

## STUDENT INTEREST IN CALCULUS LEARNING AT STMIK ROYAL KISARAN

**Ulfah Syuhada Nasution**

Computer System, Sekolah Tinggi Manajemen Informatika dan Komputer Royal, Indonesia

**Corresponding author:**  
ulfasyuhad4@gmail.com

**Keywords:**  
student Learning interest

### ABSTRACT

The purpose of this study was to determine the interest in learning of computer system study program students in the Calculus course at STMIK Royal Kisaran. This research is descriptive research. The population in this study were all semester 1 students of the Royal Exemplary Range STMIK computer system study program. The samples in this study were class 1 A and 1C computer systems. The computer system class 1A is 30 and the computer system class is 30. research result that as many as 10% of computer system study program students have less interest in Calculus courses, 73.3% of computer system study program students have sufficient interest in Calculus subjects, and 16.67% of computer system study program students have a good interest in Calculus subjects.

### INTRODUCTION

The success of education is very important for every student. The success of education can be seen from the quality of education, where the quality of education consists of the quality of the process and the quality of graduates. One of the common goals of all mathematics teachers at all levels of education is that students should understand and learn mathematics. Various factors are involved in shaping the understanding and learning of mathematics. However, one of the prerequisites for understanding mathematics is interest in math and the desire of students to learn it. Interest is a stimulus that increases the activity power [1]. Education is said to be successful if the teaching and learning process goes well and produces quality output. This is necessary so students have the knowledge and skills to manage their daily lives going forward [2]. "Mathematics is the key to opportunity." Mathematics is the key to success. For students, the success of studying mathematics will open the door to a

brilliant career. For citizens, mathematics will support the right decision making, and for a country, mathematics will prepare its citizens to compete and compete in economics and technology. [3]

Mathematics is a means to instill the habit of reasoning in people's minds and mathematics is an exact and certain knowledge that causes discipline in the mind. Humans in their lives can not be separated from mathematics. Unwittingly, mathematics becomes a part of life that is needed anytime and anywhere so mathematics becomes important [4]. In the facts on the ground, there are still many students who have low mathematics learning outcomes. One of them is in Calculus. Calculus is a branch of mathematics that includes limits, differentials, infinite series, and integrals.

From the results of the calculus UAS conducted by students of the computer system study program SK 1A class in January 2019, the results obtained were still low and unsatisfactory. There are only 40% of students who have good learning outcomes, while 60% have low learning results. Student learning outcomes are influenced by students' interest in learning. For students who have a strong interest in learning will have the desire to carry out teaching and learning activities. So it may be that students who have high intelligence fail because of a lack of interest in learning, because learning achievement will be optimal if there is a good interest in learning [5]. This is also in line with research conducted by Yustinus, Gregoria, et al (2015) that interest in learning is related to student learning outcomes. [6]

Many students have fears and loathsome experiences about mathematics. Such negative experiences are caused by mathematics anxiety which knows no boundaries irrespective of age or gender. Mathematics anxiety is the feeling of tension, helplessness, mental disorganization and dread one when required to manipulate numbers and shapes and the solving of mathematics problems. One of the most notable consequences of mathematics anxiety is poor mathematics achievement and competence. Students who are infested with mathematics anxiety will lack interest to learn mathematics, and consequently may tend to achieve poverty in the subject.[7]

Students' interest is one of the internal factor that influence students' learning achievement [8]. Interest known as a condition or situation was related to individual wishes or necessities. It's can also define as the preference in someone's soul together with happiness. Interest does not appear by spontaneous, but it's turn up because of participation, experience, and habit when studying or working. Because of interest always related to wishes or necessities, it's important to make certain condition so that students always need and want to study. In relation to the mathematics learning, interest is something important. Someone with high interest, she/he will have high motivation too. The higher learning interest will make students' positive attitude toward mathematics. Research conducted by Erlando also states that interest in learning influences student learning outcomes.[9]

Additional research by Mazer found increased student cognitive and emotional interest to be associated with increased engagement, learner empowerment, motivation, and affective learning. Krapp, Hidi, and Renninger propose that interest can be

characterized from the standpoint of either the person that is interested or the conditions that induce interest. Titsworth has suggested that effective instructor communication is central to greater student interest and is an important condition to induce student interest. [10]

## METHOD

This research is a qualitative research. According to Moleong qualitative research is research that intends to understand phenomena about what is experienced by research subjects such as behavior, perception, motivation, action, etc. holistically, and by way of description in the form of words and language, in a special natural context by utilizing various natural methods[11]. The population in this study were all semester 1 students of the Royal Exemplary Range STMIK computer system study program. The samples in this study were class 1 A and 1C computer systems. The computer system class 1A is 30 and the computer system class is 30. To determine the criteria of student interest in learning in calculus courses obtained through[12]:

- a. Highest score = Number of items x The highest score of each item
- b. Lowest score = Number of items x The lowest score of each item
- c. Difference score = highest student score - lowest student score
- d. The range of values for each criterion = spread difference/ total number of criteria

## RESULT AND DISCUSSION

On the student interest questionnaire there are 4 indicators used as guidelines to make a questionnaire as a research instrument. Indicators of student interest in learning in calculus subjects, namely: feelings of pleasure, student interest, student attention, student involvement. After the indicators are arranged into statement items in the questionnaire. Researchers tested the instrument on 40 students. From the results of the analysis of student interest in the questionnaire study subjects calculus has 20 valid statements and has a reliability value of 0.897. Student interest in the study questionnaire in courses that have passed the validity and reliability test, used as a research instrument to see a picture of student learning interest in calculus courses.

On the questionnaire sheet there are 20 statement items and a rating scale with very good, good, enough, less and very less categories. With the following conditions:

- a. Highest score =  $20 \times 4 = 80$
- b. The lowest score =  $20 \times 1 = 20$
- c. Difference score =  $80 - 20 = 60$
- d. range of values for each criterion =  $60/5 = 12$

The respondent's answer criteria are as follows:

**Table 1. Criteria for Respondents' Answers**

No	Kelas interval	Kriteria
1	20 – 32	very lacking
2	33 – 45	Less
3	46 – 58	Enough
4	59 – 70	Well
5	71- 80	Very good

**Table 2. Distribusi Frekuensi**  
**Frequency Distribution Student Interest in Calculus**

No	Kelas Interval	Frekuensi		Kriteria
		Absolute	Relatif %	
1	20 – 32	0	0 %	very lacking
2	33 – 45	12	10%	Less
3	46 – 58	88	73,3 %	Enough
4	59 -70	20	16,67%	Well
5	71- 80	0	0 %	Very good
	Jumlah	120	100 %	

Based on the above table, it can be seen that as many as 20 respondents have good answer criteria, 88 respondents have sufficient answer criteria, and 12 respondents have less answer criteria, this shows that as many as 10% of computer system study program students have less interest in Calculus courses , 73.3% of computer system study program students have sufficient interest in Calculus subjects, and 16.67% of computer system study program students have a good interest in Calculus subjects. Interest is a feeling that accompanies or causes special object, and can also be regarded as a caring, positive feelings, or prefer the pure flavor comes from the heart about something. It's a form of engagement, fun, and entered wholeheartedly an activity, the object or topic. Interest is closely associated with learning as it allows improving and complementing the introduction of an object, to guide meaningful learning, to improve their long-term memory as well as a source of knowledge and orientation of motivation for further learning.

## CONCLUSION

From the results of this study it can be concluded that the Interest in Learning of computer system study program students on Calculus learning falls into the sufficient category. This research shows that as many as 10% of computer system study program

students have less interest in Calculus courses , 73.3% of computer system study program students have sufficient interest in Calculus subjects, and 16.67% of computer system study program students have a good interest in Calculus subjects. Factors causing low interest learning namely: (1) internal factors sourced from within the respondent itself namely: lack of motivation and interest learn that is from within the community learn to follow the process learning for improvement knowledge students learning, lack attention residents learning; (2) External factors sourced from outside the respondent, namely from a family environment like the lack parental attention to education child, and parents do not give support to learning citizens. From school environment like a source available at school does not match needs. From the sphere of Influence friends who always don't support the students learn to follow the process learning. the researcher's suggestion for future researchers is to be able to conduct relevant research by making efforts to increase students' interest in learning about Calculus courses.

## BIBLIOGRAPHY

- [1] S. Khayati and A. Payan, “Effective Factors Increasing the Students’ Interest in math,” *Int. Sch. Sci. Res. Innov.*, vol. 8, no. 9, pp. 3069–3077, 2014.
- [2] S. Nurhasanah and A. Sobandi, “Minat belajar sebagai determinan hasil belajar siswa (learning interest as determinant student learning outcomes),” *J. Pendidik. Manaj. Perkantoran*, vol. 1, no. 1, pp. 128–135, 2016, doi: <https://doi.org/10.17509/jpm.v1i1.3264>.
- [3] Douglas H. Clements, Julie Sarama, Mary Elaine Spitler, Alissa A. Lange, and Christopher B. Wolfe, “Mathematics Learned by Young Children in an Intervention Based on Learning Trajectories: A Large-Scale Cluster Randomized Trial,” *J. Res. Math. Educ.*, vol. 42, no. 2, p. 127, 2011, doi: [10.5951/jresmetheduc.42.2.0127](https://doi.org/10.5951/jresmetheduc.42.2.0127).
- [4] E. D. Sirait, “Pengaruh Minat Belajar Terhadap Prestasi Belajar Matematika,” *Form. J. Ilm. Pendidik. MIPA*, vol. 6, no. 1, pp. 35–43, 2016, doi: [10.30998/formatif.v6i1.750](https://doi.org/10.30998/formatif.v6i1.750).
- [5] F. Djahra, “Penerapan Layanan Informasi Untuk Meningkatkan Minat Belajar Siswa Sekolah Menengah Atas,” *J. Bimbing. dan Konseling Terap.*, vol. 1, no. 1, pp. 10–22, 2017.
- [6] Y. S. Laksono and Dkk, “Hubungan Minat Belajar Siswa Terhadap Prestasi Belajar Matematika Siswa Dalam Pembelajaran Kooperatif Tipe Stad Menggunakan Komik,” *J. Edukasi Mat. dan Sains*, vol. 1, no. 2, pp. 60–64, 2004.
- [7] L. C. Anigbo, “Factors Affecting Students ’ Interest in Mathematics in Secondary Schools in Enugu State,” *Int. J. Educ. Eval.*, vol. 2, no. 1, pp. 22–28, 2016,

- [Online]. Available: <https://iirdpub.org/get/IJEE/VOL. 2 NO. 1 2016/FACTORS AFFECTING.pdf>.
- [8] A. Azmidar, D. Darhim, and J. A. Dahlan, “Enhancing Students ’ Interest through Mathematics Learning Enhancing Students ’ Interest through Mathematics Learning,” in *international conference on mathematics and science education (ICMScE)*, 2017, pp. 1–6.
- [9] A. Rohim, “Pengaruh minat belajar terhadap Prestasi Belajar Siswa PAI,” *Form. J. Ilm. Pendidik. MIPA*, vol. 6, no. 1, pp. 35–43, 2016, doi: <http://journal.lppmunindra.ac.id/index.php/Formatif/article/viewFile/750/659>.
- [10] D. Linvill, “Student Interest and Engagement in the Classroom: Relationships with Student Personality and Developmental Variables,” *South. Commun. J.*, vol. 79, no. 3, pp. 201–214, 2014, doi: 10.1080/1041794X.2014.884156.
- [11] Alethea, Sarwi, and S. Linuwih, “Analisis Peta Konsep dan Konsepsi Paralel Fisika Gelombang Calon Guru Fisika,” *Unnes Phys. Educ. J.*, vol. 7, no. 2, pp. 61–72, 2018.
- [12] R. B. Sembiring and . M., “Strategi Pembelajaran Dan Minat Belajar Terhadap Hasil Belajar Matematika,” *J. Teknol. Pendidik.*, vol. 6, no. 2, pp. 34–44, 2013, doi: 10.24114/jtp.v6i2.4996.