The Effect of Mode of Admission and Place of Origin On Student Achievement in First Semester Study Program of Sociology Education at Manado State University

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Abstract— **Manado State University (UNIMA) is a public higher education institution available to all high school graduates who wish to continue their education to tertiary education. Students who enroll to UNIMA either through national selection, independent, and B2P admission program come from various regions. This study aims to determine: (1). Does the mode of admission selection affect the learning achievements of sociology study program students? 2. Does the place of origin affect the student learning outcomes in the sociology study program? 3. Does the interaction between the mode of admission and place of origin affect student achievement? The results showed that 1) Students' Admission through the SMNPTN, SBMPTN, and B2P program did not affect student learning outcomes at the Sociology Education Study Program of Faculty of Social Science Manado State University. 2) The place of origin of the student (North Sulawesi, North Maluku, and other regions) did not affect the students' learning achievement of Sociology Education Study Program of Faculty of Social Science Manado State University. 3) The interaction between the mode of admission and the place of origin does not affect the students' learning outcomes of Sociology Education Study Program of Faculty of Social Science Manado State University.**

Keywords— *New students' mode of admission, Sociology Education Study Program.*

I. INTRODUCTION

Every year Manado State University jointly with other public universities conducts national entry selection, whose name changes almost every year, starting from the UMPTN (State Higher Education Entrance Examination), SNMPTN (National Entrance Selection to Public University), SBMPTN (Joint Selection Entrance to Public University). This national selection is held centrally and coordinated directly by the Ministry of National Education, which is currently under the auspices of the Ministry of Technology Research and Higher Education.

In addition to student admissions through joint national selection (SBMNPTN and SBMPTN), each public university is given the authority to accept new students through admission program with different names for each university (Local Admission Program). Manado State University itself gave a name for the selection of new student admissions with a local admission program called "Baku Bekeng Pande" abbreviated as B2P. Baku Bekeng Pande is a Manado Malay dialect which means: Baku = Mutual, Bekeng = Make, Pande = Clever. In general, can be interpreted: make people smart.

Prospective students who choose the national entry selection admission program can take a written test at all public universities and can select study programs (first choice and second choice) according to their respective interests. Those who pass the joint national selection can then register to the College, which is their goal. While those who do not pass the national selection can take the college admission selection in their respective regions or outside their regions, according to the study program they are interested in.

Prospective students who are selected through the invitation program can directly enroll with the required documents. After the national exam has passed, Manado State University opens the opportunity for prospective students (who did not pass the national selection) or prospective students who did not have the chance to take the national selection to take the local examination or selection through B2P. B2P program is carried out 2 times.

Students who enroll to Manado State University either through the national selection program, the invitation program, and the B2P program come from various regions, at the West end from Sumatra Island to the East end of Irian Island. At the northern end of the Sangihe Talaud Archipelago to the southern

end of the Key Archipelago. Most of Manado State University students come from surrounding areas of North Sulawesi, such as Taulaud Archipelago, Sangihe, Sitaro, Great Bolmong, North Bolmong, South Bolmong, North Minahasa, South Minahasa.

The socio-cultural environment of student origin varies from region to region. The socio-cultural environment of the place of origin influences more or less the culture of student learning [1]. Generally, Sociology Education study program students come from rural areas. Thus it can be estimated that their learning facilities and learning culture are different from students in urban areas.

Likewise, students who are admitted through the national entrance selection exam are estimated to have different abilities from those who enter through local selection. Therefore, through this research, we want to know whether the mode of admission and place of origin have an influence on student achievement, especially in the first years or in the initial semester (semester one).

Learning as a process of activities to change the behavior of student subjects is apparently influenced by many factors. Broadly outline, these factors can be divided into two classifications, i.e. internal and the external factors of the student. Thomas F. Staton in reference [2] suggests there are 6 kinds of internal factors that influence learning, i.e. First: Motivation. Someone will succeed in learning if they have a desire to learn. Desires that encourage individual learning are called motivation. The motivation here includes two things, i.e. 1) knowing what will be learned, and 2) understanding why it is worth learning. Without these two learning activities it is difficult to achieve good results. Second: Concentration; intended to focus all the power of attention on a learning situation. Here motivation greatly helps the growth of the process of focusing. In this concentration detailed mental involvement is very necessary, so it is not "modest" attention. Third: Reaction; in learning activities required physical and mental stretches, as a form of reaction of the mind and muscles must work in harmony so that the learning subjects act and do it. Learning must be active, not just as it is, giving up on the environment, but all that must be seen, as a challenge that requires reaction. Fourth: Organization; learning can also be said as an activity of organizing, arranging or placing parts of learning material into a unified understanding. In this case mental skills are needed to organize the stimulus (facts and ideas) to help in being able to quickly organize facts or ideas in his mind. Fifth: Understanding; understanding or comprehension can be interpreted to master something with the mind. Because it means learning must mentally understand the meaning and philosophy, the purpose and implications as well as its applications, thus causing students to understand a situation. Sixth: Deuteronomy; forgetting is something that is despicable in learning. But forgetfulness is a common human trait. Everyone can forget. Investigation shows the day after students learn a lesson material or listen to a lecture, they forget a lot about what they have obtained. In this connection, to overcome forgetfulness, "repeat" activities are needed.

This study aims to examine: (1). Does the mode of admission selection affect the learning achievements of sociology study program students? (2). Does the place of origin affect the student learning outcomes in the sociology study program? (3). Does the interaction between the mode of admission and place of origin affect student achievement

II. RESEARCH METHODS

This study was evaluative research by using objective-oriented evaluation approach, which is an evaluation towards principal's managerial skill [3]. In order to conduct the evaluation, it was used skill standard as an objective needed by each principal [4]. The research method used was qualitative descriptive analytics. The research instrument used was questionnaire to measure the effectiveness of SBM implementation and the aspects of principal's managerial competence [5]. The data was collected from 6 elementary schools in Tomohon City by a total of 46 respondents, including principals, teachers, and school committees.

III. RESULTS AND DISCUSSION

Learning outcomes data used for data analysis were the student grade point (IP) score in the first semester (semester one) indicated by the index. Achievement in the Academic Achievement Record (KHS) of the students concerned. This grade point is randomly selected from students sorted from the 2015/2016 generation onwards until the specified number of samples is reached.

Table 1. Sample of student's achievement of Sosiology Education study program

Place of Origin (B)	Student's Mode of Admission (A)		
	SNMPTN (A1)	SBMPTN (A2)	B2P (A3)
North Sulawesi (B1)	3.70	3.00	2.45
	2.70	2.47	3.00
	2.11	3.29	2.80
	3.25	3.59	2.42
	3.26	3.11	3.10
	2.85	2.68	3.29
	3.35	2.47	3.35
	3.15	3.15	2.70
	3.80	3.71	3.00
	3.50	2.60	3.45
North Maluku (B2)	2.26	3.45	3.30
	3.63	3.00	3.00
	3.47	3.35	3.05
	2.26	2.79	2.80
	2.16	3.00	2.80
	3.20	2.82	2.90
	3.15	3.47	2.25
	3.60	1.71	3.80
	2.40		3.35
			3.70

Others (B3)	3.45	3.00	3.35
	3.90	3.11	3.12
	3.70	2.16	3.00
	3.00	2.68	3.35
	3.05	3.15	2.37
	3.10	2.35	3.21
		3.16	2.84
		2.90	3.25
		3.05	3.30
		2.60	3.70

2. Two Way Analysis of Variance Hypothesis Procedure

1) To find the Sum of Squares (SS) for several variances i.e. Total (T), Between (A), Between (B), Interaction (AB) dan Within (D) formulated as follow:

$$SS_{(T)} = \sum Yt^2 - \frac{(\sum - Yt)2}{nt}$$

$$SS_{(A)} = \sum_{i=1}^{a}\left(\frac{(\sum Yi)2}{ni}\right) - \frac{(\sum Yt)2}{nt}$$

$$SS_{(B)} = \sum_{i=1}^{b}\left(\frac{(\sum Yj)2}{nj}\right) - \frac{(\sum Yt)2}{nt}$$

$$SS_{(AB)} = \sum_{J=1}^{ab}\left(\frac{(Yij)2}{nij}\right) - \frac{(\sum Yt)2}{nt} - SS_{(A)} - SS_{(B)}$$

$$SS_{(D)} = \sum_{i=1,i=1}^{ab}\left(\sum y_{ij}^2 \frac{(\sum Yij)2}{nij}\right) = \sum y_{ij}^2$$

2) To determine degrees of freedom (df)

df (T) $= n_{t-1}$
df (A) $= n_{2-1}$
df (B) $= n_{b-1}$
df (AB) $= (n_{a-1})(n_{b-1})$
df (D) $= n_t - (n_a)(n_b)$

3) To determine Mean Squares (MS)

$$MS_{(A)} = \frac{SS_{(A)}}{df_{(A)}}. \quad MS_{(B)} = \frac{SS_{(B)}}{df_{(B)}}. \quad MS_{(AB)} = \frac{SS_{(AB)}}{df_{(AB)}}.$$

$$MS_{(D)} = \frac{SS_{(D)}}{df_{(D)}}$$

4) To determine F_o

$$F_{o(A)} = \frac{MS_{(A)}}{MS_{(D)}}. \quad F_{o(B)} = \frac{MS_{(B)}}{MS_{(D)}}. \quad dan \; F_{o(AB)} = \frac{MS_{(AB)}}{MS_{(D)}}$$

Arrange ANOVA table

Source of Varian	SS	df	MS	$F_{observation}$	F_{table} a= 0.05
Between A	SS (A)	n_a-1	MS (A)	$F_{o(A)} = \frac{SS_{(A)}}{SS_{(D)}}$	

| Between B | SS (B) | n_b-1 | MS (B) | $F_{o(B)} = \frac{SS_{(B)}}{SS_{(D)}}$ | |
| Int. AB | SS (AB) | $(n_a-1) \times (n_b-1)$ | MS (AB) | $F_{o(AB)} = \frac{SS_{(AB)}}{SS_{(D)}}$ | |

To simplify the calculation of the sum of the squares of several variant sources, the following preparation table is prepared:

1. Preparation Table

Stastistic	A1 B1	A2B1	A3B1	A1B2	A2B2	A3B2	A1B3	A2B3	A3B3	Total
n	10	10	10	9	8	10	6	10	10	83
$\sum Y_i$	31.67	30.07	29.56	26.13	23.59	30.95	20.20	28.16	31.49	251.82
$\sum Y_i^2$	102.58	92.22	88.55	78.98	71.83	97.70	68.72	80.42	100.31	781.29
$\sum Y_j$	2.28	1.79	1.17	10.70	16.18	1.91	27.91	1.12	1.51	64.21
Y_j	3.17	3.01	2.96	2.90	2.95	3.10	3.37	2.82	3.51	27.41

2. To calculate Sum of Squares of each group :

$$SS_{(T)} = \sum Yt2 - \frac{(\sum Yt)2}{nt} = 781.29 - \frac{251.82^2}{83} = 17.28$$

$$SS_{(A)} = \sum_{i=1}^{a}\left\{\frac{(\sum Yi)2}{ni}\right\} - \frac{(\sum Yt)2}{nt} = \frac{78^2}{25} +$$
$$\frac{81.82^2}{28} + \frac{92^2}{30} - \frac{251.82^2}{83} = 0.5672$$

$$SS_{(B)} = \sum_{j=1}^{b}\left\{\frac{(\sum Yj)2}{nj}\right\} - \frac{(\sum Yt)2}{nt} = \frac{91.30^2}{30} +$$
$$\frac{80.67^2}{27} + \frac{79.85^2}{26} - \frac{251.82^2}{83} = 0.10$$

$$SS_{(AB)} = \sum_{j=1}^{ab}\left\{\frac{(Yj)2}{nij}\right\} - \frac{(\sum Yt)2}{nt} - SS_{(A)} - SS_{(B)}$$

$$= \frac{31.67^2}{10} + \frac{30.07^2}{10} + \frac{29.56^2}{10} +$$
$$\frac{26.13^2}{9} + \frac{23.59^2}{8} + \frac{30.95^2}{10} + \frac{20.20^2}{6}$$
$$+ \frac{28.16^2}{10} + \frac{31.49^2}{10} - \frac{251.82^2}{83} - 0.5672 -$$

$$0.0962 = \mathbf{0.3389}$$

$$SS_{(D)} = \sum yij2 = \mathbf{64.21}$$

3. To determine degree of freedom (df) of each variances

df (T) = 83 – 1 = 82   df(A) = 3-1 = 2   df(B) = 3-1 = 2

df (AB) = (3-1) (3-1) = 4   df(D) = 82- (3) (3) = 82 – 9 = 73

4. **Arranging ANOVA Table**

Source of Variances	SS	df	MS	$F_{observation}$	F_{table} a= 0.05
Between A	0.5672	2	0.2836	0.3224	3.13
Between B	0.0962	2	0.0481	0.0547	3.13
Interaction AB	0.3389	4	0.0847	0.0963	2.50
Within	64.21	73	0.8796		
Total	17.28	82	-		

From the analysis based on the table shows that:

Main Effect

F_o (A) < F_{table} or accept H_o. Thus, there are no mean differences of Grade Point Average in the semester one of the Sociology Education Study Program's students seen from the new student's admission of SNMPTN, SBMPTN, and B2P program. $F_{o(B)}$ < F t_{table} or H_o accepted. Therefore, there is no difference in Grade Point Avarage (GPA) of semester one of Sociology Education study program students from the place of origin.

Interaction Effect

$F_{o(AB)}$ < $F_{table(0,05)}$ atau accept H_o. Thus there is no effect of interaction between the factors of th new students mode of admission and the place of origin to the Grade Point Avarage (GPA) of semester one of Sociology Education Study Program students.

Since there is no interaction effect between mode of admission and place of origin on the GPA of semester one of Sociology Education Study Program students, the next step to be tested is the main effect hypothesis, the Fo (A) test to study the average difference between A and the Fo (B) test to study the average difference between B. The variance homogeneity test used was the Hartley F_{max} test.

These F test statistics are expressed as follows:

$$F_{max} = \frac{Larger\ Variance}{Smaller\ Variance} = \frac{S_b^2}{S_k^2}$$

with degree of freedom: $df_1 = (n_1 - 1)$ and $df_2 = (n_2 - 1)$
the tested hypothesis is:

$$H_1\ \sigma_1^2 = \sigma_2^2 = \sigma_3^2$$
$$H_1\ is\ not\ H_0$$

1) **Variance Homogeneity Test of students mode of admissions SNMPTN, SBMNPTN and B2P and place of origin North Sulawesi**

Table 2 The calculation of Hartley F test of student's mode of admission A1, A2 and A3 and place of origin North Sulawesi

Group	N	df	σ^2
A1B1	10	9	0,2534
A2B1	10	9	0,1994
A3B1	10	9	0,1298

$$F_{max} = \frac{0,2534}{0,1298} = 1,9522$$

F_{tab} on α = 0,05 and df numerator = 8 and db denominator = 9 ($F_{tab} = F_{(0,05;9;9)} = 3,18$)
Because F_{hit} 1,9522 < F_{tab} 3,18, then H_0 is accepted. So the three distribution of GPA results in the first semester of Sociology Education Study Program student according to the mode of admissions from North Sulawesi has the same variance or homogeneous.

2) **Variance Homogeneity Test of students mode of admissions SNMPTN, SBMNPTN and B2P and place of origin North Maluku**

Table 3 The calculation of Hartley F test of student's mode of admission A1, A2 and A3 and place of origin North Maluku

Group	N	Df	σ^2
A1B2	9	8	0,3896
A2B2	8	7	0,3236
A3B2	10	9	0,2119

$$F_{max} = \frac{0,3896}{0,2119} = 1,8386$$

F_{tab} on α = 0,05 with df numerator = 8 dan df denominator = 9 ($F_{tab} = F_{(0,05;8;9)} = 3,23$)
because F_{hit} 1,8386 <F_{tab} 3,23, then H_0 is accepted. So the three distribution of GPA results in the first semester of Sociology Education Study Program student according to the mode of admissions from North Maluku has the same variance or homogeneous.

3) **Variance Homogeneity Test of students mode of admissions SNMPTN, SBMNPTN and B2P and other places of origin**

Table 4 The calculation of Hartley F test of student's mode of admission A1, A2 and A3 and other places of origin

Group	N	df	σ^2
A1B3	6	5	0,1417
A2B3	10	9	0,1250
A3B3	10	9	0,1274

$F_{max} = \dfrac{0,1417}{0,1250} = 1,1336$

F_{tab} on $\alpha = 0,05$ with df numerator = 5 dan df denominator = 9 ($F_{tab} = F_{(0,05;8;9)} = 4,78$)

Because F_{hit} 1,1336 < F_{tab} 4,78, then H_0 is accepted. So the three distribution of GPA results in the first semester of Sociology Education Study Program student according to the mode of admissions from other places of origin has the same variance or homogeneous.

4) **Variance Homogeneity Test of the student of North Sulawesi, North Maluku dan other places of origin by the invitation program (SNMPTN) (A1)**

Table 5 The calculation of Hartley F test of of the students of North Sulawesi, North Maluku and other places of origin by SNMPTN program

Group	N	df	σ^2
B1A1	10	9	0,2534
B2A1	9	8	0,3896
B3A1	6	5	0,1417

$F_{max} = \dfrac{0,3896}{0,1417} = 2,7494$

F_{tab} on $\alpha = 0,05$ dengan df numerator = 8 dan df denominator = 5 ($F_{tab} = F_{(0,05;8;5)} = 3,58$)

Because F_{hit} 2,7494 < F_{tab} 3,58, then H_0 is accepted. So the three distribution of GPA results in the first semester of Sociology Education Study Program student according to the mode of admissions SNMPTN program from North Sulawesi, North Maluku and other places of origin has the same variance or homogenous.

5) **Variance Homogeneity Test of the student of North Sulawesi, North Maluku dan other places of origin by the SBMPTN program (A2)**

Table 6 The calculation of Hartley F test of of the students of North Sulawesi, North Maluku and other places of origin by SBMPTN program

Group	N	df	σ^2
B1A2	10	9	0,3896
B2A2	8	7	0,3236
B3A2	10	9	0,1250

$F_{max} = \dfrac{0,3896}{0,1250} = 3,1168$

F_{tab} on $\alpha = 0,05$ with df numerator = 9 dan df denominator = 9 ($F_{tab} = F_{(0,05;9;9)} = 3,18$)

Because F_{hit} 3,1168 < F_{tab} 3,18, then H_0 is accepted. So the three distribution of GPA results in the first semester of Sociology Education Study Program student according to the mode of admissions SBMPTN program from North Sulawesi, North Maluku and other places of origin have the same variance or homogenous.

6) **Variance Homogeneity Test of the student of North Sulawesi, North Maluku dan other places of origin by the B2P program (A3)**

Table 7 The calculation of Hartley F test of the students of North Sulawesi, North Maluku and other places of origin by B2P program

Group	N	df	σ^2
B1A3	10	9	0,1298
B2A3	10	9	0,2119
B3A3	10	9	0,1274

$F_{max} = \dfrac{0,2119}{0,1274} = 1,6633$

F_{tab} on $\alpha = 0,05$ with db numerator = 9 dan db denominator = 9 ($F_{tab} = F_{(0,05;9;9)} = 3,18$)

Because F_{hit} 1,6633 < F_{tab} 3,18, then H_0 is accepted. So the three distribution of GPA results in the first semester of Sociology Education Study Program student according to the mode of admissions B2P program from North Sulawesi, North Maluku and other places of origin has the same variance or homogenous.

IV. CONCLUSION

From the results of data analysis it can be concluded as follows:
1) Admission of students through SNMPTN, SBMPTN and B2P does not affect the student's learning outcomes of

Sociology Education Study Program Faculty of Social Sciences Manado State University

2) The place of origin of the student (North Sulawesi, North Maluku and other regions) does not affect the student's learning achievement of Sociology Education Study Program Faculty of Social Sciences Manado State University.

3) The interaction between the mode of admission and the place of origin does not affect the student's learning outcomes of Sociology Education Study Program Faculty of Social Sciences Manado State University

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