

THE EFFECT OF MATRICULATION AND FAMILIARIZATION WITH NEW STUDENTS TO SUPPORT UNDERSTANDING LESSONS IN INDONESIAN NAVAL TECHNOLOGY COLLEGE

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ABSTRACT

Matriculation is the lecturing before the real formal study in STTAL that has resulted in all students adapting to all lessons because the students who study in STTAL have various backgrounds. Especially for post-graduates and diplomas. They have different background education, therefore they have to get warmed up in the lessons for two months. The familiarization has resulted in the students adapting to living in STTAL because they have to live in a dormitory. The familiarization can help them orientation about activities and all rules in college. The result of this research is to find out the correlation between matriculation, familiarization and understanding of the lessons during the study in STTAL. This research uses a descriptive and quantitative approach using tools SPSS to aim a data analyzer. The responders are students with postgraduate, undergraduate, and diplomas who study in STTAL total 130 students and who have done matriculation and familiarization when they are new students and give good feedback in the questionnaire. In this research, the result t_{count} value X_1 is $21,778 > t_{table}$ 1,980 and the t_{count} X_2 value is $11,627 > t_{table}$ (1,980) so H_0 was accepted so there are relations between matriculation and familiarization to understanding lessons in STTAL. The college has to develop equipment for matriculation and familiarization so students can adapt vastly.

Keywords: Matriculation, Dormitory, SPSS

1. INTRODUCTION

In order to make the Indonesian Navy a professional, modern, and tough organization one is necessary to face the challenges and developments of a rapidly growing strategic environment to realize this policy it is necessary to prepare qualified organizational crew personnel, one of which is pursued through science and technology education (Reana, 2022). To develop the ability to face the challenges of developing an increasingly complex strategic environment influenced by the industrial revolution 4.0., the Indonesian Naval Technology College (STTAL) has set the vision of "Producing Human Resources (HR) and becoming a Center for the Development of Defense Science and Technology in the Marine and Maritime Excellence at the International Level by 2024". STTAL's vision is focused on achieving quality outcomes in the form of graduates from postgraduate, undergraduate, and diploma programs. In addition, institutionally it produces an outcome in the form of an institutional posture as a leading research university that is taken to the international level.

In realizing professional human resources, STTAL must improve the quality of education. One way to improve the quality of performance of technocratic soldiers mastering the latest technology is to improve the existing education system. This study examines the effects of introduction and enrollment on

material proficiency during lectures at STTAL. This study uses classical statistical methods. where X_1 is the effect of admission on subject mastery, X_2 is the effect of adaptation to a new learning environment, and Y is the rate at which adaptation of students to the on-campus teaching environment. About the trade fair environment or the materials on campus. class.

A related study discussing the impact of Indonesian Naval Academy Institute of Education students is Wardiana, A., Wiratama, E., and Nugroho, A. (2022). This study examines the impact of Naval Academy cadet training and exercises on mastery of ship control in support of the Indonesian Navy warship's primary mission. The other research results show that naval policy variables have a direct and significant impact on personnel development, especially on the education system Rakam, R., Sigit, P., & Nugroho, A. (2022). Which research the influence of policy on the development of Indonesian naval personnel.

2. MATERIALS AND METHODS

2.1 Effectiveness Concept

Effectiveness is how well the target is achieved by the system. So indicator of effectiveness is the system or individual doing the right thing. Moreover, when measuring activity, it can be evaluated as effective by measuring as follows. 2) measuring the performance of activities related to achieving desired

outcomes; 3) Reporting to decision makers so they can act on the information provided (Moehariono, 2014).

Gibson says that The source of effectiveness is the direct relationship between management functions and the organization. There are three levels of effectiveness: the first is individual effectiveness, individual effectiveness is based on an individual's point of view that emphasizes the work of an employee or member of an organization, and the second is team effectiveness. team Effectiveness is the number of contributions of all t members, third is Organizational Effectiveness, Organizational Effectiveness consists of Individual Effectiveness and Team Effectiveness. Synergies enable an organization to achieve a higher level of work than the sum of its parts. Effective management functions are created by the effective implementation of each individual, group, and organization. This organizational effectiveness can be measured or based on organizational mission and goals, implementation methods and processes, the influence of centralized entities, and standard organizational performance criteria. It is said to be effective when set goals are achieved (Gibson et al, 1996). Implementation methods and processes, centralized and unified influence, and organizational performance standards. It is said to be effective when set goals are achieved (Gibson et al, 1996). Implementation methods and processes, centralized and unified influence, and organizational performance standards. Considered effective if the purpose set is achieved (Gibson et al, 1996).

2.2 Familiarization of College Environment to Student

Education planning is a process of identification and evaluation to meet the needs of educators Meet the world of education. The activities of this MPP are: inseparable plan From prescription to execution of the vision, mission, and Goals established thereafter the beginning. Therefore, the MPP is one of the main features of every part of the organization that meets the needs of Human Resources (HR).

A cognitive domain is a domain that includes: Mental (brain) activity. all efforts to the brain activity belong to the cognitive domain. Or Cognitive domains have six levels or aspects. knowledge, knowledge involves the memory of things inspected and stored in memory, terms, definitions, facts, ideas, patterns, Procedures, Methods, and Basic Principles. Knowledge stored in memory is required by recollection or recognition, 2) comprehension, i.e. the ability to understand a person's Importance and Significance of Considerations, and 3) application.), the ability to apply rules or methods 4) analysis, addressing specific and real problems; (Analytics) Ability to resolve complex information break down the problem into small pieces and get information about them Associate another issue or associate an issue with another issue.

Ability to detail a unit into its parts to create a piece of overall structure information or problem and its configuration Well understood, 5) synthesis (synthesis) ability Form a new entity or pattern by connecting parts each other. Ability to recognize data Information required for the creation the of solution you need. 6) Evaluation, the ability to give judgment of what is known and understood, created, analyzed and produced. Moldability opinion-based accountability specific criteria. For example, the ability to judge 14 Results of scientific research by people who hold the following opinions It can be charged. The purpose of the cognitive aspect is to Ability to think, including simpler intellectual Skills, from memorization to the ability to solve problems that students need to connect and connect combining several ideas, ideas, methods, or procedures I learned to solve problems. Therefore, the cognition Aspect is a subtaxonomy that reveals mental activity It often starts with your level of knowledge The highest level.

Each student has a different background in their education. This is the most important from familiarization at Naval Indonesian technology college, that makes the student can more adaptable to receive all lectures during their study. So they familiarize themselves with the environment and the lesson as long as the familiarization and matriculation. At the beginning of matriculation, all students are given a pre-test and at the end of the matriculation, they will be given a post-test. So colleges can know how much knowledge they achieve from matriculation.

2.3 Research Approach

This study is a quantitative study using a descriptive approach. Quantitative research is a type of research characterized by being conducted in a systematic, well-planned and structured manner. Quantitative research can also be interpreted as empirical research that is used to study specific populations/samples using research tools and quantitative data. A descriptive approach means that this research aims to explain/explain to the reader the research subject and research results. This method also aims to provide an overview/ description without first making any analysis or general conclusions.

2.4 Research Subjects

Research resource persons are people who study at STTAL. The resource persons used in this study were those who were directly involved in the research, some the officers who are studying undergraduate, some officers who are studying post-graduate and some sergeant navy who are studying as diploma students. The researcher uses STTAL students because they have done matriculation and familiarization at college and understand this research.

2.5 Data Collection Techniques

Data collection is performed to obtain the information needed to achieve the goals of the study. In this study, data collection techniques were conducted through observations, interviews, and document/literature searches. Primary data from observations and interviews (detailed interviews) is data collected and processed by a researcher from a research subject or subject. Secondary data, on the other hand, derived from books, documentaries, and literary studies can be obtained indirectly from the subject or subject.

A sample is a fraction of the number and characteristics of a large population. Researchers used samples from the population because the limited time for the study prevented the researchers from examining all parts of the population. What we learn from a sample of a population, we can apply that conclusion to that population. A random sample from a population must be truly representative. In this study, samples are obtained using a probabilistic sampling technique. Probability sampling is sampling based on the assumption that all population units are equally likely to be sampled.

2.6 Research Framework

This research use framework designed to show how to connect matriculation and familiarization effect to understanding the rate of the lesson a STTAL.

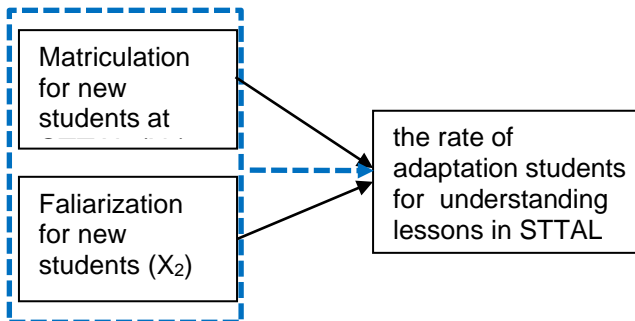


Figure 1. Research Framework

This framework leads the given path of the research, so the research just focuses on two variable causes and one variable effect. And the end of the research can show how the correlation between variables X and Y if the correlation is high the program can be developed better if the result is the opposite the program has to be replaced.

3. RESULTS AND DISCUSSION

3.1 Research Hypothesis

The hypothesis carried out by the researcher is an initial or temporary assumption of the relationship between variables, which must be proven true (Robert, 2021). The hypotheses in this study are as follows:

H0: Familiarization does not affect the

understanding rate lesson at STTAL.
 H1: Familiarization affects the understanding rate lesson at STTAL.
 H2: matriculation does not affect the understanding rate lesson at STTAL.
 H3: matriculation affects the understanding rate lesson at STTAL.

3.2 Variable Validity Test Matriculation for new students (X1)

A validity test is used to know the question X1 that be made valid or not valid base on the answer of the responder. There are 25 questions for each responder, so this research has to measure the validity of the questions before doing the next step.

Table 1. Validity test Variable X1

Questions number	X1		Validity
	<i>r Count</i>	<i>r table</i>	
1	0,720	0.176	Valid
2	0,695	0.176	Valid
3	0,720	0.176	Valid
4	0,738	0.176	Valid
5	0,815	0.176	Valid
6	0,799	0.176	Valid
7	0,794	0.176	Valid
8	0,836	0.176	Valid
9	0,278	0.176	Valid
10	0,851	0.176	Valid
11	0,322	0.176	Valid
12	0,609	0.176	Valid
13	0,836	0.176	Valid
14	0,864	0.176	Valid
15	0,872	0.176	Valid
16	0,874	0.176	Valid
17	0,869	0.176	Valid
18	0,854	0.176	Valid
19	0,858	0.176	Valid
20	0,540	0.176	Valid
21	0,465	0.176	Valid
22	0,861	0.176	Valid
23	0,818	0.176	Valid
24	0,419	0.176	Valid
25	0,881	0.176	Valid

As can be seen in the table above results of the validity test from all variable questions from X1-1 until X1-25 are valid, because the *r count* from X1.1 s/d X1.25 > the *r table*.

3.3 Variable Validity Tes Familiarization for new students (X2)

A validity test is used to know the questions X2 that be made valid or not valid base on the answer of the responder. There are 25 questions for each responder, so this research has to measure the validity of the questions before doing the next step.

Table 2. Validity test Variable X2

Questions number	X2		Validity
	<i>R count</i>	<i>r table</i>	
1	0,725	0.176	Valid
2	0,739	0.176	Valid
3	0,801	0.176	Valid
4	0,734	0.176	Valid
5	0,697	0.176	Valid
6	0,615	0.176	Valid
7	0,809	0.176	Valid
8	0,653	0.176	Valid
9	0,747	0.176	Valid
10	0,698	0.176	Valid
11	0,797	0.176	Valid
12	0,776	0.176	Valid
13	0,718	0.176	Valid
14	0,805	0.176	Valid
15	0,783	0.176	Valid
16	0,817	0.176	Valid
17	0,817	0.176	Valid
18	0,769	0.176	Valid
19	0,812	0.176	Valid
20	0,668	0.176	Valid
21	0,812	0.176	Valid
22	0,694	0.176	Valid
23	0,780	0.176	Valid
24	0,762	0.176	Valid
25	0,796	0.176	Valid

As can be seen in the table above the result of the validity test from all variable questions from X2-1 until X2-25 are valid, because the *r count* from X2.1 s/d X2.25 > the *r table*.

3.5 Variable Validity Test Understanding Rate of Lesson at STTAL (Y)

A validity test is used to know the question Y that be made valid or not valid base on the answer of the responder. There are 25 questions for each responder, so this research has to measure the validity of the questions before doing the next step.

As can be seen in the table above the result of the validity test from all variable questions from Y-1

until Y-25 are valid, because the *r count* from Y.1 s/d Y.25 > the *r table*.

Table 3. Validity test Variable Y

Questions Number	Y		Validity
	<i>r hitung</i>	<i>r tabel</i>	
1	0,820	0.176	Valid
2	0,866	0.176	Valid
3	0,820	0.176	Valid
4	0,791	0.176	Valid
5	0,876	0.176	Valid
6	0,880	0.176	Valid
7	0,856	0.176	Valid
8	0,866	0.176	Valid
9	0,856	0.176	Valid
10	0,858	0.176	Valid
11	0,864	0.176	Valid
12	0,790	0.176	Valid
13	0,810	0.176	Valid
14	0,627	0.176	Valid
15	0,746	0.176	Valid
16	0,905	0.176	Valid
17	0,867	0.176	Valid
18	0,891	0.176	Valid
19	0,842	0.176	Valid
20	in	0.176	Valid
21	0,854	0.176	Valid
22	0,876	0.176	Valid
23	until	0.176	Valid
24	0,90the 2	0.176	Valid
25	0,862	0.176	Valid

3.6 Reliability test

After finishing validity testing, the next step is reliability testing which is carried out on all existing variables. Each variable was tested for reliability based on Cronbach's Alpha using the IBM SPSS Statistics 25 program. From the results of testing the Cronbach's Alpha (*r alpha*) value, the following decisions were taken (Cleophas & Zwinderman, 2016):

If *r alpha* > 0.60, then the variables in the questionnaire are reliable.

If *r alpha* < 0.60, then the variables in the questionnaire are not reliable.

3.7 Matriculation for new students Reliability Test (X1)

This testing uses an instrument to describe the variable (X1) in as many as 25 statements to 130 respondents, the results of the reliability test are can be seen in the table below:

Tabel 4. Realibility test X1

Cronbach's Alpha	N of Items
,961	25

The results of reliability testing above on table 4 variable X1 with Cronbach's Alpha as shown in the table above show that the Alpha value is $0.961 > 0.6$. So it can be concluded that all research instruments on the Variable (X1) are Reliable.

3.8 Familiarization for new students Reliability Test (X2)

The second testing of reliability uses an instrument to describe the variable (X2) in as many as 25 statements to 130 respondents, the results of the reliability test are as follows in the table below:

Table 5. Reliability test X2

Cronbach's Alpha	N of Items
,971	25

The results of reliability testing above on table 5 variable X2 with Cronbach's Alpha as shown in the table above show that the Alpha value is $0.971 > 0.6$. So it can be concluded that all research instruments on the Variable (X2) are Reliable.

3.9 Understanding Rate of Lesson a STTAL Reliability Test (Y)

The last testing of reliability uses an instrument to describe the training variable (Y) in as many as 25 statements to 130 respondents, the results of the reliability test are as follows:

Table 6. Reliability test Y

Cronbach's Alpha	N of Items
,985	25

The results of reliability testing above on table 5 variable Y with Cronbach's Alpha as shown in the table above show that the Alpha value is $0.985 > 0.6$. So it can be concluded that all research instruments on the Variable (Y) are Reliable.

3.10 Normality Test

The normality test was conducted to determine the distribution of the data on the independent and dependent variables normally distributed or not. In this study, the technique used in testing the normality of the data uses the one sample Kolmogorov-Smirnov Test technique and the Normal Q-Plot of Regression

Standardized Residual graph display. The basis for making decisions in this normality test is:

- If Asymp. Sig > 0.05 and the data in the form of points spread around the diagonal line and following the direction of the diagonal line, then the regression model is normally distributed.
- If Asymp. Sig < 0.05 and the data spreads far from the direction of the line or does not follow the diagonal line, then the regression model is not normally distributed.

The following are the results of the Normality test of the variable X.

Tabel 7. Normality Test Kolmogorov-Smirnov

		Unstandardized Residual
N		130
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	,22612033
	Most Extreme Differences	
	Absolute	,066
	Positive	,066
	Negative	-,060
Test Statistic		,066
Asymp. Sig. (2-tailed)		,200 ^{c,d}

- Test distribution is Normal.
- Calculated from data.
- Lilliefors Significance Correction.
- This is a lower bound of the true significance.

The results of normality testing on all variables using the Kolmogorov-Smirnov method as shown in table 4.21 show that the entire Sig scale value is 0.200 and has a value greater than 0.05. Therefore, it can be concluded that all the instruments of this study are normally distributed, so they have met the requirements for further processing in the following discussion(*Probability Theory Achim Klenke A Comprehensive Course Second Edition, n.d.*).

3.11 Partial Linear Regression Test

This test aims to analyze and determine the effect of partially or individual variables (X1) and variable (X2) on the understanding of a lesson in STTAL (Y). The sample used as respondents in this test was as many as 130 people with a significance level of 5%.

Table 8. Partial regression between X1 and Y

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15,788	4,285		3,684	,000
	X1	,895	,041	,887	21,778	,000

a. Dependent Variable: Y

3.12 Simple linear regression between (X1) and (Y)

This section will use simple regression linear analysis with matriculation as (X1) and understanding

From the table above can be seen that between the variables X1 and Y there is a correlation with a significance <0.05 so that a regression equation can be obtained based on the coefficient table equation:

Y = a + b X.....1)

From the data, in table 8 The linear regression equation from X1 and Y is

Y= 15,778 + 0,895X1.....2)

rate of a lesson in STTAL (Y). the result of measurement using SPSS software is as can be seen in table number 8 partial regression X1 a

3.13 Simple linear regression between (X2) and (Y)

This section will use simple regression linear analysis with familiarization as (X2) and understanding rate of a lesson in STTAL (Y). the result of measurement using SPSS software is as can be seen in table number 9 partial regression between X2 and Y.

Table 9. Partial regression between X2 and Y

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	43,350	5,650		7,672	,000
	X2	,657	,056	,717	11,627	,000

From the table above can be seen that between the variables X2 and Y there is a correlation with a significance <0.05 so that a regression equation can be obtained based on the coefficient table equation:

Y = a + b X.....3)

From the data, in table 9 The linear regression equation from X2 and Y is :

Y= 43,35 + 0,657X2.....4)

3.14 Multiple Linear Regression Test

Multiple regression testing was used to analyze and find out how far the influence simultaneously or together with the matriculation variable (X1) and the means and familiarization (X2) on the variable of increasing students understanding of a lesson (Y). The sample used as respondents in this test is 130 people with a significance level of 5% (α = 0.05) or a 95% confidence level. The data from simple linear regression X1 and X2 can be compiled become multiple regression.

Table 10. Multiple Linear Regression Test Results Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13,605	4,279		3,179	,002
	X1	,785	,059	,778	13,371	,000
	X2	,137	,053	,150	2,573	,011

Table 10 shows that the significance value is less than 0.05, so for the two variables there is a correlation or relationship of influence and a multiple regression linear equation that can be formulated from the general formula described previously, namely:

$$Y = 5.068 + 0.386 X1 + 0.195 X2 + 0.225 X3$$

3.15 Partial Hypothesis Test variables X1 and Y

a. Initial hypothesis

H₀: matriculation (X1) partially has no positive effect on the understanding rate of students in a lesson (Y).

H₁: matriculation (X1) partially has a positive effect on the understanding rate of students in a lesson (Y).

b. Basis of decision making. The basis for decision-making in this test is if $t_{count} > t_{table}$ then H₀ is rejected, and H₁ is accepted or if $t_{count} < t_{table}$ then H₀ is accepted and H₁ is rejected.

c. Decision: Based on the results of the t test carried out on the partial linear regression test in the previous data analysis sub-chapter, it is known that the t_{count} value is 21,778 > t_{table} (1,980) and the significance value is 0.000 < 0.05. Thus the decision that H₀ is rejected and H₁ is accepted, means that there is a partially significant relationship or influence of the independent variable matriculation (X1) on the dependent variable of the understanding rate of students in a lesson (Y).

3.16 Partial Hypothesis Test variables X2 and Y

a. Initial hypothesis

H₀: Familiarization (X2) partially has no positive effect on the understanding rate of students in a lesson (Y).

H₁: Familiarization (X2) partially has a positive effect on the understanding rate of students in a lesson (Y).

b. Basis of decision making. The basis for decision-making in this test is if $t_{count} > t_{table}$ then H₀ is rejected, and H₁ is accepted or if $t_{count} < t_{table}$ then H₀ is accepted and H₁ is rejected.

c. Decision: Based on the results of the t test carried out on the partial linear regression test in the previous data analysis sub-chapter, it is known that the t_{count} value is 11,627 > t_{table} (1,980) and the significance value is 0.000 < 0.05. Thus the decision that H₀ is

rejected and H₁ is accepted, means that there is a partially significant relationship or influence of the independent variable familiarization (X1) on the dependent variable of the understanding rate of students in a lesson (Y).

4. CONCLUSION

The conclusions of this research depend on the discussion in the previous section are :

a. Based on the hypothesis test There are correlations between matriculation with the rate of

understanding lessons in STTAL, the t_{count} value is 21,778 > t_{table} (1,980) so STTAL should develop materials for matriculation to get better results.

b. Based on the hypothesis test There are correlations between matriculation with the rate of understanding lessons in STTAL, the t_{count} value is 11,627 > t_{table} (1,980) so STTAL should keep.

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