangkan strategi pembelajaran yang dapat meningkatkan keterampilan manajemen diri siswa. Kesimpulan penelitian ini adalah memberikan pemahaman yang lebih baik mengenai faktor-faktor yang mempengaruhi penerapan manajemen diri siswa dalam konteks pendidikan matematika, serta memberikan arahan bagi pengembangan pendekatan pembelajaran yang lebih efektif.

Kata kunci: Manajemen diri mahasiswa, pendidikan matematika, siswa

How to Cite: Farizi, A. S. Rachmawati, T. & Mukhsinin, H. (2023). Understanding of Student Self-Management in Mathematics Education at UNU Pasuruan. *Journal of Mathematical Pedagogy*, 5 (1), 47-53.

Introduction

Self-management is a relatively new technique for changing behavior (Rice et al, 2019). Self-management refers to the use of learned skills to run and manage one's own life. Self-control also allows us to avoid external restraints and the notion of control, which is often associated with the notions of control and regulation. According to Khairani et al (2022), self-management is a cognitive-behavioral strategy that rejects the radical behaviorist view which assumes that all people have positive and negative tendencies. Based on the behavioral and self-control perspective, the goal is for the subject to change his behavior by observing himself, noting certain behaviors or interactions with events in the environment, and reorganizing the previous environment.

Muhammad and Asrori (2000) summarizes several assumptions underlying self-management as a behavior change strategy, based on several observations: (1) Basically humans can observe, record and evaluate their own thoughts, feelings and actions; (2) Humans have the power and ability to choose environmental factors; (3) Humans have the power to choose actions that can cause feelings of hatred;

(4) Efforts to change behavior or grow based on initiative, self-discovery, and maintaining these changes; (5) The person who knows best and is most responsible for changing yourself. Self-management is a process carried out by every individual. This includes the ability to control behavior, attachment and cognition to adapt to the environment, the ability to motivate ourselves and act to achieve the goals we want. Self-control is also one of the methods that people use at work to control themselves and the results of the work they do without requiring external control. Likewise, student is a status held by someone because of their relationship with a university, and can also be interpreted as a student as someone who is expected to become an intellectual candidate or study at a university, institute and academy.

According to the Big Indonesian Dictionary (2008), the definition of a student is a person who studies at a university. After completing their education at school, some students are unemployed, looking for work, or continuing their education at tertiary level. Those who are registered as students at tertiary institutions can be called students (Septiani & Fitria). A student is someone who is in the process of gaining knowledge or studying and registering to undergo education at one form of tertiary institution consisting of academics, polytechnics, high schools, institutes and universities (Aziz et al, 2018). Studying at college is not as easy as you imagine. There are many tasks, challenges and demands that students must face and overcome. Work, assignments, and requirements include creating various types of assignments, reports, essays, exams which are a form of student assessment, and other academic work. Various things and situations can also influence the success of a student's performance (Lestariningsih, 2007). Likewise, full-time students also have off-campus activities such as work. For students, studying part-time is nothing new. According to Hall (2010), part-time work is the work arrangement most often undertaken by students. These students have a variety of reasons for studying part-time, ranging from financial concerns to a simple desire to fill their free time. Apart from that, it is not uncommon for students to have time to join organizations such as the Student Executive Board (BEM), requiring students to divide their time between participating in organizational activities and studying on campus.

According to The Liang Gie (2000), there are aspects of self-management, namely self-motivation, self-organization, self-control and self-development. Self-motivation is an internal drive that occurs within an individual as a stimulus to move the individual and carry out various activities to achieve the desired goals. Even if there is no encouragement from other people, encouragement from within the individual will give rise to a strong interest and enthusiasm for learning in carrying out activities to achieve goals. Encouragement from other people can be strong if it is the result of external influences on you. Next, self-organization is the optimal arrangement of thoughts, energy, time, space, objects and all other resources in student life, thereby increasing personal efficiency that will be achieved. When everything is organized as well as possible, you will live a more efficient life.

Furthermore, Self-control is defined by Gie (2000) as human behavior that disciplines desires, stimulates enthusiasm, and builds determination to direct energy well. Must be done at school. The tendency to be lazy, the desire to look for something easy, the joy of working hard, the ability to concentrate, the habit of procrastinating, completing assignments, TV shows, film advertisements, inviting friends, etc. Not to mention various distractions, students consistently achieve points. Of all activities, activities that are less than useful can be avoided with self-control. Strong self-control creates determination and a strong desire to do what needs to be done. Strong determination also inspires great enthusiasm in achieving goals. Self-control keeps individuals away from things that are not important and prioritizes everything to achieve goals. Self-Development is the act of perfecting or improving oneself in various ways. Complete and comprehensive self-development includes all sources of students' personal strengths, namely: (a) Spiritual intelligence: useful knowledge and skills to increase your wisdom in life. (b) Personality Traits: Developing Noble Thinking and Moral Behavior. (c) A

sense of solidarity: Foster a desire to improve society and help those who are less fortunate in life. (d) Maintain physical health and mental health history.

In order to control themselves directly, individuals can create or change icons in the form of objects, items or things around the individual to influence their behavior. According to Sumanggala et al (2021), there are characteristics of individuals who have self-management, namely: (1) Goal Setting, namely determining goals, behavioral targets, achievements to be achieved is the first step in the self-management program in learning. Setting goals can direct someone on what goals they want to achieve. The goal as a student is of course to have achievements, whether academic achievements or non-achievements academic; (2) Self monitoring, an application form of self monitoring this can be done by recording or making graphs of data that is usually seen by the individual concerned so that it can function as feedback for intentions and also as reinforcement; (3) Self-evaluation, the evaluation stage of self-development of the work plan, whether the target is achieved or not and what needs to be improved in achieving the target; (4) The process of self-strengthening, techniques for giving positive rewards to oneself.

Therefore, self-management is very important to instill and train in each individual. If it is not instilled, they will find it difficult to divide their time and organize their lives well. Someone will be required to face existing problems. The more mature an individual is, the more problems they will face. Especially in the context of mathematics education, because self-management influences students' mathematics learning achievement. According to Damayanti et al (2021), self-management can influence the high and low scores of student learning outcomes by 76%, making it very effective. Apart from that, Nurwijaya (2019) explained that there is a relationship between self-management and the mathematics learning achievement of class VIII students. Based on the background of the problem that has been described, this research seeks to reveal how students manage time, plan, motivate, and respond to difficulties in the context of mathematics learning.

Method

This research is field research, collecting data collected directly from the field. This type of research is qualitative research with a descriptive approach. According to Perreault and McCarthy (2006), qualitative research is a type of research that aims to explore information in depth and is open to various responses. This research tries for people to express their thoughts about a topic without giving them much guidance or direction. Primary data was obtained from interviews with 3 students (students A, B, and C) by researchers directly at Mathematics Education at UNU Pasuruan. Meanwhile, secondary (supporting) data is obtained from documents that support research, such as books, journals, articles, websites, and student study results cards that are related to the research carried out. The questions use in interviews are: (1) How do you define the concept of self-management in the context of mathematics education?; (2) How do you overcome difficulties in understanding mathematical concepts?.

Result and Discussion

Based on Table 1 show that self-management includes skills for managing time, planning learning, motivating oneself, and overcoming challenges in learning mathematics. Various findings from research highlight the important role of self-management in improving students' understanding and achievement in mathematics. A person's success in learning is determined by several factors, starting from within oneself and from outside the individual. The learning process influences the level of learning success.

From the results of the interview it was obtained as follows:

Table 1. Self management from students interview

Student	Define the concept of self-management in the context of mathematics education	Difficulties in understanding mathematical concepts
A	This student focuses on basic concepts, because many basic concepts are simpler. If students do not understand basic concepts, it will be difficult to understand more complex concepts.	To overcome difficulties in understanding mathematical concepts, students ask again about the material from the lecturer who teaches the subject in question because asking questions can help resolve concepts that have not been resolved
B	The student did a lot of practice, because mathematics is a skill that can be learned through practice. The more practice, the better the student understands the concepts	To overcome difficulties in understanding mathematical concepts, students look for sources from books and the internet to gain a broad understanding
C	The student is looking for useful resources. Because there are resources available that can help learn mathematics. These students can find books, websites, and applications that can help understand mathematical concepts	To overcome difficulties in understanding mathematical concepts, students ask for help from teachers, YouTube tutors, and friends who understand more about it.

Slameto (2003) states that there are two factors that influence learning success, namely internal factors are the following factors that exist in the person doing the research, such as: (a) Health factors (b) Physical deficiencies, psychological factors include: (a) Intelligence (b) Attention (c) Interests (d) Talent (e) Motivation (f) Maturity (g) Will,; and external factors include: (a) Family context (b) School context (c) Community context. On the other hand, Bachri Djamarah (Basri, 2012) also discussed the success factors in learning as follows: He expressed opinions such as (a) Psychological factors include interest, intelligence, talent, motivation, cognitive abilities (perception, memory, thinking), and ambition. The most influential internal factors are cognitive factors, which include perception, memory and thinking. The perception factor has a very big influence on a person's learning success because perception is essentially the basis of thought in influencing a person's behavior. (b) Physiological factors, namely physical and mental conditions such as body posture, food intake, ease of receiving learning material, as well as sensory conditions such as vision and hearing (perfect or not). Factors that cause high and low student achievement include internal and external factors, both of which influence each other. Therefore, it is very important to have the will to develop through personal efforts, and the environment provides a foundation for personal growth.

The factors above theoretically contribute to student achievement as follows: (1) Academic Achievement. The academic achievement achieved cannot be separated from the learning process, because academic achievement is influenced by the learning process itself. According to Slameto (Prijana & Yanto, 2018), the learning process is an effort made by a person to gain knowledge and change overall behavior as a result of interaction with the environment. The learning process cannot be separated from learning performance, because the process is a learning activity and performance is the

result of the learning process. According to Warsito (Prijana & Yanto, 2018), academic achievement is characterized by optimal scores related to the IP (Achievement Index) and GPA (Cumulative Achievement Index) indicators as well as timely completion of studies, the results of self-adaptation achieved by as many students as possible in the learning process. In the STAB Kertarajasa Academic Handbook (2016), the Achievement Index (IP) is an average unit value and represents the final value unit which represents the quality of completing an educational program in one semester. The Performance Index is calculated at the end of each semester and at the end of the educational program. The result is called the Cumulative Achievement Index (GPA). The Cumulative Achievement Index is a measure of a student's ability to achieve within a certain period of time. This is calculated based on credits for each course taken (Prijana & Yanto, 2018). The size of the value is determined by multiplying the weighted value of each course by $\frac{1}{2}$, then dividing by the number of course points obtained in a certain period of time. GPA can be achieved based on an agreement between the instructor and student and is usually submitted before classes begin. Student performance assessment for courses is based on letter and number symbols, which range from 0.00 to 4.00. (2). Non-academic achievements. According to Mulyono (2008), extracurricular activities are activities carried out at school to achieve certain educational goals that cannot be achieved in regular classes, therefore these activities are allocated special time. It was further explained that non-academic results can also be referred to as achievements and skills obtained by students from extracurricular activities, or extracurricular activities. The aim of this activity is to provide opportunities for students to develop their talents, potential, interests and hobbies.

According to Syafi'i (Syafi'i, Marfiyanto & Rodhiyah, 2018), learning success has three dimensions, namely the cognitive, emotional and psychomotor domains. First, the cognitive aspect, namely the cognitive aspect as an indicator of achievement, shows that measuring student performance in the cognitive domain can be done in various ways, both through written and oral exams. Cognitive aspects are classified into six levels, namely: (1) At this level of knowledge, learning objectives require students to memorize (retrieve) previously received information. For example facts, problem solving terms, etc. (2) Level of Understanding (Completeness), the understanding category is related to ability-knowledge, the ability to explain known information in your own words. In this case students are required to translate what they hear into words. (3) Applied level, applied is the ability to use and apply the information learned in new situations, as well as solving various problems that occur in everyday life. (4). The level of analysis (analysis) is the ability to identify, separate, recognize and consider the components of a fact, concept, opinion, assumption, hypothesis or conclusion. There is inconsistency in checking whether a component is present. (5) Synthesis level, synthesis is defined as a person's ability to connect and integrate various elements and elements of existing knowledge so that comprehensive new patterns emerge. (6) Level of Assessment: Assessment is the highest level which expects students to be able to assess and decide the value of an idea, method, product or object based on certain criteria.

Furthermore, the second dimension is affective and includes behavioral characteristics such as emotions, interests, attitudes, emotions, and values. The emotional realm determines a person's learning success. People who are not interested in a particular subject will find it difficult to achieve optimal academic success. Subject enthusiasts are expected to achieve optimal learning outcomes. Syah (2004) states that effective output includes greeting, gratitude (respect), internalization (absorption), and characterization (grateful). For example, it consists of whether students are able to show an attitude of acceptance and participation.

Three psychomotor aspects related to movement, such as: related to movement such as those related to nerve muscles, for example running, kicking, drawing, speaking, etc. Basic behaviors target specific complex skills. Students who have obtained basic competencies in this field can carry out assignments in a competency format according to standards. Students who can manage their time efficiently tend to achieve better learning outcomes. Students who have good time management skills can provide greater focus on mathematics assignments and have sufficient time to understand concepts in depth (Smith, 2019). Good capability planning is also an important element of self-management. Students who made detailed study plans had higher success rates in mathematics exams compared to those who did not plan their studies well (Jones et al., 2020). Self-management also includes intrinsic motivation that encourages students to learn. Motivation comes from within me. When I have clear goals and see articles about what I am learning, I become more motivated to face difficult mathematics material (Brown, 2018). Support from lecturers and peers plays an important role in implementing self-management.

Conclusion

The conclusion we can draw from the three students above is that self-management is not only about managing time, but they also involve emotional and social aspects that support learning and then in overcoming difficulties they also try to get what they don't understand using various methods and efforts which they do with their own self-management in solving or overcoming difficulties in understanding mathematical concepts.

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