

# Relevance of Admission System on Students' Grade Point Average: A Case Study

Mery Napitupulu

Department of Science and Mathematics  
Tadulako University  
Palu, Indonesia  
merytn@gmail.com

Daud K Walanda

Department of Science and Mathematics  
Tadulako University  
Palu, Indonesia  
walanda@gmail.com

**Abstract**— The admission system through Public Universities in Indonesia has been carried out in three phases namely: National Selection of Public Universities (SNMPTN) carried by each Public University based on the prospective student academic achievement while they are in High School; Joint Selection of State University (SBMPTN) undertaken by Public Universities together with a selection set based on the results of the written examination or a combination of the results of the written exam and skills test prospective students; and Admissions Independently conducted by the State Universities (SMMPTN) that the selection is set and determined by each Public University. Acceptance through each phase is 50%, 30%, and 20% in each study program received through every pathway respectively. As a Public University, Tadulako University obliged to follow those three phases. After accepted through one lane selection, all students who pass through three pathways will be mixed together regardless of admission track. After they finished one semester in their study, it is necessary to see whether there is any relevance between the lines passing on the student's GPA? A study conducted on chemistry education students shows there is no relevance between admission system on students' GPA in average which is 2.8118, 2.9349, 2.8858 for SNMPTN, SBMPTN, and SMMPTN respectively, however the highest GPA obtained by students who admitted on SNMPTN which is 3.93, and 3.89 for student who admitted through SBMPTN, and 3.70 for students admitted through SMMPTN. The study showed that there was no relevance between admission system on students' GPA in the chemistry education study program.

**Keywords**—admission; GPA; SNMPTN; SBMPTN; SMMPTN; Public University

## I. INTRODUCTION

Admissions to undergraduate program at the Public University must meet the principles of fair, accountable, transparent and non-discriminatory with no discrimination based on sex, religion, ethnicity, race, social status, and level of economic ability of prospective students as well as taking into account the potential of prospective students and specificity college. Colleges as providers of education after secondary education students who receive high academic achievement and are expected to successfully complete the study in college based on academic achievement. Students who consistently demonstrate high achievement and

accomplishments deserve a chance to become students through SNMPTN. Within the framework of the integration of secondary education to higher education, schools were given a role in the selection process SNMPTN with the assumption that the school as an educational unit and teachers as educators always uphold the honor and honesty as part of the principles of character education. Thus, the school is obliged to fill in the School and Student Data Base (PDSS) completely and correctly, and to encourage and support students in the registration process [1].

While SBMPTN is the selection made by the State together under the coordination of the Central Committee with the selection based on the results of the written examination in the form of print (*Paper Based Testing*) or using a computer (*Computer Based Testing*), or a combination of the results of the written exam and skills test prospective students. Selection together in new admissions in the State through the national written exam that had been done showing the various benefits and advantages, both for the participants, State Universities and for the national interest. For participants, the selection together will advantageous because it is more efficient, cheaper, and flexible. This is due to the mechanism of cross-region [2].

Selection SBMPTN includes a written examination or a combination of the results of the written exam and skills test, which is carried out by: Written examination consisting of *Paper-Based Testing* (PBT) and *Computer Based Testing* (CBT), which can be followed by a graduate student from the previous two years of senior high school (SMA / MA / SMK). Written exam consisting of PBT and CBT use exam questions are designed to follow the rules of the academic development of the test. Written exam SBMPTN designed to measure basic ability to predict the success of prospective students in all courses, namely the ability of reasoning high level (higher order thinking), which includes academic potential, mastery of basic studies, science and technology and/or social and humanities. In addition to the exam (PBT or CBT), participants who choose courses of Arts and/or Sport required to take the skill examination [2].

After the implementation of SBMPTN, every State University in Indonesia conduct new admissions at the university level called the Independent Selection (SM-MPTN)

or college entrance to meet the university number of admissions that have been defined.

Students who pass through SNMPTN pathway are students who have a consistent good achievement during high school, so it is necessary to investigate whether it is the consistent achievement when they are already attending college. The study was conducted to see if there is a relevance to the admission system to the students' GPA after they study for one semester at chemistry education study program (CESP)

## II. METHODS

This research is a qualitative study and involves students of chemistry education class 2016 cohort at the Faculty of Education, amounting to 146 students. Their admission pathway data retrieved from the database in Academic and Administration Bureau (BAKP) Tadulako University and students' GPA obtained from the academic system (Siakad). The reasons for selecting the sample of the first semester students is because subjects studied in the first semester are general courses which are also attended by all students of science and mathematics department such as physics, biology, and chemistry, and mathematics, those subject very touch and related with their subjects in high school.

## III. RESULT AND DISCUSSION

This three pathway to University aims to open access and opportunity for all high school graduates to continue their education at universities. Unlike the admission to the University of Tampere [3], students selected based on their application document without entrance examination. The decision of acceptance made by the study program board to which students will be studied, depending on the availability of the resources at the program.

There are 40.000 prospective students apply to study in Tadulako University from across the country. They choose 62 study program available in 10 Faculties. However, as shown in TABLE I, there are only 9.571 applicants successful admitted to the university.

TABLE I. NUMBER OF STUDENTS ENROLLED IN ACADEMIC YEAR 2016/2017

Faculty	SNMPTN	SBMPTN	SMMPTN	Total
Teachers Training & Education	361	760	1.145	2.266
Social and Politics	117	298	464	879
Economy	194	493	660	1.347
Law	70	232	634	936
Agriculture	100	349	443	892
Engineering	193	348	632	1.173
Science and Mathematics	118	206	360	684
Forestry	35	182	300	517
Medicine and Public Health	44	132	128	304
Animal and Fishery	30	282	261	573
	1262	3282	5,027	9.571

Source: Registration and Statistic Unit Tadulako University.

According to data shown in TABLE I, the biggest number of students who enrolled in 2016 is at the Faculty of Teachers

Training and Education which are 2.266 students who selected through SNMPTN 361 students, SBMPTN 760 students, and SMMPTN 1.145 students. The number of students who enroll in the Faculty of Teacher Training is the most because the Faculty has more choices of study program compared to other Faculties. Moreover, since the existence of teacher certification that provides increased income for teachers the number of applicants to the Teacher's Training and Education Faculty is increasing year by year. This is also because the number of employment opportunities for teachers is still wide open, which is mean that the opportunity of the job is still high for students who graduate from Teacher's Training and Education Faculty. Table 2 shows the number of study programs available in the faculty of teacher training and education as well as the number of students entering in 2016 in each study program.

TABLE II. NUMBER OF STUDENTS ENROLLED IN FACULTY EDUCATION AND TEACHERS TRAINING EDUCATION THE ACADEMIC YEAR 2016.

Study Program	SNMPTN	SBMPTN	SMMPTN	Total
Indonesian Education	31	68	127	226
English Education	44	99	15	158
Biology Education	29	62	101	192
Math Education	36	63	88	187
Physics Education	36	51	47	134
Chemistry Education	34	56	61	151
History Education	15	56	109	180
Civics Education	15	54	82	151
Geography Education	25	47	95	167
Primary School Teacher Education	38	112	36	186
Early Childhood Education	24	40	84	148
Health and Recreation, Physical Education	12	10	197	219
Counselling and Guidance	22	42	73	137
	361	760	1115	2236

Source: Registration and Statistic Unit Tadulako University

The number of students enrolled in each study program is slightly different because of the number of admissions to adjust the amount of the availability of professors, lecturers and students' ratio into consideration. There may be one or two candidates who, though already passed the examination but did not enroll because of various factors such as acceptable in other universities, because it is also made possible. In addition, the study program of chemistry education is not one of the favorite study programs that are in great demand by students as well as biology study programs in the same majors or Indonesian language study programs in Language majors, or Primary School Teacher Education study program, and History Education in the Department of Education and Social Science Education. There has been no formal research on this interest, but based on informal interviews with some students on their reason to choose a particular study program in the Faculty of Teacher Training and Education is very diverse. Generally, students who choose Primary School Teacher Education study program are because they want to become teachers in elementary school. But for other study programs, especially chemistry, only a few people choose the study program because of the ideals of being a chemistry teacher. Some of them choose the study program because of consideration of the possibility to be admitted to the university. There are hardly any students who aspire to choose a chemistry education study program because they

love chemistry or want to become a chemistry teacher. Those who have intelligence and interest in chemistry lessons generally choose pure chemistry, then chemistry education become second or third choice or maybe the last choice after not passing SNMPTN and SBMPTN and the study program is limited to be chosen for SMMPTN.

From the table, it can be seen that the number of students enrolled in the study program of chemistry in 2016 was 151 people. The amount received through SMMPTN as many as 61 people. In the learning process, they were blended then divided into three classes. So in a class of students who pass through that three pathway. There is no special treatment for students who pass through particular pathways. All students in the first semester take the same amount of credit and the courses also the same. So the only differentiating component that interested to be studied is the entrance or pathway to the university.

TABLE III. STUDENTS' GPA OF CHEMISTRY STUDY PROGRAM COHORT 2016

	SNMPTN	SBMPTN	SMMPTN
Number of students	32	53	56
GPA mean	2.8118	2.9349	2.8858
Highest GPA	3.93	3.89	3.70
lowest GPA	1.05	1.52	2.12

TABLE III shows the number of students enrolled in chemistry education courses in 2016 and average GPA of these three categories of students' admission. For students who enter through SNMPTN, the GPA average is 2.8118, SBMPTN 2.9349 and 2.8858 SMMPTN respectively. This shows that there is no relevance between the driveway as a student and achievement index. As an individual, it is seen that students who pass through the SNMPTN have higher GPA than the students who pass through the SBMPTN and SMMPTN, but the average shows that student pass through SBMPTN has the highest IP than the other two lines.

As can be seen in Table 3 that the average GPA of students who pass through the SBMPTN was higher than the average GPA of students who pass through the SNMPTN, then there is a possibility that the achievement to 53 students while in high school is also better than the 32 students who admitted through SNMPTN. Those 53 students might not choose chemistry education study program while applied SNMPTN pathway. The other possibility is they chose another university somewhere which has a better rank than Tadulako University. The quality of the senior high school is also very crucial. It is not possible for a school is very generous in grading students so that when SNMPTN selection, a very strict school with grades will compete hard to have the 50% of ratio. In addition, the effect of category selection is also very possible because at the time of selection of SNMPTN prospective students were allowed to choose two courses according to their interests, but in SBMPTN students are given the opportunity to choose three courses. Many students are a worry to fail to enter public universities so that they choose courses that are considered desirable. So students who pass through SBMPTN are choosing chemistry education study program as a third option.

Such a student will normally move to another course after concluding the first-year study.

The examination system in Indonesia that allows students to choose up to three prospectus study program in three categories; Science and Technology, Social and Humanities, and Mixture categories are slightly different with the categories in Turkey's Higher Education which are use six categories for admission system, without mixture categories; Science and Engineering, Economic and Social Science, and Humanities [4]. Research on the predictive validity of university entrance examinations based on raw scores, standard scores, and placement scores has been done [5]. It was found that the highest score on admission to particular study program was a study program that resulted in students who received high GPA [5]. Written examination and practical exams (for some courses that require special skills) have been validated before being tested to prospective students on admission examination (SBMPTN or SMMPTN). Students' achievements in department or study program with high-grade passing have not been studied further.

In this study did not investigate whether there is a relationship of interest with student GPA. The assumption is that entry in chemistry study program is the student's own choice of whether he took the science and technology category or categories mixture. So all students considered interest in chemistry studies program. A research conducted by Pfeifer MP (1991) at medical students in the university Louisville showed that there is no effect of the interest of students towards learning courses Clinical evaluation [6]. Martin Jaeger (2014) says that there are three factors that influence the success of learning which are support learning facilities, the responsibility of the students, and the quality of learning, with strong influences from the student's personal situation. [7]

Personal situation of students might be a different one to another. Some students live with their own parents, but some of them live in the boarding accommodation. Students who live in the different accommodation situation could have different learning hours. Research has not been done regarding the influence of living situation onto learning hours. However, learning hours that influence learning outcomes have been studied previously [8]. The concept of time is a progressive one, not the abrupt manner and matures as one grows older [9]. Therefore, developmental of students' level regarding of the concept of time needed to be able to handle teaching material [10] [9] [11]. It is found that students who spent long hours learning resulted in better learning outcome than who does not [12]. Those studies conclude a definition of learning hours as the ability to understand and sense the physical and inner time, manage a correct idea of time and also willing to spend more time on learning, based on the situation and individual interest [9]. The concept of Learning hours is addressed to learning hours related to situational interest, driven by personal interest, on a basis of prerequisite knowledge combined with emotions, and the subsequent willingness to spend more time on learning eagerly [13].

Students who have just completed one semester of education may experience differences in learning situations

while sitting in high school and university, so the achievement decreases. The possibility of parents control is still very good because they were living together in one house, but when away from home or live on boarding house parental involvement becomes very minimal. There is also the possibility of association and influence of friends so that the time spent to learn to be less. Adaptation to the new environment and new learning situation may be one of the obstacles to maintain the achievement so that there are students who pass through the SNMPTN get a very minimal GPA of 1.05 whereas students who enter through the SNMPTN line are students who have excellent performance during high school. Similarly, the students who pass through the SBMPTN with GPA only 1.52 become one of the interesting things because of the assumption that students who pass through this SBMPTN are a student who has a very high level of competition because of competing nationally to be admitted to the university.

#### IV. CONCLUSION

There is no relevance or admissions system on student's grade point average (GPA) in the chemistry education study program at Tadulako University. Not all students who pass through the SNMPTN line obtain satisfactory GPA in the first semester. Similarly, in groups of students entering through SBMPTN and SMMPTN pathway. In each entry category, there is still one student who has GPA below 2.5 (students entering SBMPTN line) and under 2.0 (students entering through SNMPTN and SBMPTN). But it must be admitted that the highest GPA in the first semester is obtained by students who enter through the SNMPTN line. Overall the enter to the university does not guarantee that students who pass through SNMPTN will be more successful in their lectures than students who pass through the SBMPTN and SMMPTN

Student success is influenced by various factors such as the interest in learning, motivation, learning, supporting facility, and personal situation. As written by David A. Bergin that individual factors or individual situations of a learner affect the interest of learning. Individual factors are a sense of belonging including the culture, identity, and social support, emotions, competencies, and functions, as well as background knowledge, including expectations. Because situational factors are obstacles, incompatibilities, novelty, food, social interaction, modeling, then when teachers integrate these factors into their instruction, students tend to experience

increased interest in learning. [14]. Factors influencing the success of the students will be the future work.

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#### REFERENCES

- [1] Kemenristekdikti on [www.snmptn.ac.id](http://www.snmptn.ac.id), 2016
- [2] Kemenristekdikti on [www.snbmptn.ac.id](http://www.snbmptn.ac.id), 2016
- [3] The University of Tampere on <https://www.uta.fi/admissions/selection-students>,
- [4] Brian Grant, "Student selection and placement in Turkish higher Education," *J. The Vocational Aspect of Education*, vol. 113, pp. 119-123, 1990.
- [5] İsmail Karakaya, Ezel Tamsancil. 'The Predictive Validity of the University Student Selection Examination'. *Educational Sciences: Theory & Practice*, 8<sup>th</sup> ed., vol 3, September 2008, pp. 1011-1019.
- [6] Pfeifer MPI, Peterson HR, "The Influence Of Student Interest On Teaching Evaluation," *J Gen Intern Med*. Vol.2, pp. 141-144, Mar-Apr 1991.
- [7] Martin Jaeger & Desmond Adair, "The Influence Of Students' Interest, Ability And Personal Situation On Students' Perception Of A Problem-Based Learning Environment," *Journal European Journal of Engineering Education*, vol. 39, pp. 84-96, February 2014.
- [8] David A. Bergin, "Influences on Classroom Interest," *Education Psychologist*, 2<sup>nd</sup> Ed., Vol. 34, 1991, pp. 87-98.
- [9] Yu-Je Lee, Chia-Hui Chao & Ching-Yaw Chen, "The Influences Of Interest In Learning And Learning Hours On Learning Outcomes Of Vocational College Students In Taiwan: Using A Teacher's Instructional Attitude As The Moderator," *Global journal of Engineering Education*, Vol. 13, pp. 140-153, 2011.
- [10] Piaget, *The Development of Thought: Equilibration of Cognitive Structures*. New York: Viking, 1969.
- [11] Yan, Y.L., *A Research on Learning Achievement of Fifth-Graders in Elementary School Regarding Concept about Time under an On-Line Remedial Teaching Circumstance*. MA, Taiwan: Master's Program of Educational Entrepreneurship and Management in Math Teaching, National University of Tainan, 2005.
- [12] Chen, C.Y., *Elementary-School Children's Conception of Time and Related Instructions*, 3<sup>rd</sup> ed., vol.3. Taiwan: A Friend of Teachers. 1992, pp. 46-54.
- [13] Qiu, R.H., *An Action Research of Children's Science Books Created by Elementary School Teachers: The Focuses, Interests and Effectiveness of Reading*. MA, Taiwan: Master's Program in Science Education, Department of Science Application and Dissemination, National Taichung University of Education, 2010
- [14] Lai, Q., *A Survey of National Taoyuan Senior-High School Students' Interest in Learning Music and Demand for Self-Decision*. MA, Taiwan: Department of Music, National Taiwan Normal University, 2010.